

# *In depth: Achieving hedge accounting in practice under IFRS 9*

*December 2017*

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# Preface

IFRS 9, the new financial instruments standard, is here. And the timing of its 2018 mandatory application date is opportune. Companies face an increasingly uncertain economic environment – e.g. in the light of the UK’s exit from the EU, the election of President Trump and many other factors. So there is a heightened focus by boards and investors on the risks companies face and how they are managed.

Just like the standard it replaces, IAS 39, companies have found that some of the most challenging requirements to understand and apply are those on hedge accounting. Coupled with this, investors expect IFRS 9 to enable companies to communicate better their risk management activities, in particular how they use derivatives to manage risk. Many are aware that the changes IFRS 9 brings in are designed to enable the accounting to better reflect the risk management strategy, and that the new disclosures are intended to bring increased transparency. This may well result in more attention and closer questioning of underlying risk management strategies, both by boards and by capital market participants. Management needs to be aware of the impact the changes will have on the market and decide how best to manage the message.

IFRS 9’s hedge accounting requirements are far-reaching and go beyond financial reporting. Their application may require changes to systems, processes and documentation and, in some cases, to the way companies view and manage risk. As ever, the devil is in the detail, and IFRS 9 certainly has a lot of detail. As companies have started to work through some of the new calculations, they have found it more challenging and complex than they initially expected.

In this publication we answer the questions we are asked most often by companies applying IFRS 9, and illustrate how to achieve hedge accounting for a range of hedging strategies commonly used in practice. The strategies and solutions set out in this publication are not exhaustive. They do not illustrate all of the ways to achieve hedge accounting; nor do they answer all of the questions that arise in practice. But the pages that follow will answer many of your questions and show how you can achieve hedge accounting in a wide range of situations.

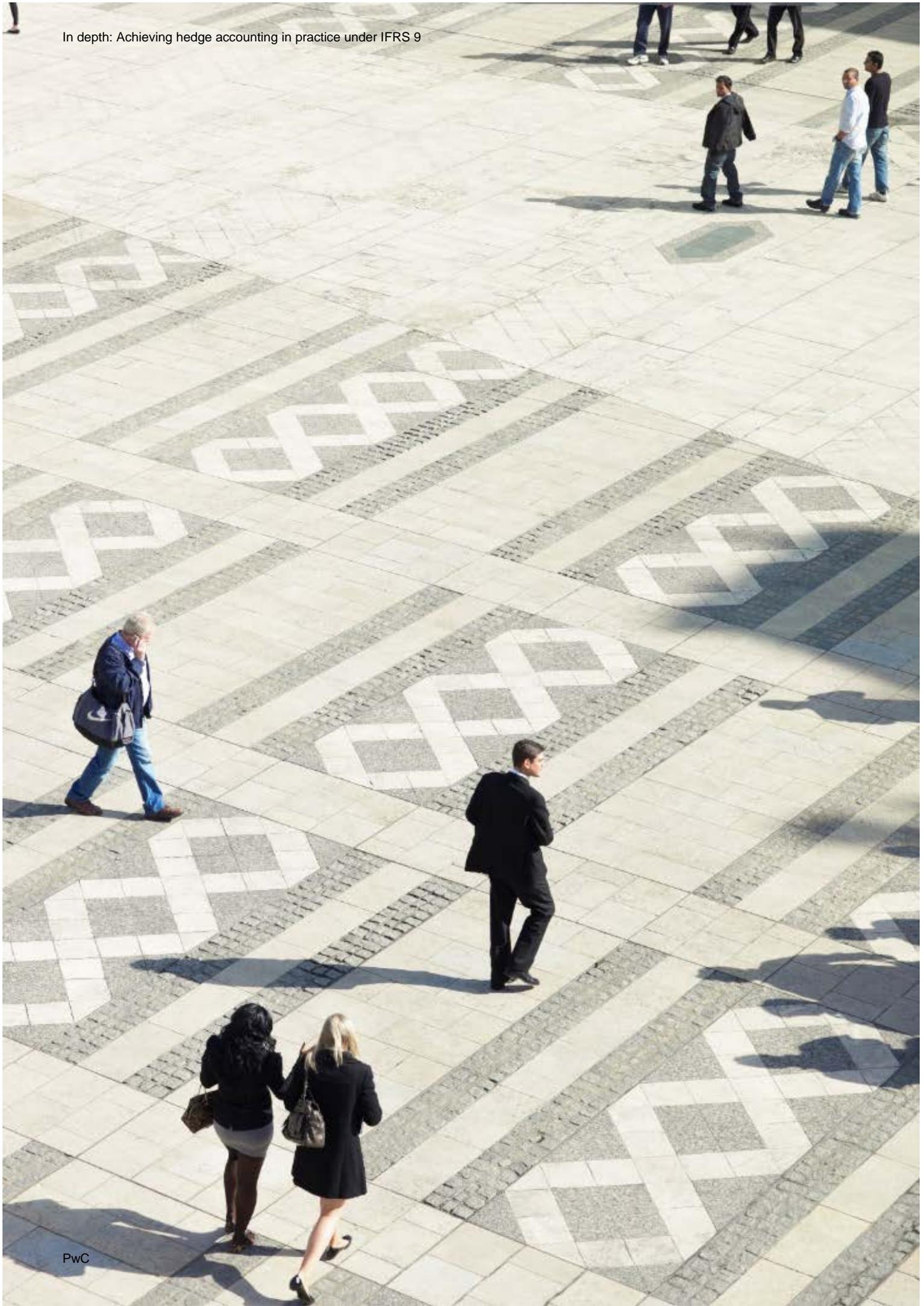
We hope that you will find this publication useful as you apply IFRS 9 hedge accounting for the first time and in the coming years.



**Sandra Thompson**  
Financial Instruments Leader, Global Accounting  
Consulting Services



**Sebastian di Paola**  
Leader, PwC Global Corporate Treasury Solutions



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# ***IFRS 9's hedge accounting requirements***

# ***Section 1***

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# 1. Introduction

## 1.1. Background

IFRS 9 – the new financial instruments standard – is the IASB's ('Board') response to accounting issues that emerged from the global financial crisis. It is well recognised that it will have a major impact on how banks measure impairment losses. Nevertheless, it applies to all entities (not just banks) and its requirements go beyond just impairment.

In this first section we give an overview of the requirements and of what has changed from IAS 39 (the standard that IFRS 9 replaces). In section 2 we answer some of the most commonly asked questions that have arisen in practice, and in the final section we illustrate in detail how to apply the standard to some common hedge relationships.

The rules on hedge accounting in IAS 39 frustrated many preparers, as the requirements have often not been linked to common risk management practices. The detailed rules have, at times, made achieving hedge accounting impossible or very costly, even where the hedge has reflected an economically rational risk management strategy. Similarly, users have found the effect of the current rules for hedge accounting less than perfect, and they have sometimes struggled to fully understand an entity's risk management activities based on its application of the hedge accounting rules. So, users and preparers alike supported a fundamental reconsideration of the current hedge accounting requirements in IAS 39.

The new standard, IFRS 9, improves the decision-usefulness of the financial statements by better aligning hedge accounting with the risk management activities of an entity. IFRS 9 addresses many of the issues in IAS 39 that have frustrated corporate treasurers. In doing so, it makes some fundamental changes to the current requirements, by removing or amending some of the key prohibitions and rules within IAS 39.

Overall, we believe that, by placing greater emphasis on an entity's risk management practices, IFRS 9 is an improvement for hedge accounting. It will provide more flexibility, and it might allow companies to apply hedge accounting where previously they would not have been able to. As a result, this is an opportunity for corporate treasurers and boards to review their current hedging strategies and accounting, and to consider whether they continue to be optimal in view of the new accounting regime. However, some of the new flexibility in designation will lead to greater complexity in accounting and systems requirements and therefore companies should carefully assess the impact of the changes on their business.

### 1.1.1. Scope and interaction with macro hedging

IFRS 9 hedge accounting applies to all hedge relationships, with the exception of fair value hedges of the interest rate exposure of a portfolio of financial assets or financial liabilities (commonly referred to as 'fair value macro hedges'). This exception arises because the Board has a separate project to address the accounting for macro hedges. In the meantime, until this project is completed, companies using IFRS 9 for hedge accounting can continue to apply IAS 39 requirements for fair value macro hedges.

The reason for addressing such hedges separately is that hedges of open portfolios introduce additional complexity. Risk management strategies tend to have a time horizon over which an exposure is hedged; so, as time passes, new exposures are continuously added to such hedged portfolios, and other exposures are removed from them.

**PwC insight:**

*This scope exception is not applicable when hedging closed portfolios. IFRS 9 addresses the accounting for hedges of closed portfolios or groups of items that constitute a gross or net position (refer to section 5 below for further details).*

*It is expected that the macro hedging project will be most relevant for financial institutions, but it is still possible that the Board may broaden the scope to consider other than fair value macro hedges of interest rate risk (for example, macro hedges of commodity price risk).*

### 1.1.2. Accounting policy choice

IFRS 9 provides an accounting policy choice: entities can either continue to apply the hedge accounting requirements of IAS 39 until the macro hedging project is finalised (see above), or they can apply IFRS 9 (with the scope exception only for fair value macro hedges of interest rate risk). This accounting policy choice will apply to all hedge accounting and cannot be made on a hedge-by-hedge basis.

**PwC insight:**

*This accounting policy choice refers to the application of the hedge accounting only, and has no impact on the implementation of the other two phases of IFRS 9 (that are, 'classification and measurement and impairment').*

*If an entity initially decides to continue applying IAS 39 hedge accounting, it can subsequently decide to change its accounting policy and commence applying the hedge accounting requirements of IFRS 9 at the beginning of any reporting period (subject to the other transition requirements of IFRS 9).*

*Whichever accounting requirements are applied (that is, IAS 39 or IFRS 9), the new hedge accounting disclosure requirements in IFRS 7 will be applicable.*

## 2. Hedge accounting

### 2.1. What is hedge accounting?

Entities are exposed to financial risks arising from many aspects of their business. Different companies are concerned about different risks (for example, some entities might be concerned about exchange rates or interest rates, while others might be concerned about commodity prices). Entities implement different risk management strategies to eliminate or reduce their risk exposures.

The objective of hedge accounting is to represent, in the financial statements, the effect of risk management activities that use financial instruments to manage exposures arising from particular risks that could affect profit or loss (P&L) or other comprehensive income (OCI).

In simple terms, hedge accounting is a technique that modifies the normal basis for recognising gains and losses (or income and expenses) on associated hedging instruments and hedged items, so that both are recognised in P&L (or OCI) in the same accounting period. This is a matching concept that eliminates or reduces the volatility in the statement of comprehensive income that otherwise would arise if the hedged item and the hedging instrument were accounted for separately under IFRS. Under IFRS 9, hedge accounting continues to be optional, and management should consider the costs and benefits when deciding whether to use it.

### 2.2. Accounting for hedges

IFRS 9 broadly retains the three hedge accounting models within IAS 39, as summarised below:

#### 2.2.1. Fair value hedge

##### *What remains the same?*

The risk being hedged in a fair value hedge is a change in the fair value of an asset or liability or an unrecognised firm commitment that is attributable to a particular risk and could affect P&L. Changes in fair value might arise through changes in interest rates (for fixed-rate loans), foreign exchange rates, equity prices or commodity prices.

The carrying value of the hedged item is adjusted for fair value changes attributable to the risk being hedged, and those fair value changes are recognised in P&L. The hedging instrument is measured at fair value, with changes in fair value also recognised in P&L.

##### *What has changed?*

For fair value hedges of an equity instrument accounted for at fair value through other comprehensive income (FVOCI) – since under IFRS 9, gains/losses of equity instruments are never recycled to P&L, changes in the fair value of the hedging instrument are also recorded in OCI without recycling to P&L.

#### 2.2.2. Cash flow hedge

##### *What remains the same?*

The risk being hedged in a cash flow hedge is the exposure to variability in cash flows that is attributable to a particular risk associated with a recognised asset or liability, an unrecognised firm commitment (currency risk only) or a highly probable forecast transaction, and could affect P&L.

Future cash flows might relate to existing assets and liabilities, such as future interest payments or receipts on floating rate debt. Future cash flows can also relate to forecast sales or purchases in a foreign currency. Volatility in future cash flows might result from changes in interest rates, exchange rates, equity prices or commodity prices.

Provided the hedge is effective, changes in the fair value of the hedging instrument are initially recognised in OCI. The ineffective portion of the change in the fair value of the hedging instrument (if any) is recognised directly in P&L.

The amount recognised in OCI should be the lower of:

- The cumulative gain or loss on the hedging instrument from the inception of the hedge, and
- The cumulative change in the fair value (present value) of the expected cash flows on the hedged item from the inception of the hedge.

If the cumulative change in the hedging instrument exceeds the change in the hedged item (sometimes referred to as an 'over-hedge'), ineffectiveness will be recognised. If the cumulative change in the hedging instrument is less than the change in the hedged item (sometimes referred to as an 'under-hedge'), no ineffectiveness will be recognised. This is different from a fair value hedge, in which ineffectiveness is recognised on both over – and under-hedges.

For cash flow hedges of a forecast transaction which result in the recognition of a financial asset or liability, the accumulated gains and losses recorded in equity should be reclassified to P&L in the same period or periods during which the hedged expected future cash flows affect P&L. Where there is a cumulative loss on the hedging instrument and it is no longer expected that the loss will be recovered, it must be immediately recognised in P&L.

### *What has changed?*

IFRS 9 introduces changes to the cash flow hedge accounting model, as follows:

- For cash flow hedges of a forecast transaction which results in the recognition of a non-financial item (such as a fixed asset or inventory), or where a hedged forecast transaction for a non-financial asset or a non-financial liability becomes a firm commitment for which fair value hedge accounting is applied, the carrying value of that item must be adjusted for the accumulated gains or losses recognised directly in equity (often referred to as 'basis adjustment').

Under IAS 39, the entity could elect, as a policy choice, either the treatment described above or to maintain the accumulated gains or losses in equity and reclassify them to P&L at the same moment that the non-financial item affects P&L. This accounting policy choice is no longer allowed under IFRS 9.

- Where the net position of a group of items containing offsetting risk positions is designated as the hedged item, the cash flow hedge model can only be applied to the hedge of foreign currency risk. The designation of that net position must specify both the reporting period in which the forecast transactions are expected to affect P&L and also the nature and volume that are expected to affect P&L in each period. Hedging gains or losses must be presented in a separate line item in the income statement. IAS 39 did not allow net positions to be designated as the hedged item.
- For cash flow hedges of a group of items with no offsetting risk position, the presentation of hedging gains or losses are apportioned to the line items affected by the hedged items. IAS 39 did not prescribe the presentation of gains or losses in P&L.

### *2.2.3. Net investment hedge*

#### *What remains the same?*

An entity might have overseas subsidiaries, associates, joint ventures or branches ('foreign operations'). It might hedge the currency risk associated with the translation of the net assets of these foreign operations into the parent entity's functional currency.

The amount of a net investment in a foreign operation under IAS 21 is the reporting entity's interest in the net assets of that operation, including any recognised goodwill. Exchange differences arising on the consolidation of these net assets are deferred in equity until the foreign operation is disposed of or liquidated. They are recognised in P&L, on disposal or liquidation, as part of the gain or loss on disposal.

The foreign currency gains or losses on the hedging instrument are deferred in OCI, to the extent that the hedge is effective, until the subsidiary is disposed of or liquidated, when they become part of the gain or loss on disposal.

### *What has changed?*

No major changes are introduced by IFRS 9, although entities should consider whether their net investment hedges will be affected by the requirements to consider time value of money and the new guidance on time value of options, forward points and currency basis (see sections 3.3.6 and 4.4-6).

## 3. Qualifying criteria for hedge accounting

An entity's risk management strategy is central to the objective of hedge accounting under IFRS 9. However, hedge accounting is still seen as an exception to the normal accounting rules, and therefore, some restrictions are still necessary to determine whether or not a proposed hedging relationship qualifies for hedge accounting. As a result, an entity is only allowed to apply hedge accounting if it meets the specified qualifying criteria.

A comparison of the qualifying criteria in IAS 39 as against IFRS 9 is summarised in the following table, and detailed further below:

IAS 39	IFRS 9
<p>3.1 Formal designation and documentation of:</p> <ul style="list-style-type: none"> <li>• Risk management objective and strategy</li> <li>• Hedging instrument</li> <li>• Hedged item</li> <li>• Nature of risk being hedged</li> <li>• Hedge effectiveness (including how it will be calculated)</li> </ul>	<p>Formal designation and documentation of:</p> <ul style="list-style-type: none"> <li>• Risk management objective and strategy</li> <li>• Hedging instrument</li> <li>• Hedged item</li> <li>• Nature of risk being hedged</li> <li>• Hedge effectiveness (including sources of ineffectiveness and how the hedge ratio is determined)</li> </ul>
<p>3.2 Hedging relationship consists only of eligible hedging instruments and eligible hedged items.</p>	<p>The general requirement remains unchanged. However, some items that were not eligible as hedged items or hedging instruments under IAS 39 are now eligible under IFRS 9 (refer to sections 4 and 5 below).</p>
<p>3.3 Hedge effectiveness requirements:</p> <ul style="list-style-type: none"> <li>• Effectiveness can be reliably measured</li> <li>• Hedge is expected to be highly effective (prospective testing)</li> <li>• Hedge is assessed on an on-going basis and determined actually to have been highly effective (retrospective testing 80%-125%).</li> </ul>	<p>Hedge effectiveness requirements (prospective):</p> <ul style="list-style-type: none"> <li>• Economic relationship exists</li> <li>• Credit risk does not dominate value changes</li> <li>• Designated hedge ratio is consistent with risk management strategy.</li> </ul>
<p>3.4 Voluntary discontinuation of hedge accounting is allowed.</p>	<p>Discontinuation of hedge accounting only under specified circumstances.</p>

### 3.1. Formal designation and documentation

The nature of IFRS 9's documentation requirements is not very different from the requirements in IAS 39. Formal designation and documentation must be in place at the inception of the hedge relationship. As a result, from the documentation point of view, there is not much relief from the administrative work necessary to start hedge accounting.

Entities should also take into consideration that, as a result of the new hedge accounting requirements under IFRS 9, documentation will no longer be static but must be updated from time to time. Examples of situations where modification of the hedge documentation would be required are where the hedge ratio is rebalanced (see below) or where the analysis of sources of hedge ineffectiveness is updated.

In addition, at the date of transition to IFRS 9, entities will need to update their hedge documentation for all their existing hedging relationships under IAS 39 that continue to be eligible under the new standard, in order to comply with the IFRS 9 documentation requirements. Some of the expected changes are the incorporation of the hedge ratio and the expected sources of ineffectiveness (since this is not required by IAS 39) and the removal of the retrospective effectiveness test (which is no longer required under IFRS 9).

### 3.2. Eligible items

The hedging relationship should consist only of eligible hedging instruments and hedged items. There are changes to what is eligible for both hedged items and hedging instruments, which are discussed in detail in sections 4 and 5 below.

### 3.3. Hedge effectiveness

Hedge effectiveness is defined as the extent to which changes in the fair value or cash flows of the hedging instrument offset changes in the fair value or cash flows of the hedged item.

IFRS 9 introduces three hedge effectiveness requirements:

#### 3.3.1. Economic relationship

IFRS 9 requires the existence of an economic relationship between the hedged item and the hedging instrument. So there must be an expectation that the value of the hedging instrument and the value of the hedged item would move in the opposite direction as a result of the common underlying or hedged risk. For example, this is the case for forecast fixed interest payments and an interest rate swap that receives fixed interest payments and pays variable interest.

An on-going analysis of the possible behaviour of the hedging relationship during its term is required in order to ascertain whether it can be expected to meet the risk management objective.

#### **PwC insight:**

*Whilst the requirement for an economic relationship is new, it would be unlikely that an entity would use an instrument that did not provide a valid economic relationship for risk management purposes, and so this is unlikely to be an onerous requirement in most cases.*

*The Board has regarded 'proxy hedging' (which is a designation that does not exactly represent an entity's actual risk management) as an eligible way of designating the hedged item under IFRS 9, as long as designation reflects the risk management in that it relates to the same type of risk that is managed and the instruments used for that purpose.*

*As part of the basis for conclusions in IFRS 9, the Board included as an example the fact that because IFRS 9 (in the same way as IAS 39) does not allow cash flow hedges of interest rate risk to be designated on a net position basis, entities must instead designate part of the gross positions. This requires the use of proxy hedging, because the designation for hedge accounting purposes is on a gross position basis, even though risk management typically uses a net position basis.*

*Corporates refer to proxy hedging where for example they hedge commodity price risk but as a result of the availability of commodity derivatives, entities use a hedging instrument referenced to a commodity different to the actual commodity they are economically hedging, but the price of the two commodities are correlated enough to make the hedge relationship work.*

*In addition, some financial institutions use intragroup derivatives for risk management purposes. However, as intragroup derivatives do not qualify for hedge accounting at the group level, they are required to define external derivatives as proxy hedges.*

### 3.3.2. Credit risk

Even if there is an economic relationship, a change in the credit risk of the hedging instrument or the hedged item must not be of such magnitude that it dominates the value changes that result from that economic relationship. Because the hedge accounting model is based on a general notion of there being an offset between the changes of the hedging instrument and those of the hedged item, the effect of credit risk must not dominate the value changes associated with the hedged risk; otherwise, the level of offset might become erratic.

For example, where an entity wants to hedge its forecast inventory purchases for commodity price risk, it enters into a derivative contract with Bank X to purchase a commodity at a fixed price and at a future date. If the derivative contract is uncollateralised and Bank X experiences a severe deterioration in its credit standing, the effect arising from changes in credit risk might have a disproportionate effect on the change in the fair value of the derivative contract arising from changes in commodity prices; whereas the changes in the value of the hedged item (forecast inventory purchases) would depend largely on the commodity price changes and would not be affected by the changes in the credit risk of Bank X.

#### **PwC insight:**

*IFRS 9 does not provide a definition of 'dominate'. However, it is clear that the effect of credit risk should be considered on both the hedging instrument and the hedged item. For example, an entity hedging the interest rate or foreign currency risk of a financial asset (such as a bond) will need to look at the credit risk of the bond. If the bond has high credit risk, the bond might not qualify for hedge accounting. During the financial crisis, there were many situations where entities purchased loans to troubled financial institutions, and the amount that would ultimately be realised was very uncertain. These might not have qualified for hedge accounting.*

*Following the financial crisis, many countries changed the regulations for derivatives. One of the main objectives of these changes was to mitigate credit risk for example by requiring more derivatives to be collateralised. As a result of these changes, this hedge effectiveness requirement is less likely to be a problem.*

### 3.3.3. Hedge ratio

The hedge ratio is defined as the relationship between the quantity of the hedging instrument and the quantity of the hedged item in terms of their relative weighting. IFRS 9 requires that the hedge ratio used for hedge accounting purposes should be the same as that used for risk management purposes.

One of the key objectives in IFRS 9 is to align hedge accounting with risk management objectives. There is no retrospective effectiveness testing required under IFRS 9, but there is a requirement to make an on-going assessment of whether the hedge continues to meet the hedge effectiveness criteria, including that the hedge ratio remains appropriate.

This means that entities will have to ensure that the hedge ratio is aligned with that required by their economic hedging strategy (or risk management strategy). A deliberate imbalance is not permitted. This requirement is to ensure that entities do not introduce a mismatch of weightings between the hedged item and the hedging instrument to achieve an accounting outcome that is inconsistent with the purpose of hedge accounting. This does not imply that the hedge relationship must be perfect, but only that the weightings of the hedging instruments and hedged item actually used are not selected to introduce or to avoid accounting ineffectiveness.

In some cases, there are commercial reasons for particular weightings of the hedged item and the hedging instrument even though they create hedge ineffectiveness. This is the case, for example when using standardised contracts that have a defined contract size (for instance, 1 standard aluminium future contract in the LME has a contract size of 25 tonnes). When an entity wants to hedge 90 tonnes of aluminium purchases with standard aluminium future contracts, due to the standard contract size, the entity could use either 3 or 4 future contracts (equivalent to a total of 75 or 100 tonnes respectively). Such designation would result in a hedge ratio of either 0.83:1 or 1.11:1. In that situation the entity designates the hedge ratio that it actually uses, because the hedge ineffectiveness resulting from the mismatch would not result in an accounting outcome that is inconsistent with the purpose of hedge accounting. Hedge ineffectiveness is still required to be measured and accounted for in P&L.

**PwC insight:**

*In situations such as the above, where due to the standard size of contracts the hedge relationship may result in an under-hedge, an alternative that entities might want to consider is the possibility of designating as the hedged item a layer component as described in section 5.4 below.*

**3.3.4. Rebalancing**

IFRS 9 introduces the concept of 'rebalancing'. Rebalancing refers to adjustments to the designated quantities of either the hedged item or the hedging instrument of an existing hedging relationship for the purpose of maintaining a hedge ratio that complies with the hedge effectiveness requirements. This allows entities to respond to changes that arise from the underlying or risk variables. This is good news, as rebalancing does not result in de-designation and re-designation of a hedge, but it is accounted for as a continuation of the hedging relationship. However, on rebalancing, hedge ineffectiveness is determined and recognised immediately before adjusting the hedge relationship.

Rebalancing is consistent with the requirement of avoiding an imbalance in weightings at inception of the hedge, but also at each reporting date and on a significant change in circumstances, whichever comes first.

When rebalancing a hedging relationship, an entity must update its documentation of the analysis of the sources of hedge ineffectiveness that are expected to affect the hedging relationship during its remaining term.

In some circumstances, rebalancing is not applicable (for example, where the changes in the hedge relationship – which might arise from changes in the derivative counterparty credit risk or from a risk that was always present but not captured by the hedging instrument – cannot be compensated by adjusting the hedge ratio). In addition, if the risk management objective has changed, rebalancing is not allowed, and hedge accounting should be discontinued.

**PwC insight:**

*Originally, the requirement to rebalance was seen as onerous, but it might actually be a pragmatic solution that avoids discontinuing hedging relationships that would have failed the effectiveness test in the past. In practice, entities will not need to rebalance very often if they have a good risk management strategy in place and the economic relationship is stable. There is always some volatility in any hedging relationship but, if the initial hedge ratio is appropriate and in line with the risk management strategy, rebalancing should only be necessary if the 'ideal' hedge ratio changes significantly. Entities should document their tolerance to such variations.*

**3.3.5. Hedge effectiveness assessment**

IFRS 9 does not prescribe a specific method for assessing whether a hedging relationship meets the hedge effectiveness requirements. An entity must use a method that captures the relevant characteristics of the hedging relationship, including the sources of hedge ineffectiveness that are expected to affect the hedging relationship during its term. A qualitative assessment is always necessary and, depending on the characteristics of the hedge relationship, entities might also need to perform a quantitative assessment. For example, in a simple hedge where all the critical terms match (or are only slightly different), a qualitative test might be sufficient. On the other hand, in highly complex hedging strategies, some type of quantitative analysis would likely need to be performed.

The assessment relates to expectations about hedge effectiveness, and so is only forward looking. Such an assessment should be performed at inception and on an on-going basis at each reporting date or on a significant change in circumstances, whichever comes first. The intention behind these requirements is to ensure that only economically viable hedging strategies (that is, those reflecting the underlying economic relationship and aligned to the risk management strategy) qualify for hedge accounting purposes.

### *A comparison with IAS 39*

One of the more onerous requirements of IAS 39 is that the hedge relationship should be expected to be highly effective (in other words, entities are required to perform quantitative assessments on a prospective and retrospective basis, to demonstrate that actual results of the hedge are within a range of 80-125% effectiveness). This meant that many valid economic hedges failed because they were not close enough for hedge accounting purposes. As described above, IFRS 9 relaxes the requirements for hedge effectiveness, removing the 80-125% bright line.

#### ***PwC insight:***

*The elimination of the 80-125% bright line is a positive move by the Board and takes away a significant obstacle to hedge accounting for many risk management strategies. Under IAS 39, a hedge that was 81% effective would achieve hedge accounting, even though it was 19% ineffective (subject to the 'lower of' test for cash flow and net investment hedges, refer to section 2.2 above). On the other hand, a hedge that was 79% effective would not achieve hedge accounting and the full fair value movements of the derivative would be recorded in P&L without any offsetting of the hedged item (that is, the accounts would show 100% ineffectiveness). From a risk management perspective, the difference between 79% and 81% effectiveness is minimal, yet the IAS 39 accounting rules did not reflect this. So we expect that many preparers and users will welcome the removal of the 80-125% bright line.*

### *3.3.6. Discounted cash flows for measuring hedge ineffectiveness*

Hedge accounting does not change the measurement of the hedging instrument, but only the location of where the change in its carrying amount is presented for cash flow and net investment hedges. Hedging instruments are subject to measurement at either fair value or amortised cost, both of which take into consideration the time value of money.

In order to be consistent, IFRS 9 introduces the requirement to measure the hedged item also on a present value basis; therefore, subsequent changes would include the effect of the time value of money (for example, an undiscounted spot approach cannot be used in a hedge of the foreign currency risk of a forecast transaction). The objective of this requirement is to ensure the measurement of the effectiveness of the hedge relationship reflects the time value of money and any mismatches in timing between the hedged item and the hedging instrument are recognised as ineffectiveness.

#### ***PwC insight:***

*It is a common hedging strategy in some countries to hedge the foreign currency risk of foreign currency sales or purchases and to assess effectiveness on an undiscounted spot basis. This new IFRS 9 requirement to consider the time value of money could have a significant impact where the risk management strategy is to hedge the spot risk (that is, pure foreign currency risk without considering the forward points). This is because more entities will now need to keep track of the timing of the hedged transaction and measure ineffectiveness on a discounted basis, thus capturing the ineffectiveness that arises from a difference in expected timing between the hedged transaction and the derivative.*

## *3.4. Discontinuation of hedge accounting*

Under IAS 39, an entity had a free choice to voluntarily discontinue hedge accounting by simply revoking the designation of the hedging relationship. Voluntary de-designation is prohibited under IFRS 9.

Under IFRS 9, an entity cannot de-designate and thereby discontinue a hedging relationship that:

- Still meets the risk management objective; and
- Continues to meet all other qualifying criteria (after taking into account any rebalancing, if applicable). For this purpose, it is necessary to understand the distinction between the notions of 'risk management strategy' and 'risk management objective'.

A risk management strategy is the highest level at which an entity determines how it manages risk; typically, it identifies the risks to which the entity is exposed and sets out how the entity responds to them. It is usually in place for a longer period and might include some flexibility to react to changes in circumstances. It is normally a general document that would be cascaded down through policies containing more specific guidelines. On the other hand, a risk management objective is applied at the level of a particular hedging relationship.

A risk management strategy can (and often will) involve many different hedging relationships, each with a risk management objective. Hence, the risk management objective for a particular hedging relationship can change, even though an entity's risk management strategy remains unchanged.

If the risk management objective for a hedge relationship has changed, hedge accounting must be discontinued.

IFRS 9 carries forward the amendments to IAS 39 regarding novation of derivatives. These mean that a novation will not be an expiration or termination of the hedging instrument if the novation is a consequence of laws or regulations with the purpose of incorporating a central clearing counterparty.

Discontinuation of hedge accounting can affect a hedging relationship in its entirety or only part of it, depending on the facts and circumstances.

Examples of discontinuation of a hedge in its entirety are:

- Where the hedging relationship no longer meets the risk management objective.
- Where the hedging relationship no longer complies with the qualifying criteria.
- Where the hedging instrument has been sold or terminated.

Examples of discontinuation for only a part of the hedging relationship are:

- For the volume of hedged item, where it is no longer part of the hedging relationship due to an adjustment to the hedge ratio.
- Where part of the volume of a forecast transaction is no longer highly probable.

***PwC insight:***

*Under IAS 39, management had discretion to voluntarily discontinue hedge accounting. Examples of reasons for an entity electing de-designation included:*

- *The high administrative burden might make hedge accounting too onerous and costly.*
- *Depending on how the effectiveness assessment worked, it wanted to apply a different method of assessing hedge ineffectiveness.*

*IFRS 9 prohibits voluntary de-designation, since the Board considered that this undermines the usefulness of financial information. However, this is not expected to be a significant issue in practice, both because in many cases an entity will want to de-designate because of a change to its risk management objective, and because an entity always has the ability to terminate its hedging instruments.*

## 4. What can be designated as hedging instruments?

There have not been many changes to the hedging instruments that are eligible under IFRS 9. Most derivative financial instruments can still be designated as hedging instruments, provided they are entered into with an external party. Intra-group derivatives or other balances do not qualify as hedging instruments in consolidated financial statements irrespective of whether a proposed hedging instrument, such as an intercompany borrowing, will affect consolidated profit or loss. But they might qualify in the separate financial statements of individual entities in the group. Additional guidance from IAS 39 (such as allowing the designation of a proportion of a derivative instrument in a hedge relationship) is included in IFRS 9.

The main changes to hedging instruments in IFRS 9 are: how to account for the time value of options; the interest element of forward contracts; and the currency basis of cross-currency swaps when used as hedging instruments.

An overview of the main differences for hedging instruments between IAS 39 and IFRS 9 is summarised in the table below. A detailed explanation of each of the main changes included in the table is given in the paragraphs that follow.

IAS 39	IFRS 9
4.1 Derivatives	Unchanged
4.2 Non-derivative financial instruments are only allowed for hedging FX risk.	Non-derivative financial instruments continue to be allowed for hedging FX risk.  In addition, if non-derivative financial instruments are measured at fair value through P&L they are also allowed for hedging risks other than FX risk.
4.3 Embedded derivatives that are separated are allowed as hedging instruments.	Derivatives embedded in financial assets are no longer accounted for separately under IFRS 9. Therefore, only derivatives embedded in financial liabilities or non-financial contracts (and that are accounted for separately) are allowed to be designated as hedging instruments.
4.4 Changes in the time value of an option are recognised in P&L.	Where the time value of an option is excluded from the designation, changes in the aligned time value are deferred in OCI w.  The timing of the reclassification to P&L depends on the nature of the hedged item (whether it is transaction related or time-period related).
4.5 Two alternatives are provided for recognising fair value changes of forward points.	An additional alternative for recognising fair value changes of forward points is introduced.
4.6 No specific accounting treatment is prescribed for currency basis spreads.	Currency basis spreads may be considered as costs of the hedge relationship, in which case changes in them can be recognised through OCI.

### 4.1. Derivative financial instruments

Neither IAS 39 nor IFRS 9 restricts the circumstances in which a derivative can be designated as a hedging instrument (provided the hedge accounting criteria are met), except for some written options.

## 4.2. Non-derivative financial instruments measured at fair value through P&L

Under IAS 39, non-derivative financial instruments are only allowed as hedging instruments for hedges of foreign currency risk. Under IFRS 9, non-derivative financial instruments continue to be allowed as hedging instruments of foreign currency risk provided that such non-derivative financial instruments are not investments in equity instruments for which the entity has elected to present the changes in fair value in OCI.

In addition, IFRS 9 also allows non-derivative financial instruments as hedging instruments to hedge other risks if measured at fair value through P&L. The only exception is for financial liabilities accounted for at fair value for which the changes in the liability's own credit risk are presented in OCI – these are not eligible for designation as hedging instruments.

For financial instruments that an entity has originally elected to designate at inception at fair value through P&L to mitigate an accounting mismatch (commonly referred as the 'fair value option'), a designation as hedging instruments is allowed only if such designation mitigates an accounting mismatch, without recreating another one (that is, no conflict should exist between the purpose of the fair value option and the purpose of hedge accounting).

### **PwC insight**

*Whether or not this change will have any impact in practice is debatable, as IFRS 9 requires that such an item should be designated as the hedging instrument in its entirety or a proportion of it. In the past it has not been common practice for non-financial entities to designate non-derivative financial instruments at fair value through P&L. Therefore, on transition to IFRS 9 this change might be of limited use for these entities, however, the usefulness might subsequently increase, since entities can designate new financial instruments at fair value through P&L.*

## 4.3. Embedded derivatives

Under IFRS 9's requirements for the classification and measurement of financial instruments, embedded derivatives in financial assets are not accounted for separately. If there is an embedded derivative in a financial asset that would have been separated under IAS 39, the whole instrument will (in most cases) be carried at fair value through P&L. As a result, embedded derivatives in financial assets will no longer be eligible as hedging instruments on their own. As an alternative, entities could designate the instrument in its entirety (or a proportion of it) at fair value through P&L as a hedging instrument, as noted above. However, entities should note that designation at fair value through P&L is allowed only at inception; therefore, they can do this only for new financial instruments.

For financial liabilities, on the other hand, most of the classification and measurement requirements in IAS 39 have been transferred into IFRS 9, including the paragraphs for separating embedded derivatives that are not closely related to the host instrument. This means that derivatives embedded in financial liabilities continue to be separated in some circumstances. If an embedded derivative is separated from the host instrument and accounted for separately, it continues to be eligible as a hedging instrument.

## 4.4. Purchased options

The fair value of an option can be divided into two portions: the intrinsic value (which is determined in terms of the difference between the strike price and the current market price of the underlying) and the time value (that is, the remaining value of the option which reflects the volatility of the price of the underlying, interest rates and the time remaining to maturity). IAS 39 permits designation of either the entire fair value or only the intrinsic value of the option. However, designating only the intrinsic value usually increases the volatility in P&L, due to the fact that changes in the time value of the option are recognised in P&L.

IFRS 9 changed the accounting requirements on using purchased options as hedging instruments. It views a purchased option as similar to purchasing insurance cover with the time value being the associated cost. If an entity elects to designate only the intrinsic value of the option as the hedging instrument, it must account for

the changes in the time value in OCI. This amount will be removed from OCI and recognised in P&L, either over the period of the hedge if the hedge is time related (for example, six-month fair value hedge of inventory), or when the hedged transaction affects P&L if the hedge is transaction related (for example, a forecast sale). This is known as the 'cost of hedging' approach and should result in less volatility in P&L for these option-based hedges, and it removes an obstacle to sensible risk management practice.

An entity needs to take into consideration that, once it designates the intrinsic value of the option, the accounting introduced by IFRS 9 is not optional, but mandatory. In addition, the aforementioned accounting for the initial time value of purchased options applies only to the extent that the time value relates to the hedged item. This is called the 'aligned time value'. Where the hedging instrument and hedged item are not fully aligned, entities need to determine the aligned time value – that is, how much of the time value included in the premium paid (actual time value) relates to the hedged item – and apply this accounting treatment to that portion. This can be determined using the valuation of the option that would have critical terms that perfectly match the hedged item. The residual amount is recognised in P&L.

## 4.5. Forward contracts

A forward is a contract to exchange a fixed amount of a financial or non-financial asset on a fixed future date at a fixed price. The fair value of a forward contract is affected by changes in the spot rate and changes in the forward points (in the case of an FX forward contract, the forward points arise from the interest rate differential between currencies specified in a forward contract).

Under IAS 39, for hedges of foreign currency risk, an entity has a choice of whether to hedge using either the forward rate or the spot rate:

- If the forward rate is used, the entity is hedging with the full fair value of the forward contract. Changes in the fair value of the forward are accounted for in accordance with the type of hedge (such as fair value hedge or cash flow hedge). In this type of designation, some ineffectiveness would generally arise if the hedged item is not similarly affected by interest rate differentials for example if the timing of the hedged item differs from the maturity of the forward contract designated as the hedging instrument.
- Where an entity designates only the change in the value of the spot element as the hedging instrument, the entity is only concerned about movements in the spot rate (and not changes due to interest rates, which is the forward element). Changes in the spot rate are part of the hedge relationship, and so they are accounted for in accordance with the type of hedge, whereas the changes in fair value due to the forward points are immediately recognised in P&L.

Under IFRS 9, the ability to designate the forward or the spot rate is not restricted to foreign currency risk and an entity can continue to apply both of the approaches allowed in IAS 39. However, where an entity designates only the change in the spot element as the hedging instrument an additional accounting approach exists for the forward element of the forward contracts (as compared to IAS 39 accounting). Even though a forward contract can be considered to be related to a time period, IFRS 9 states that the relevant aspect for its accounting is the characteristic of the hedged item and how it affects profit or loss. An entity must assess the type of hedge on the basis of the nature of the hedged item, regardless of whether the hedging relationship is a cash flow hedge or a fair value hedge. An entity assesses whether the hedge is transaction related (for example, the hedge of a forecast purchase of inventory in foreign currency) or whether it is time- period related (for example, a hedge of the fair value of commodity inventory for the next six months using a commodity forward contract). The accounting treatment to be applied to the forward element of a forward contract is the same as for the time value of hedging with options (described in 4.4 above). However, unlike the accounting for options, this 'cost of hedging' accounting treatment is optional rather than mandatory. This additional approach helps to reduce volatility in P&L as compared to the accounting under IAS 39.

## 4.6. Accounting for currency basis spreads

IAS 39 did not prescribe specific accounting criteria for currency basis spreads (that is, the liquidity charge for exchanging different currencies that is inherent in a foreign exchange contract). Many entities included this spread when applying the hypothetical derivative method for assessing hedge effectiveness for cash flow hedges. The hypothetical derivative is an accepted mathematical expedient used by entities to calculate the value of the hedged item in cash flow hedges.

IFRS 9 states that a hypothetical derivative cannot include features that do not exist in the hedged item. It clarifies that a hypothetical derivative cannot simply impute a charge for exchanging different currencies (that is, the currency basis spread), even though actual derivatives under which different currencies are exchanged might include such a charge (for example, cross-currency interest rate swaps).

Under IFRS 9, where an entity separates the foreign currency basis spread from a financial instrument and excludes it from the designation of that financial instrument as the hedging instrument, the entity can account for the changes in the currency basis spread in the same manner (that is, transaction related or time-period related) as applied to the forward element of a forward contract, as noted in 4.5 above.

### ***PwC insight***

*Entities might want to use the cost of hedging approach for the currency basis spread to avoid ineffectiveness that would otherwise arise, particularly for longer dated swaps or forwards or where hedging less common or more volatile currencies, where the spread is likely to be larger.*

## 5. What can be designated as hedged items?

There are a number of changes to the rules about what can be designated as a hedged item. The changes primarily remove restrictions that prevent some economically rational hedging strategies from qualifying for hedge accounting. The table below gives an overview of the eligible hedged items that are permitted in IFRS 9 as compared to IAS 39. A detailed explanation of each of the changes is given in the paragraphs that follow.

IAS 39	IFRS 9
5.1 Definition of hedged item.	Unchanged.
5.2 Possible to hedge risk components of financial items only.	Also possible to hedge risk components of non-financial items.
5.3 Net positions not allowed as hedged items.	Net positions (including net nil positions) allowed as hedged items in some circumstances.
5.4 Use of layers as hedged item relatively restricted. Layers allowed only for cash flow hedges.	Layers allowed for both cash flow hedges and fair value hedges in some circumstances. Some restrictions apply for prepayable items.
5.5 Derivatives not allowed to be designated as (or be part of) hedged items.	Aggregated exposures allowed as hedged items.

### 5.1. Definition of hedged item

Under both IAS 39 and IFRS 9, a hedged item can be a recognised asset or liability, an unrecognised firm commitment, a forecast transaction or a net investment in a foreign operation. The hedged item can be:

- A single item, or
- A group of items.

If the hedged item is a forecast transaction, it must be highly probable.

### 5.2. Risk components of non-financial items

Under IAS 39, only risk components of financial items (such as the LIBOR rate in a loan that bears interest at a floating rate of LIBOR plus a spread) could be designated as a hedged item, provided they are separately identifiable and reliably measurable. Under IFRS 9, risk components can be designated for non-financial hedged items, provided the component is separately identifiable and the changes in fair value or cash flows of the item attributable to the risk component are reliably measurable. This requirement could be met where the risk component is either explicitly stated in a contract (contractually specified) or implicit in the fair value or cash flows (non-contractually specified).

Entities that hedge commodity price risk that is only a component of the overall price risk of the item, are likely to welcome the ability to hedge separately identifiable and reliably measurable components of non-financial items.

**PwC insight:**

*An example of a contractually specified risk component that we have come across in practice is a contract to purchase a product (such as aluminium cans), in which a metal (such as aluminium) is used in the production process. Contracts to purchase aluminium cans are commonly priced by market participants based on a building block approach, as follows:*

- *The first building block is the London Metal Exchange (LME) price for a standard grade of aluminium ingot.*
- *The next building block is the grade premium or discount to reflect the quality of aluminium used, as compared to the standard LME grade.*
- *Additional costs will be paid for conversion from ingot into cans and delivery costs.*
- *The final building block is a profit margin for the seller.*

*Many entities may want to use aluminium LME futures or forwards to hedge their price exposure to aluminium. However, IAS 39 did not allow just the LME component of the price to be the hedged item in a hedge relationship. All of the pricing elements had to be designated as being hedged by the LME future. This caused ineffectiveness, which was recorded within P&L; and, in some cases, it caused sensible risk management strategies to fail to qualify for hedge accounting. By contrast, IFRS 9 allows entities to designate the LME price as the hedged risk, provided it is separately identifiable and reliably measurable.*

When identifying the non-contractually specified risk components that are eligible for designation as a hedged item, entities need to assess such risk components within the context of the particular market structure to which the risks relate and in which the hedging activity takes place. Such a determination requires an evaluation of the relevant facts and circumstances, which differ by risk and market.

The Board believes that there is a rebuttable presumption that, unless inflation risk is contractually specified, it is not separately identifiable and reliably measurable, and so it cannot be designated as a risk component of a financial instrument. However, the Board considers that, in limited cases, it might be possible to identify a risk component for inflation risk, and provides the example of environments in which inflation-linked bonds have a volume and term structure that result in a sufficiently liquid market that allows a term structure of zero-coupon real interest rates to be constructed.

**PwC insight:**

*Although allowing hedges of risk components of non-financial item is very beneficial for entities, the wording in IFRS 9 is unclear. IFRS 9 requires an entity to assess risk components (that are separately identifiable and reliably measurable) within the context of the particular market structure to which the risk or risks relate and in which the hedging activity takes place. However, there are no criteria specified to be used in the analysis of the market structure, nor are there any definitions of the market to be analysed.*

### 5.3. Hedging groups of net positions

IFRS 9 provides more flexibility for hedges of groups of items, although, as noted earlier, it does not cover macro hedging. Treasurers commonly group similar risk exposures and hedge only the net position and so IFRS 9 allows the potential to align the accounting approach with the risk management strategy.

For cash flow hedges of a group of items that are expected to affect P&L in different reporting periods, the qualifying criteria are:

- Only hedges of foreign currency risk are allowed.
- The items within the net position must be specified in such a way that the pattern of how they will affect P&L is set out as part of the initial hedge designation and documentation (this should include at least the reporting period, nature and volume).

**PwC insight:**

*The ability to hedge net positions under IFRS 9 is a step forward, in that it allows hedge designation in a way that is consistent with an entity's risk management strategy. However, IFRS 9 requires the presentation of the gains and losses on recycling as a separate line item in P&L (separate from the hedged items), and so it does not allow an entity to present the post-hedging results of its commercial activities for those line items. This may mean the ability to hedge net positions is not as widely used as it might otherwise have been.*

In addition, net nil positions (that is, where hedged items among themselves fully offset the risk that is managed on a group basis) are now allowed to be designated in a hedging relationship that does not include a hedging instrument, provided that all the following criteria are met:

- The hedge is part of a rolling net risk hedging strategy (that is, the entity routinely hedges new positions of the same type);
- The hedged net position changes in size over the life, and the entity uses eligible hedging instruments to hedge the net risk;
- Hedge accounting is normally applied to such net positions; and
- Not applying hedge accounting to the net nil position would give rise to inconsistent accounting outcomes. The Board expects that hedges of net nil positions would be coincidental and therefore rare in practice.

## 5.4. Hedging layers of a group

IAS 39 allowed hedging layers of a group in very limited circumstances (for example, in specified cash flow hedges). IFRS 9 allows a layer of a group to be designated as the hedged item. A layer component can be specified from a defined, but open, population or from a defined nominal amount. Examples include:

- A part of a monetary transaction volume (such as the next CU10 cash flows from sales denominated in a foreign currency after the first CU20 in March 201X);
- A part of a physical or other transaction volume (such as the first 100 barrels of the oil purchases in June 201X, or the first 100 MWh of electricity sales in June 201X); or
- A layer of the nominal amount of the hedged item (such as the last CU80 million of a CU100 million firm commitment, or the bottom layer of CU20 million of a CU100 million fixed rate bond, where the defined nominal amount is CU100 million).

If a layer component is designated in a fair value hedge, an entity must specify it from a defined nominal amount. To comply with the requirements for qualifying fair value hedges, an entity must re-measure the hedged item for fair value changes attributable to the hedged risk. The fair value adjustment must be recognised in P&L no later than when the item is derecognised. Therefore, it is necessary to track the item to which the fair value hedge adjustment relates. Entities are required to track the nominal amount from which the layer is defined in order to track the designated layer (for example, the total defined amount of CU100 million sales must be tracked in order to track the bottom layer of CU20 million sales or the top layer of CU30 million sales).

A layer of a contract that includes a prepayment option (if the fair value of the prepayment option is affected by changes in the hedged risk) is only eligible as a hedged item in a fair value hedge if the layer includes the effect of the prepayment option when determining the change in fair value of the hedged item. In this situation, if an entity hedges with a hedging instrument that does not have option features that mirror the layer's prepayment option, hedge ineffectiveness would arise.

## 5.5. Aggregated exposures

Under IAS 39, a derivative could not be a hedged item, and derivatives could not be combined with another exposure to form a hedged item. This restriction was criticised by preparers because of the difficulty of achieving hedge accounting for more than one risk in a single hedging relationship, if not all risks are designated at inception. Under IFRS 9, this restriction has been removed. An aggregated position that incorporates a derivative along with a non-derivative exposure can be designated as a hedged item.

## 6. Alternatives to hedge accounting

### 6.1. Extended use of fair value option for 'own use' contracts

IFRS 9 applies to all items within the scope of IAS 39. As part of the publication of IFRS 9, the remaining version of IAS 39 was amended to extend the option to irrevocably designate and measure certain items at fair value through P&L ('fair value' option). Entities are allowed to apply the fair value option where doing so eliminates or significantly reduces an accounting mismatch.

Under IFRS 9 entities are now able to apply the fair value option to contracts to buy or sell non-financial items which qualify for the 'own use' exception. These are contracts that can be net settled but that were entered into for the purpose of the receipt or delivery of a non-financial item in accordance with the entity's expected purchase, sale or usage requirements.

#### **PwC insight:**

*This is good news for some non-financial entities, for example, entities in the energy industry. Energy companies often have a large number of contracts requiring physical delivery of energy (that is, the contracts are not for trading purposes), generally these contracts are 'own use' contracts under IAS 39. These entities commonly hedge with energy derivatives. By electing to designate the physical sales contracts at fair value through P&L they would likely significantly reduce the measurement inconsistency between the sales contracts and the energy derivatives and thus achieve offsetting effects without the need to apply hedge accounting (and therefore comply with the hedge accounting criteria).*

*However, some entities may find they do not qualify for this treatment, in particular those in manufacturing or refining industries where the non-financial item in the contract may not be 'readily convertible to cash'.*

### 6.2. Option to designate a credit exposure at fair value through P&L

IFRS 9 states that the credit risk of a debt instrument is a risk component that does not meet the eligibility criteria to be designated as a hedged item. The spread between the risk free rate and the market interest rate incorporates credit risk, liquidity risk, funding risk and any other unidentified risk components and margin elements. Therefore, the Board believes that credit risk cannot be isolated, and so does not meet the separately identifiable criteria in IFRS 9.

Credit derivatives (such as credit default swaps) that are used to hedge credit risk are accounted for at fair value through P&L, while credit exposures are usually measured at amortised cost or are unrecognised (for example, loan commitments). Where there is credit deterioration, this results in recognising gains on the credit derivative while the impairment on the hedged item is measured on a different basis, which results in P&L volatility that does not reflect the credit protection obtained.

IFRS 9 now provides the option to designate the financial instrument (all or a proportion of it) at fair value through P&L. This option is available only where:

- The name of the credit exposure (for example, the borrower or the holder of a loan commitment) matches the reference entity of the credit derivative ('name matching'); and
- The seniority of the financial instrument matches that of the instruments that can be delivered in accordance with the credit derivative.

This fair value option is different from the one described for 'own use' contracts, since this can be elected at initial recognition, subsequently or even while the hedged credit exposure is unrecognised (for example, in the case of a loan commitment). In addition, it is not irrevocable but, once this option is elected, specified criteria must be met to discontinue its use.

***PwC insight:***

*Banks often use credit default swaps linked to an index to hedge the credit risk for a portfolio of instruments. Due to the IFRS 9 requirement of a link between the financial instrument through the matching of the name of the borrower or seniority, such index-based credit default swaps would not be eligible hedging instruments.*

*Another aspect to consider is that the fair value of a financial instrument is comprised not only of credit risk but it considers additional effects (for instance, interest rate risk). When designating a financial instrument at fair value through P&L those additional effects would not be offset by the changes in the value of the credit derivative.*

## 7. Disclosures

Like many other new standards, the disclosure requirements are extended. The outreach activities undertaken by the Board found that users considered that the disclosure requirements in IFRS 7 did not provide sufficient information. As a result, the Board has amended the disclosure requirements in IFRS 7.

The disclosures are required for each 'category of risk' that an entity decides to hedge (for example, interest rate risk, foreign currency risk or commodity price risk). IFRS 9 does not prescribe the risk categories to be used. An entity should apply judgement and categorise risks on the basis of how it manages its risks through hedging.

However, an entity should apply its risk categories consistently throughout the entire hedge accounting disclosures.

The required hedge accounting disclosures provide information about:

- An entity's risk management strategy and how it is applied to manage risk;
- How the entity's hedging activities might affect the amount, timing and uncertainty of its future cash flows;
- The effect that hedge accounting has had on the entity's financial statements; and
- Whether the entity is applying the option to designate a credit exposure as measured at fair value through P&L.

The disclosure requirements for each of these four areas are very detailed and are not covered in detail in this publication.

The above mentioned disclosures will be applicable, even if the entity continues to apply IAS 39.

## 8. *Effective date and transition*

IFRS 9 is mandatory for accounting periods beginning on or after 1 January 2018. Entities have an accounting policy choice to apply IFRS 9 hedge accounting or to continue applying IAS 39 hedge accounting (refer to section 1.2 above).

Hedging relationships that qualified for hedge accounting in accordance with IAS 39, that also qualify for hedge accounting in accordance with IFRS 9 (after taking into account any rebalancing of the hedging relationship on transition), are regarded as continuing hedging relationships. Any gain or loss from such rebalancing must be recognised in P&L.

IFRS 9 requires prospective application of its hedge accounting requirements for all hedging relationships (except as described in the following paragraph). This means that, on the date of transition, all existing hedging relationships should be moved from the existing model under IAS 39 into the new model in IFRS 9. However, there will be no restatement of comparatives.

By way of exception to the above paragraph, retrospective application is required for:

- The accounting for time value of options if only the change in an option's intrinsic value was designated as a hedging instrument.
- The accounting requirements for novation of derivatives as a consequence of laws or regulations.

In addition, retrospective application is permitted, but not required, for:

- The accounting for the forward element of forward contracts if only the change in the spot element of the forward contract was designated as a hedging instrument.
- The accounting for foreign currency basis spreads.

Regarding the fair value through P&L election for 'own use' contracts, an entity will need to make this designation consistently for each group of similar contracts existing on the effective date of the IAS 39 amendment (refer to section 6.1 above).

As noted in section 3.1 all hedge documentation should be updated at the date of transition to reflect the requirements of IFRS 9.

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## ***Frequently asked questions***

# ***Section 2***

A woman with dark, wavy hair, wearing a black zip-up top and a black skirt with a silver belt, stands in a city street. The background is blurred, showing buildings and other people. An orange text box is overlaid on the right side of the image.

### Introduction

This section covers, in question and answer form, the issues that we are most frequently asked. Some of the questions cover changes introduced by IFRS 9, whilst others cover areas of hedge accounting that have not changed under IFRS 9 but that entities find complex.

This section is designed as a quick reference guide for those seeking a short answer on a particular point. Most of the questions and answers in this section are relatively brief; with many of the issues covered in further detail in the illustrations in Section 3.

We have organised the questions and answers under individual topics. Where questions cover more than one point they have been classified under the main topic covered. An index of all the questions and answers is provided on the following pages.

**Warning:** hedge accounting can be obtained only if all of the relevant conditions in IFRS 9 are met. While individual questions and answers may focus on only one aspect of a hedge relationship, this does not imply that the other requirements are unimportant.

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# ***1. Hedged item***



## 1.1. Risk components of non-financial items – meaning of market structure

### Question

**In determining whether a risk component is an eligible hedged component of a non-financial item, what is meant by the market structure in which the hedging activity takes place?**

### Illustration

To be eligible for designation as a hedged item, a risk component must be a separately identifiable component, and the changes in cash flows or fair value of the item attributable to a change in that component must be reliably measurable. (IFRS 9 paragraph B6.3.8)

IFRS 9 requires the qualifying criteria for an eligible risk component to be assessed in the context of the particular market structure to which the risks relate and in which the hedging activity takes place (IFRS 9 paragraph B6.3.9).

### Solution

In the case of a non-financial item, for there to be a hedgeable risk component it would generally be necessary for the price of the entire item to be built up from various components using a 'building block' approach to demonstrate an appropriate market structure. For example, it should be clear that informed buyers and sellers of this non-financial item would consider the price of the component proposed to be hedged (such as raw materials) in establishing the price of the overall non-financial item. Consideration of the approach of other market participants is necessary to demonstrate that the market structure supports the designation as a risk component.

The evidence required to support the market structure is a matter of judgement based on facts and circumstances, but should not rely solely on the entity's own negotiating position or standard costing systems.

## 1.2. Risk components of non-financial items – meaning of separately identifiable

### Question

**How should an entity determine whether changes in cash flows or fair value attributable to changes in a hedged component are separately identifiable? Is it sufficient for a risk component to be an input in the manufacturing process of a non-financial item?**

### Illustration

To be eligible for designation as a hedged item, a risk component must be a separately identifiable component, and the changes in cash flows or fair value of the item attributable to change in that component must be reliably measurable (IFRS 9 paragraph B6.3.8).

An entity wishes to hedge a non-contractually specified risk component of a non-financial item. If the risk component is an input in the manufacturing process of the non-financial item, is this sufficient for the risk component to be a separately identifiable hedged item?

### Solution

No. In general, it will be necessary for the risk component to be an input in the manufacturing process in order to be considered as 'separately identifiable', and so meet the criteria in IFRS 9. However, merely being an input in the manufacturing process is not, in itself, sufficient. Paragraph B6.3.9 of IFRS 9 requires that the qualifying criteria for an eligible risk component should be assessed in the context of the particular market structure to which the risks relate and in which the hedging activity takes place.

For example, wool is an input in the manufacturing process for woollen sweaters. Whether the wool price is a hedgeable risk component of the total price of the sweater depends on the market structure for the particular sweater. In the luxury apparel market, the price of the raw material (wool) will often have a low impact on the price of a woollen sweater that will instead mainly reflect the perceived value of the brand. In such a market, the wool price is unlikely to be an eligible risk component for a retailer. On the other hand, the price of a 'no frills' sweater of a generic design might be driven by the cost of the inputs into the manufacturing process (such as raw materials, labour and overheads) and a production margin. This is likely to give rise to a hedgeable risk component for the wool price component.

While it will, in general, be necessary for the risk component to be an input into the manufacturing process, there might be rare cases where the market structure is clear that a non-financial risk component is a separately identifiable component, even in the absence of a physical presence. For example, in some markets a long-term supply contract for natural gas may be based on a contractually specified formula that refers to indices including, inter alia, the price of crude oil. If a supply contract is in place, the crude oil price component would be considered to be an eligible risk component, because it is 'explicitly specified' in the contract. Equally, if a supply contract is not yet in place but the market commonly prices purchases of natural gas under long-term contracts in this manner, the crude oil price component would still be a hedgeable non-contractually specified risk component. This would be true for a highly probable forecast purchase of natural gas beyond the period for which liquid derivatives are available, despite crude oil not being an input in the manufacturing process for natural gas, when such pricing mechanism for natural gas (that is, the linkage to the crude oil prices) is the 'industry norm'. A different conclusion may be reached in a jurisdiction where pricing for natural gas is not based on crude oil, for example, where there is a liquid spot and forward market for natural gas for the period being hedged.

### *1.3. Risk components of non-financial items – meaning of reliably measurable*

#### *Question*

**How should an entity determine whether changes in cash flows or fair value attributable to changes in a hedged component are reliably measurable?**

#### *Illustration*

To be eligible for designation as a hedged item, a risk component must be a separately identifiable component, and the changes in cash flows or fair value of the item attributable to change in that component must be reliably measurable (IFRS 9 paragraph B6.3.8).

Company A wishes to designate a risk component as a hedged item. How should company A assess if the 'reliably measurable' criterion is met?

#### *Solution*

Changes in cash flows or fair value attributable to changes in the hedged component would be considered reliably measurable where the price of a non-contractually specified risk component has a predictable and direct impact on the price of the entire item. A linear relationship, where changes in the price of the risk component have an equivalent (though not necessarily one-to-one) impact on the price of the entire item, in the absence of changes in other inputs, would generally create such a predictable and direct impact.

Nevertheless, a non-linear relationship might also be sufficient for a risk component to be considered an eligible hedged component. For example, the prices of many items are only updated periodically, or where input prices increase or decrease beyond a reasonable threshold, creating 'stepped' changes in the link between the price of the risk component and the price of the entire item. Accordingly, an entity will need to analyse the nature of the non-linear relationship, and the reasons for that relationship, to establish whether the risk component is implicit in the fair value or cash flows of the entire item and hence is an eligible hedged component.

Factors to be considered in making this assessment should include:

- Absolute magnitude of the ‘steps’, before a change in the price of the risk component influences the change in price of the entire item. For example, the price of a luxury wool sweater will have limited correlation with the price of the raw material (wool).
- Frequency of updates to the price of the entire item in response to changes in the price of the risk component.
- Sensitivity of changes in the price of the entire item to its supply and demand (and the supply and demand of substitutes), compared with changes in the price of the risk component.
- Whether changes to the price of the entire item are one-sided (such as increases only) or prices are ‘stickier’ in one direction (for example, price increases occur more frequently or in greater magnitude than decreases).
- The reason that changes in the price of the component are not passed on immediately. For example, where increases in the price of the component are not passed on because the market cannot fully absorb such changes, this might indicate that the market structure is not consistent with a ‘building block’ approach.

Whether or not the impact of a risk component on the price of the entire item is non-linear is factored into the assessment of whether it qualifies as an eligible hedged component of the non-financial item; if an eligible risk component exists, it does not impact hedge effectiveness. Accordingly, once an eligible risk component has been identified, it is assumed to have a linear impact on the hedged item. This is because the non-linear element in the overall pricing reflects the willingness of an entity to absorb certain input price movements within its profit margin rather than pass the increase on to customers. In such circumstances the underlying relationship is linear, but the entity is willing to temporarily reduce or increase its margin. Accordingly, part of the profit margin is inversely correlated with the risk component for short periods and/or small price changes, which does not preclude the use of a linear relationship for assessing hedge effectiveness. If this inverse correlation exists for longer periods or larger price changes, however, it would call into question the original assessment that there is an eligible risk component and the validity of the hedge as a risk management strategy.

Assessing whether a risk component is implicit in the fair value or the cash flows of the entire item, and whether the changes in fair value or cash flows that are attributable to the risk component are reliably measurable is highly judgemental. Practice is likely to develop based on risk management strategies undertaken by entities. Management will need robust evidence, demonstrating the particular market structure, to support its assertion that the risk component qualifies as a hedged item. Given the judgement involved this could be a significant accounting judgement under IAS 1 that would require disclosure in the financial statements.

## 1.4. Cash flow hedges of future interest flows

### Question

**Are the following cash flow hedge designations of future interest flows permitted under IFRS 9?**

### Illustration

Consider the following scenarios. NB: In all scenarios both the swap and the hedged debt are denominated in Company A’s functional currency.

#### Scenario 1

Company A enters into a forward starting swap in which it pays a fixed rate and receives a floating interest rate to hedge a highly probable forecast debt issuance. The date of issuance is known, but it is not known whether the debt will be at fixed– or floating– rates. Company A designates the swap as a cash flow hedge of the variability in cash flows of the debt to be issued, due to changes in interest rates. As a result, the company considers the following:

If the forecast issuance is at fixed rate, the swap will be terminated (or an opposing swap with the same residual maturity will be taken out to close the swap position) and hedge accounting will be discontinued.

If the forecast issuance is at floating–rate, then the hedge relationship is maintained with the existing swap and therefore hedge accounting will continue to be applied.

### *Scenario 2*

Company B enters into an interest rate swap in which it pays a fixed rate and receives a floating interest rate. Company B designates the swap as a cash flow hedge of the variability, due to changes in interest rates, of the cash flows resulting from a combination of current floating rate debt (with a maturity shorter than that of the swap), followed by a highly probable forecast issuance of either fixed or floating rate debt for the remaining term of the swap (the latter is similar to scenario 1).

### *Scenario 3*

Company C enters into a similar structure as in scenario 2 above. However, in this case the precise date when the existing floating debt will be rolled over into either floating– or fixed–rate debt is not known. The company can demonstrate that it has a highly probable funding requirement of at least CU1 million throughout the life of the swap, which will be satisfied by issuing either fixed– or variable–rate debt. The swap is designated as a cash flow hedge of the variability of future interest cash flows on the first CU1 million of debt in issue over the life of the swap.

### *Solution*

Yes, all of the above designations are allowed under IFRS 9 provided all the qualifying criteria in IFRS 9 6.4.1 are met, including for example that the intention to hedge changes in interest rates is in line with the entity's risk management strategy. Entities may designate their hedge relationships in alternative ways depending on their facts and circumstances. Designation of the risks associated with forecast transactions is permitted as long as they are highly probable.

In the case of scenario 3, in which a layer is designated as the hedged item, IFRS 9 6.6.3 requires among other aspects that the layer must be separately identifiable and reliably measurable. The forecast transaction must be identified and documented with sufficient specificity so that when the transaction occurs it is clear whether the transaction is or is not the hedged item. A drawback of designation of a layer is the complexity in proving that the designated level of funding is highly probable. For example, when entities specify the interest payment for a particular loan, then there is no need to prove that the cash flows are highly probable since those are contractually specified. When entities do not designate a specific contract then it is necessary to demonstrate that it is highly probable that there will be a need for a certain level of financing of a kind that meets the designated hedged item.

In all of the above scenarios, where the hedged item is issued floating–rate debt, ineffectiveness may arise, for example if the reset dates or interest basis of the swap differ from those of the issued debt.

## *1.5. Forecast foreign currency debt issuance*

### *Question*

**Is a highly probable forecast foreign currency debt issuance eligible as a hedged item in a cash flow hedge of foreign currency risk?**

### *Illustration*

On 1 January 20X1, it is highly probable that company X (with EUR functional currency) will issue, on 1 July 20X1, USD 100 million of five–year, fixed–rate debt, with quarterly coupons. On 1 January 20X1, the EUR:USD spot and six–month forward exchange rates are 1:1. The proceeds from the issuance of the debt are needed to finance the expansion of the company's production facilities in Europe. The company is concerned that the EUR:USD exchange rate will fluctuate, such that additional USD debt will need to be issued in order to lock in the desired EUR 100 million in proceeds, which in turn will affect the interest incurred on the foreign currency debt to be issued.

Therefore, on 1 January 20X1, company X enters into a six–month forward to buy EUR and sell USD at 1:1. This transaction is on market at zero cost, because the six–month forward rate is 1:1.

Is the variability in functional currency equivalent proceeds, expected to be received from the forecast issuance of debt denominated in a currency other than the reporting entity's functional currency, eligible for designation as the hedged transaction in a cash flow hedge of foreign currency risk?

### *Solution*

No. The hedged item (risk of changes in foreign exchange rates before the forecast issuance of foreign currency debt) does not affect profit or loss when the transaction is settled or in subsequent periods. In this situation, company X is concerned about foreign exchange spot movements between the hedge inception date and the debt issuance date, specifically the risk associated with converting the foreign currency denominated debt proceeds into its functional currency. While this represents a risk from an economic and cash flow perspective and will impact interest expense in future periods, the impact on future interest expense is not the risk being hedged.

## *1.6. Aggregated hedge – forecast debt issuance where the currency of issuance is not certain*

### *Question*

**Is a highly probable forecast foreign currency debt issuance eligible as a hedged item in a cash flow hedge of interest rate risk if the currency of issuance is not yet known?**

### *Illustration*

At 1 January 200X, entity A, whose functional currency is the Euro, intends to issue a variable interest rate debt in six months' time in order to finance future activities. Depending on the market conditions existing at 1 July 200X, entity A will decide whether the debt is issued in Euros or in US dollars. If the debt is issued in US dollars, then at the debt issuance date (1 July 200X) entity A will enter into a cross-currency swap in order to convert the US dollar exposure on the debt to a Euro exposure.

Management wants to hedge its exposure to variable interest rates. On 1 January 200X, it contracts a forward-starting interest rate swap (that is, an interest rate swap that will start on 1 July 200X) which is denominated in Euros.

### *Solution*

Yes. Under IFRS 9, an aggregated exposure that is a combination of a forecast transaction that could qualify as a hedged item and a derivative can be designated as a hedged item, provided that the aggregated exposure is highly probable and, once it has occurred and is therefore no longer forecast, it is eligible as a hedged item.

As a result, the proposed designation is acceptable, provided that it is in line with entity A's risk management strategy and objectives. In the illustration, the designated hedged item would be the highly probable variable interest payments in Euros (entity A's functional currency), arising either from the Euro debt or the aggregated exposure (US dollar debt swapped into Euros by using the cross-currency swap

## *1.7. Hedge of a net position*

### *Question*

**In what situations can an entity hedge a net position?**

### *Illustration*

A EUR-functional currency entity has a sales department that sells certain items in USD. At the same time, the purchasing department buys certain products in USD. Each department is unaware of the other's activities, but both want to hedge their forecast USD sales and purchases respectively. Assume that the sales department has USD100,000 of sales in six months' time, so it enters into a forward contract with the entity's central treasury department (that is a separate entity within the same group). The purchasing department has highly probable forecast purchases of USD90,000, also in six months' time, and it also enters into an internal derivative with

the central treasury department. Both the sales and purchasing departments view their derivative as a hedging instrument, but the group cannot apply hedge accounting, because the derivative is internal to the group and so it is eliminated on consolidation.

However, in order to hedge the group's exposure, the treasury department enters into a forward with a bank for USD10,000. By doing this, the group is economically hedged. However, under IAS 39, it was not possible to designate the net position of USD10,000 (comprised of USD100,000 sales and USD90,000 purchases) as a hedged item. Instead, the group had to designate USD10,000 out of the USD100,000 of future sales as the hedged item. This did not reflect the entity's risk management strategy and is not how the entity tracked the appropriateness of the economic hedge relationship.

Under IFRS 9 can the group designate the net position of USD10,000 as the hedged item?

### *Solution*

Yes. Under IFRS 9, a net position that incorporates offsetting positions can be designated as a hedged item, provided all items included in the group are individually eligible as hedged items and the items in the group are managed together on a group basis for risk management purposes. This means that the group can now apply hedge accounting to a net position comprised of sales of USD100,000 and purchases of USD90,000 with a USD10,000 derivative, which mirrors the entity's risk management.

However, the hedging gains and losses on recycling must be presented as a separate line item in P&L (separate from the hedged items). An entity cannot present the post-hedging results of its commercial activities for the individual line items affected. [IFRS 9 para B6.6.15-16].

## *1.8. Hedging interest and foreign currency risk by designating an aggregated exposure*

### *Question*

**Can an entity achieve hedge accounting if it adds an additional derivative to a pre-existing hedge relationship?**

### *Illustration*

Entity A, which has USD as its functional currency, takes out a 10-year floating rate loan in EUR (a foreign currency). It wants to eliminate its exposure to variability in cash flows from changes in interest rates, so it enters into a floating-to-fixed interest rate swap in EUR. To reduce volatility in P&L, it designates the swap in a cash flow hedge. In a later period, it also wants to eliminate the foreign currency exposure, so it takes out a USD:EUR fixed-fixed cross-currency interest rate swap to eliminate its exposure.

Under IFRS 9 can entity A achieve hedge accounting by designating the cross-currency interest rate swap as hedge of the combination of the debt and the existing interest rate swap?

### *Solution*

Yes. Under IFRS 9 the aggregated exposure (that is, a combination of the debt instrument plus the interest rate swap) is eligible to be designated as the hedged item, without needing to de-designate the original interest rate hedge. This is consistent with the entity's strategy of simply overlaying the second derivative to eliminate the net foreign currency risk.

This is different from IAS 39. IAS 39 would not allow the issuer to designate the combined loan and EUR interest rate swap as the hedged item, as a derivative generally cannot be a hedged item. Under IAS 39, the entity would instead have needed to combine the original swap and the new cross-currency interest rate swap as the hedging instrument, which would require the de-designation of the original interest rate hedge.

## 1.9. Hedging cash flows in specific time buckets

### Question

**Can management designate forecast sales as the hedged item if it is unable to link the forecast future cash flows to specific individual sales transactions?**

### Illustration

Company T manufactures and sells ice cream. Its functional currency is the Euro, and 30% of its sales are made in the UK and denominated in GBP. Management forecasts highly probable sales in the UK for the next summer season on a monthly basis. Using these forecasts, the entity enters into forward contracts to sell GBP in exchange for Euros. Due to the nature of its business, company T is not able to forecast or track individual sales transactions.

### Solution

Yes. Management can designate the forecast sales as the hedged item by using the layer approach. The layer approach is specifically permitted by IFRS 9. It would designate the hedged item as the first GBP X million of highly probable cash flows from sales in specific time buckets (for example, GBP sales in each month). To qualify for hedge accounting, the designation must be sufficiently specific to ensure that, when a forecast transaction occurs, it is possible to determine objectively whether that transaction is or is not one that is hedged. In addition, IFRS 9 requires that such forecast sales be discounted from the date they are expected to occur. In the event the date of the forecast sale is not aligned to that of the hedging instrument, some ineffectiveness will arise.

If the hedged cash flows do not occur in the designated time bucket, management cannot continue to defer the related hedging gains/losses in equity and must transfer them to the income statement. Under IFRS 7, an entity will need to disclose the amounts reclassified from the cash flow hedge reserve into profit or loss because the hedged item has affected profit or loss separately from the amounts that have been transferred because the hedged future cash flows are no longer expected to occur.

## 1.10. Forecast inter-company dividends

### Question

**Are forecast inter-company dividends which are undeclared but expected to be paid and received in a foreign currency an eligible hedged item in consolidated financial statements?**

### Illustration

Company Q, whose functional currency is the GBP, has a subsidiary in the US, whose functional currency is the US dollar. On 1 January 200X, company Q's management forecasts that it will receive an USD100m dividend from its US subsidiary in six months. The inter-company dividend was declared and approved on 30 April 200X, at which time both company Q and its subsidiary recognised the dividend as a receivable and payable respectively.

The foreign currency dividend receivable in company Q's balance sheet was retranslated at the reporting period end, 31 May 200X, resulting in a foreign currency loss. The subsidiary paid the dividend on 30 June 200X, resulting in a further foreign currency loss.

Company Q's management designated the highly probable inter-company dividend as the hedged item in a cash flow hedge from 1 January 200X to 30 June 200X, in order to hedge the exposure to changes in the GBP/USD exchange rate.

### Solution

No. IFRS 9 does not permit hedge accounting to be applied to hedges of inter-company transactions in consolidated accounts except in certain specified circumstances, such as where the foreign currency risk on intra-group monetary items is not eliminated on consolidation.

Undeclared inter-company dividends are not foreign currency transactions that are eligible hedged items under IFRS 9, because they do not affect the consolidated income statement; they are distributions of earnings.

On the other hand, the foreign currency exposure arising from the dividend receivable in US dollars recognised on 30 April 200X could be designated as a hedged item, because it gives rise to foreign currency gains and losses that do not fully eliminate on consolidation and therefore affect the consolidated income statement. Company Q's management can therefore only apply hedge accounting from 30 April 200X, when the dividend is declared, until 30 June 200X when the cash is received.

## 1.11. Hedging intra-group monetary items

### Question

**How can a parent, in its consolidated financial statements, hedge the foreign currency exposure of an intra-group receivable?**

### Illustration

Group X comprises a parent and two subsidiaries, Subsidiary A and Subsidiary B. Subsidiary A, whose functional currency is the euro, has an intra-group receivable from subsidiary B, whose functional currency is the Swiss franc (CHF). The receivable is denominated in Swiss francs, and subsidiary A enters into a EUR/CHF forward contract with an external party to hedge the resulting foreign currency risk.

In its separate financial statements, subsidiary A translates the receivable into euros, using the spot rate at the balance sheet date, and recognises a foreign currency gain or loss in accordance with IAS 21. Subsidiary B, in its separate financial statements, records the payable to subsidiary A in its own functional currency and does not recognise any gain or loss. On consolidation, the gain or loss recognised by subsidiary A is translated into the group's presentation currency and is recognised in the group's income statement. There is no offsetting loss or gain arising from subsidiary B.

Subsidiary A uses a EUR/CHF forward contract to hedge the foreign currency exchange risk on the receivable from subsidiary B in its separate financial statements. As the receivable gives rise to an exposure to foreign currency gains or losses that is not fully eliminated on consolidation, the foreign currency exposure on the intra-group receivable can be designated as the hedged item in the consolidated financial statements.

### Solution

The group can designate the EUR/CHF forward contract in subsidiary A as the hedging instrument. The hedge accounting achieved by subsidiary A is reversed on consolidation and replaced with hedge accounting achieved by the group.

For group purposes, it is not necessary for the subsidiary to take out the forward contract for the foreign exchange exposure on the intra-group receivable to qualify as a hedged item on consolidation. The parent entity could have taken out the same forward contract hedging the EUR/CHF exchange risk instead.

## 1.12. Hedging intra-group forecast transactions

### Question

**In what situations will an entity be able to demonstrate linkage to an external transaction and hedge the foreign currency risk of an intra-group forecast transaction?**

### Illustration

One of the conditions for the foreign currency risk of a highly probable forecast intra-group transaction to be designated as a hedged item in the consolidated financial statements is that the foreign currency risk will affect the group's consolidated P&L. This condition is met where the forecast intra-group transaction is related to an external transaction. In which kinds of scenarios will an entity be able to demonstrate the necessary linkage to an external transaction in order to meet this condition?

### *Scenario 1 – Linkage to an external sale of the same item*

Group A (which uses pound sterling as its presentation currency) includes entity B, with euro functional currency, and entity C, with US dollar functional currency, in the consolidation. Entity B manufactures tyres and incurs production costs in euros. It sells most of the tyres to entity C, and those transactions are denominated in US dollars. Entity C markets and sells those tyres to external customers in the US, also in US dollars.

In June 20X6, entity B forecasts that it will sell tyres to entity C in October 20X6 amounting to US\$10m. These sales are highly probable, and all the other conditions in IFRS 9 for hedge accounting are met. Entity C expects to sell this inventory to external customers in early 20X7. At the same time in June 20X6, entity B enters into a euro/US\$ derivative (buy EUR/sell US\$) to hedge the foreign currency risk of the forecast sale of US\$10m to entity C in October 20X6.

Group A intends to designate the forward contract as hedging the foreign currency risk of the forecast intra-group sales of US\$10m by entity B in a cash flow hedging relationship in the consolidated financial statements.

### *Solution*

In this situation, the group can achieve hedge accounting because all of the following conditions are met:

- The intra-group sales are highly probable, and all of the other conditions for using hedge accounting are met.
- The intra-group sales are denominated in a currency (US\$) other than entity B's functional currency (euro).
- The existence of the expected onwards sale of the inventory in US dollars to third parties outside the group results in the hedged exposure affecting the pound sterling consolidated P&L. This is because the intra-group profit on sale recognised in entity B is denominated in euros that is fixed according to the EUR/US\$ rate when the sale takes place in October 20X6. This profit is eliminated on consolidation against the carrying value of tyre inventory in entity C and released to consolidated P&L when the onward sale of inventory to third parties takes place in 20X7.

Gains/losses on the EUR/US\$ derivative are recognised initially in other comprehensive income and consolidated equity to the extent that the hedge is effective. These amounts are reclassified to consolidated profit or loss in 20X7 when the external sales occur.

### *Scenario 2 – Linkage to an external sale of a different item*

A parent company with a Swedish Krona (SEK) functional currency has incurred costs of SEK10m in developing the manufacturing process necessary to make product A. The technical know-how is transferred to its US subsidiary. Management estimates that 10,000 units of product A will be produced and sold at a market price of USD500 per unit over the three-year period during which product A is marketed.

With the transfer of the manufacturing process, the US subsidiary agrees to pay the parent company a royalty of SEK 1,200 per unit sold of product A. According to the initial calculations, the cost of goods sold will be USD200 + USD150 for the royalty payment to the parent company based on the exchange rate at the date of the agreement (SEK8 : USD1). The agreement is for a period of three years and is capped at 10,000 units. At the end of three years or after 10,000 units have been sold, the US subsidiary can use the technology without paying any further royalties.

At the date of the agreement, the US subsidiary enters into foreign currency forward contracts to hedge the foreign currency risk of the forecast intra-group payments of royalties on the highly probable external sales transactions.

### *Solution*

It is possible to designate the foreign currency risk in the intra-group royalty payment as the hedged item in a cash flow hedge in the group accounts; this is because the royalty payments are a necessary cost of the goods being sold and are therefore directly related to the external sale.

The standard notes the difficulty in demonstrating that there is a related external transaction for intra-group royalty and interest payments, but does not preclude the use of hedge accounting for such transactions where a clear link to an external transaction can be demonstrated.

### 1.13. Hedging forecast foreign currency revenue of a subsidiary

#### Question

**Can a parent hedge forecast future revenues denominated in the functional currency of a subsidiary which is different from the functional currency of the parent?**

#### Illustration

Entity A, based in Germany, whose functional currency is the euro, has a subsidiary in the UK, whose functional currency is GBP. The group's presentation currency is also the euro. The UK subsidiary sells gas within the UK for GBP to British customers.

At the group level, the group's treasury department enters into an external GBP/euro forward contract to hedge against movements in GBP versus euro on behalf of the group.

Can the group apply cash flow hedge accounting?

#### Solution

No. The group cannot obtain cash flow hedge accounting for the UK subsidiary sales. The sales of the UK subsidiary are made in its functional currency, so it has no foreign currency exposure. The consolidated group has a foreign currency exposure, but it will not affect the group's reported net P&L. At the consolidated level, the foreign currency exposure will be deferred as part of cumulative translation adjustment in equity when the UK subsidiary's financial statements are translated into the group's presentation currency for consolidation. [IAS 21 para 39(c)]. Group management might, therefore, consider the possibility of net investment hedge accounting under [paragraph 6.5.2](#) of IFRS 9. However, the group will not be able to obtain hedge accounting for hedges of the subsidiary's forecast sales.

### 1.14. Cash flow hedge of the foreign currency risk of a forecast business combination

#### Question

**Can a hedge of the foreign currency risk on a forecast business combination be accounted for as a cash flow hedge?**

#### Illustration

Entity A, whose functional currency is the Euro, on 1 March 20X1 started negotiations with entity B (an overseas entity) in order to take control of entity B and gain access to the overseas market. On 1 August 20X1, entity A and entity B agree the key terms of the transaction, including the purchase price which will be denominated in a fixed amount of the overseas currency. However, entity A has not yet received a required approval from the overseas authorities. On 29 March 20X2, entity A and entity B agree the full terms of the transaction and the overseas authorities have granted their approval. At this point, there are no significant uncertainties that could affect the completion of the business combination. Entity A's risk management strategy is to hedge forecast transactions in a foreign currency as soon as they are highly probable. The entity intends to use a forward contract to hedge the payment in the overseas currency.

Can hedge accounting be achieved in this scenario?

## ***Solution***

Yes. However, the forecast business combination must be highly probable in order to be an eligible hedged item.

- Could entity A apply hedge accounting to the forecast transaction at 1 August 20X1?

It depends. In order to apply hedge accounting to a forecast transaction, this transaction must be highly probable. Whether this is the case will depend on the specific facts and circumstances and the significance of the outstanding contingencies affecting the completion of the transaction. In some territories, a regulatory process could be considered perfunctory or a 'rubber stamping' of the agreement and so the transaction can be considered highly probable before receiving the formal approval. However, in other cases the regulatory approval process will be more substantive and there will be significant uncertainty over whether it will be received, such that the transaction can be considered highly probable only once the formal approval is received.

- Can entity A designate only the spot component of the forward contract as the hedging instrument?

Yes. Once the hedge accounting criteria are met, the entity can choose either to designate the full fair value of the forward contract as a hedging instrument or to separate the forward element and to designate only the spot component of the hedging instrument (on a discounted basis).). Similarly, the entity may choose to separate the foreign currency basis spread and exclude it from the designated hedge. Changes in the value of the forward element/foreign currency basis spread are either taken to P&L or to OCI if the cost of hedging approach is applied as explained further in FAQ 3.7 and section 4.5-6 of Section 1.

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## ***2. Hedging instrument***



## 2.1. Purchased option as a hedging instrument

### Question

**Can an entity use a purchased option as a hedging instrument in a cash flow hedge?**

### Illustration

Entity A operates a mail–order business. Its functional currency is the euro, but it purchases approximately 20% of its merchandise from the USA.

Entity A issues the mail–order catalogue for the coming year, incorporating its price list, before entering into a firm purchase commitment with US suppliers. Entity A, therefore, sets the prices in the catalogue based on expected exchange rates of EUR1=USD1.25. It is highly probable that the entity will make purchases of at least EUR500,000 from the USA in the first six months.

The entity's documented risk management policy requires it to hedge the risk that exchange rates will be higher than expected by purchasing a call option to buy US dollars for euros, with a strike price equal to the expected exchange rate. Entity A, therefore, purchased a call option at a rate of EUR1=USD1.25, for EUR500,000 in six months' time at a cost of EUR60,000. The purchases will be settled in cash at the date of delivery.

The spot rate at the time of entering into the option contracts was EUR1=USD1.1.

### Solution

Yes. Entity A can designate the intrinsic value of the purchased option as a hedge against movements in the exchange rate on the forecast purchases. The exposure being hedged is the variability in cash flows that arises if the US dollar exchange rate exceeds the expected level of EUR1=USD1.25. To the extent the hedge is effective, fair value movements on the intrinsic value of the option are recorded through other comprehensive income and deferred in equity until the hedged item (the forecast purchases) occur.

The use of options as hedging instruments under IAS 39 was limited due to the need to record fair value movements in the time value through profit or loss. IFRS 9 requires the costs of hedging model to be used when an entity designates as the hedging instrument only the change in intrinsic value of an option. The benefit of the costs of hedging model is that the fair value movements in time value are recorded through other comprehensive income and deferred in equity until the purchases are made.

When the purchases are made and Entity A recognises inventory it transfers the balance in the hedging reserve to inventory (known as a basis adjustment). The balance in the costs of hedging reserve is also transferred to inventory at the same time. Note that these are not reclassification adjustments and the transfers do not go through other comprehensive income.

See FAQ 4.2 for further details on de-designation of hedges when hedged purchases result in accounts payable balances.

## 2.2. Calculation of intrinsic value

### Question

**How should an entity calculate the intrinsic value of an option?**

### Illustration

Entity A takes out an interest rate cap to hedge the exposure to interest rates on floating–rate debt of C1 million. The cap has a strike rate of 3% and the designated hedged risk is changes in the interest cash flows of the debt above this strike rate. Entity A designates only the intrinsic value of the option as the hedging instrument. How can entity A calculate the intrinsic value of the option for this purpose?

## *Solution*

IFRS 9 does not specify how the intrinsic value of an option should be determined. In practice it is calculated as either:

- the difference between the strike price of the option and the spot price of the underlying multiplied by the notional amount of the option (the 'spot intrinsic value'). In the case of the interest rate cap described above, this would be calculated by projecting all future cash flows on the cap at the current spot rate, comparing them to the cap's strike rate and discounting the result (if positive) using the zero-coupon curve. If the current spot rate is below the strike rate, the cap is 'out of the money' in all periods ; or
- the difference between the strike price of the option and the forward price of the underlying multiplied by the notional amount of the option (the 'forward intrinsic value'). In the case of the interest rate cap described above, this would be calculated by projecting each cash flow using the relevant forward rate for the relevant date. The result would be compared to the cap's strike rate and the result (if positive) would be discounted using the zero-coupon curve. Using this method, the cap might be in the money in some periods, even when the current spot rate is below the strike price.

IFRS 9 is silent on whether the calculation of intrinsic value should be on a discounted basis. However, if the calculation is performed on an undiscounted basis, this will likely give rise to ineffectiveness when comparing the intrinsic value to the discounted value of the hedged item. So for this reason a discounted calculation will generally be preferable.

However, the intrinsic value of an American-style option can be defined as the difference between the undiscounted spot price on the day when the value is determined and the strike price specified in the option contract. This is because the American-style option can be exercised at any time.

## *2.3. Derivative with knock-in or knock-out features*

### *Question*

**Can an option with knock-in or knock-out features qualify as a hedging instrument?**

### *Illustration*

Management of company U has invested into securities that bear a floating money market rate (that is, three-month LIBOR plus a spread). At inception, the current three-month LIBOR interest rate is 3.5%. It wishes to enter into a floor option in order to limit the downside in interest rates. But to reduce the cost of the hedging strategy, management is considering purchasing a LIBOR three-month interest rate floor with an out-of-the-money strike rate of 3% that is contingent on the LIBOR three-month rate not falling below 2% at some time during its life (such contingency is commonly known as a 'knock-out barrier').

Can company U designate this instrument as a hedging instrument?

### *Solution*

It depends. There is no specific prohibition on designating an option with a knock-in or a knock-out feature as a hedging instrument, provided that the derivative is not a net written option. A combination of options is not a net written option when the entity does not receive a net premium for it, the critical terms of the options (except for the strike prices) are the same and the nominal amount of the written option is not greater than the notional amount of the purchased option. Furthermore, even though IFRS 9 does not require a quantitative assessment of effectiveness, an entity would need to consider whether this hedging transaction is in line with its risk management strategy and whether there is an economic relationship between the hedged item and the hedging instrument.

Company U does not expect LIBOR rates to fall below 2% and therefore does not expect the knock-out barrier to be activated; so it considers that there is an economic relationship between the hedging instrument and the hedged item, and it expects that the change in the present value of the hedged item's interest rate flows will be partially offset by the change in the fair value of the hedging instrument. This assumption should be reassessed prospectively at each reporting date in order to determine whether hedge accounting can continue to be

applied. Should company U expect the barrier to be activated, then hedge accounting should be discontinued because there would no longer be an economic relationship between the hedged item and the hedging instrument.

However, when calculating and posting fair value movements on the hedging instrument and hedged item, there will be ineffectiveness to record, because the hedged item does not contain a matching knock-out feature.

If hedge effectiveness is calculated on the basis of intrinsic value, the provisions of aligned time value need to be taken into account.

## 2.4. Use of cross currency interest swaps in net investment hedges

### Question

**How is a fixed–fixed cross–currency interest rate swap accounted for in a net investment hedge?**

### Illustration

Company A, with Pound sterling (GBP) as its functional currency, has a net investment in a foreign subsidiary of US\$120m. Company A wishes to eliminate foreign exchange risk associated with the retranslation of part of this net investment into its functional currency, and enters into a fixed–fixed cross currency interest rate swap ('CCIRS'). The swap has a GBP100m receive leg receiving interest at 3%, and a US\$80m pay leg paying interest at 5% (assume that GBP100m and US\$80m are equivalent, based on the spot rate at inception). The swap has annual interest settlements, a five-year maturity and a zero fair value at inception.

How should hedge accounting be applied?

### Solution

Management should bear in mind that hedges of a net investment in a foreign operation are accounted for similarly to cash flow hedges. [IFRS 9 para 6.5.13].

There is no other guidance, within IFRS 9, regarding the basis for this similarity and we believe that there are two different acceptable accounting approaches.

#### Approach 1

One acceptable approach is to view a net investment hedge as analogous to a cash flow hedge of the foreign currency risk on the cash flows that would arise from a sale of the net investment at a (or several) future date(s). This approach would give a rationale for accounting for net investment hedges in a similar manner to cash flow hedges and requires de–constructing a fixed:fixed CCIRS into a series of forward contracts.

The hedged US dollar net investment is viewed as a series of cash flows on various 'deemed disposal' dates in the future so as to match the cash flows on the US\$ leg of the CCIRS. In other words, the net investment hedge would be treated in a manner similar to a cash flow hedge of cash flows arising on a deemed sale of US\$4m (that is, US\$80m × 5%) of the net investment at the end of each of the next four years, and a deemed sale of US\$84m at the end of year 5. The total net investment of US\$120m exceeds the aggregate of the deemed disposals (US\$4m + US\$4m + US\$4m + US\$4m + US\$84m = US\$100m), and so this designation is acceptable.

This net investment (series of deemed cash flows that match each cash flow on the CCIRS) is identical to the profile of cash flows of a US\$80m foreign currency debt (which is an asset of company A) that pays interest annually at 5%. Hence the effective portion of the gain or loss on the swap can be measured in a manner similar to that used for a cash flow hedge of a fixed–rate foreign currency debt. If a hypothetical derivative method is used, the most appropriate hypothetical derivative is a CCIRS that is equivalent (and opposite) to the actual hedging instrument. However, the hypothetical derivative should exclude currency basis given there is no currency basis in the net investment, and this may give rise to volatility in profit or loss – see FAQs 3.4 and 3.6 for further details.

Note that this designation requires the net investment to equal or exceed the aggregate of notional principal and interest flows on the CCIRS (in this case, US\$100m). This approach cannot be adopted where the notional principal in the CCIRS is equal to the net investment balance

#### *Approach 2:*

An alternative acceptable view is that a CCIRS is similar in nature to a long dated forward. The key difference is that the forward points due to the interest differential on the two currencies are paid off over the period (via the interest payments on the swap) rather than at the end.

Under this view the fixed-fixed CCIRS is treated similarly to a forward contract for hedge accounting purposes. As such, the exchange of principal of US\$80m can be seen as the spot component and only this component designated as the hedging instrument (with the interest cash flows being seen as forward points and excluded from the designated hedge under IFRS 9 6.2.4(b)). As with approach 1, if a hypothetical derivative method is used to measure the effective portion of the gain or loss on the swap, the hypothetical derivative should exclude currency basis given there is no currency basis in the net investment. Hence both fair value movements on the forward points and the impact of currency basis may give rise to volatility in profit or loss – see FAQ 4.5 for further details.

This designation requires the net investment to equal or exceed only the aggregate of notional principal on the CCIRS (in this case, US\$80m) and so can be adopted where the notional principal in the CCIRS is equal to the net investment balance.

## **2.5. Using a single hedging instrument in a hedge of multiple risks**

### *Question*

**Can a single hedging instrument be designated in a hedge of multiple risks?**

### *Illustration*

Entity A's functional currency is the Japanese yen (JPY). Entity A has a five-year floating-rate US dollar liability and a five-year fixed-rate pound sterling-denominated bond (an asset). The principal amounts of the asset and liability, when converted into Japanese yen, are the same. Entity A enters into a single foreign currency forward contract to hedge its foreign currency exposure on both instruments, under which it receives US dollars and pays pounds sterling at the end of five years.

Entity A designates the forward exchange contract as a hedging instrument in a cash flow hedge against the foreign currency exposure on the principal repayments of both instruments. Since entity A's functional currency is yen, it is exposed to USD/JPY foreign currency risk on the floating-rate liability, and JPY/GBP foreign exchange risk on the fixed-rate asset.

Can the forward exchange contract be designated as a hedge of both of the risks described above?

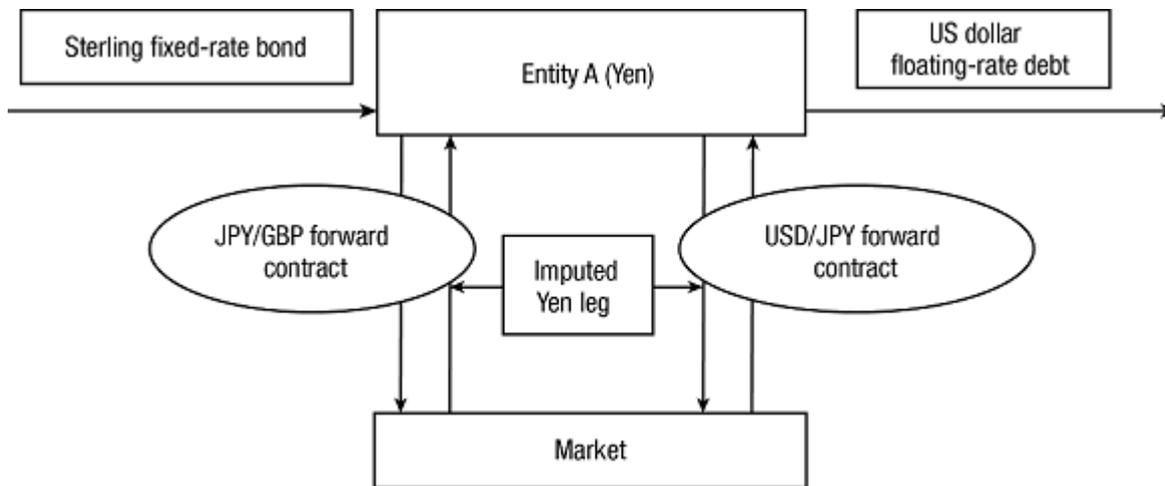
### *Solution*

Yes. IFRS 9 permits a single hedging instrument to be designated as a hedge of multiple types of risk, provided it is documented and designated in accordance with paragraph B6.2.6 of IFRS 9, as follows:

The risks hedged can be identified clearly. The risks are the exposures to changes in the forward exchange rates between US dollars and yen, and yen and pounds, respectively. The hedged items are the principal amounts of the liability and the note receivable in their respective currency of denomination.

The economic relationship can be demonstrated. For the pound sterling bond, the effectiveness could be measured as the degree of offset between the fair value of the principal repayment in pounds sterling and the fair value of the pound sterling payment on the forward exchange contract. For the US dollar liability, the effectiveness could be measured as the degree of offset between the fair value of the principal repayment in US dollars and the US dollar receipt on the forward exchange contract.

It should be noted that, in respect of the second bullet point above, the USD/GBP forward is theoretically divided into two different derivatives. The yen is imputed as the base currency for the two derivatives, creating a synthetic USD/JPY (receive US dollar, pay yen) foreign currency forward, and a synthetic JPY/GBP (receive yen, pay sterling) foreign currency forward. The synthetic yen leg is defined in such a manner that the fair value of each synthetic forward contract is nil at the hedge's inception. This can be pictorially represented as follows:



Furthermore, it should be noted that the hedge accounting criteria must be satisfied for both of the designated hedged risks. For instance, if one of the hedged risks no longer exists, both hedges must be discontinued. This is because a derivative instrument must be fair valued and used as a hedging instrument in its entirety, apart from the specific exemptions set out in IFRS 9 paragraph 6.2.4.

## 2.6. Designation of a combination of derivatives and non-derivatives

### Question

**Can a combination of derivatives and non-derivatives be designated as a hedging instrument?**

### Illustration

IFRS 9 permits joint designation of hedging instruments. Can this be applied to combinations of derivatives and non-derivatives designated jointly as the hedging instrument in the same hedge relationship?

### Solution

Yes. For example, an entity that has Swedish krona as its functional currency could hedge its net investment in a Korean subsidiary with debt denominated in US dollars, combined with a pay Korean won, receive US dollar swap (excluding forward points) in its consolidated financial statements.

Alternatively, if the entity wanted to minimise ineffectiveness, it could impute two identical (but offsetting) Swedish krona pay and receive legs and then designate the resulting pay Swedish krona receive US dollar swap as a hedge of the US dollar debt, and the receive Swedish krona pay Korean won swap as a hedge of its foreign net investment in Korea.

Similarly, an entity could use a combination of a foreign currency cash instrument and a derivative to hedge the foreign currency risk of a firm commitment, provided all the hedge accounting conditions are met.

## 2.7. All-in-one hedges

### Question

**Are 'all-in-one' hedges allowed under IFRS 9?**

## *Illustration*

An 'all-in-one' hedge is the designation of a gross settled derivative (that is, an instrument which is settled gross by delivery of the underlying asset and the payment of the price specified in the contract, rather than by net settlement of the difference between the two legs) as the hedging instrument in a cash flow hedge of the variability of the consideration to be paid or received in the future transaction that will occur on gross settlement of the derivative contract itself, assuming the other cash flow hedge accounting criteria are met.

Are 'all-in-one' hedges permissible under IFRS 9?

## *Solution*

Yes. Under IFRS 9, a derivative can be an instrument which is settled gross by delivery of the underlying asset and the payment of the price specified in the contract rather than by net settlement of the difference between the two legs. The implementation guidance in IAS 39 (the predecessor standard to IFRS 9) stated that such an instrument can be designated as a hedging instrument in a cash flow hedge of the variability of the consideration to be paid or received in the future transaction that will occur on gross settlement of the derivative contract itself, assuming that the other cash flow hedge accounting criteria are met. Without the derivative, there would be an exposure to variability in the purchase or sale price of the underlying asset. As the derivative eliminates the exposure, it qualifies as a hedging instrument. This guidance remains applicable under IFRS 9 and applies to all fixed-price contracts that are accounted for as derivatives under IFRS 9.

Such an 'all-in-one' hedge accounting strategy can be beneficial to entities. For instance, if an entity enters into a fixed-price contract to buy a commodity that falls to be accounted for as a derivative under IFRS 9, the contract would be recognised at fair value, with gains and losses recognised in P&L. By applying an all-in-one hedge accounting strategy, the entity is able to recognise gains and losses on the hedging instrument in OCI and defer them in equity under cash flow hedge accounting until the hedged transaction occurs. In other words, the entity is able to keep gains and losses from being recognised in P&L on what is effectively a fixed-price purchase or sale commitment.

## *2.8. Offsetting internal derivative contracts used to manage interest rate risk*

### *Question*

**In the consolidated financial statements of a group, can a single external derivative which offsets several internal derivatives qualify as a hedging instrument?**

### *Illustration*

Entity A has a number of subsidiaries. All treasury activities of the group are undertaken by entity A. Individual subsidiaries intending to hedge their exposure to interest rate risk are required to enter into separate derivative contracts with entity A.

Entity A aggregates the internal derivative contracts and enters into a single external derivative contract that offsets the internal derivative contracts on a net basis. For instance, entity A might enter into three internal receive-fixed, pay-variable interest rate swaps (total notional amount of C100m) that lay off the exposure to variable interest cash flows on variable-rate liabilities in the three subsidiaries, and one internal receive-variable, pay-fixed interest rate swap (notional amount of C80m) that lays off the exposure to variable interest cash flows on variable-rate assets in another subsidiary. It then enters into a receive-variable, pay-fixed interest rate swap (notional amount of C20m) with an external counterparty that exactly offsets the four internal swaps. It is assumed that the hedge accounting criteria are met.

### *Solution*

In entity A's consolidated financial statements, the single offsetting external derivative would not qualify as a hedging instrument in a hedge of an overall net position – that is, it cannot be used to hedge all of the items that the four internal derivatives are hedging, because paragraph 6.6.1 of IFRS 9 only allows a net position to be designated as the hedged item in a cash flow hedge if the hedged risk is foreign currency risk.

However, designating a part of the underlying items as the hedged position on a gross basis is permitted (that is, the external derivative can hedge C20m of variable-rate liabilities totalling C100m). Therefore, even though the purpose of entering into the external derivative was to offset internal derivative contracts on a net basis, hedge accounting is permitted if the hedging relationship is defined and documented as a hedge of a part of the underlying cash inflows or cash outflows on a gross basis and this is consistent with the entity's risk management strategy.

## 2.9. External derivative contracts that are settled net

### Question

Can several external derivatives with the same counterparty, which are net settled, be designated in separate hedging relationships?

### Illustration

Entity A has a number of subsidiaries. All of the group's treasury activities are undertaken by entity A. Individual subsidiaries intending to hedge their exposure to interest rate risk are required to enter into separate derivative contracts with entity A, which in turn enters into a separate offsetting matching derivative contract with a single external counterparty B. For instance, if entity A enters into an intra-group receive 5% fixed, pay LIBOR interest rate swap, entity A would also enter into a separate offsetting pay 5% fixed, receive LIBOR interest rate swap with counterparty B.

Although each of the external derivative contracts is formally documented as a separate contract, only the net of the payments on all of the external derivative contracts is settled by entity A, as there is a netting agreement with the external counterparty B.

Can each of the external derivatives with the counterparty B, which are net settled, be designated in separate hedging relationships?

### Solution

Yes. The individual external derivative contracts, such as the pay 5% fixed, receive LIBOR interest rate swap above, can be designated as hedging instruments of underlying gross exposures (such as the exposure to changes in variable interest payments on the pay LIBOR borrowing above) in the group's consolidated financial statements, even though the external derivatives are settled on a net basis.

External derivative contracts that are legally separate contracts and serve a valid business purpose (such as laying off risk exposures on a gross basis) qualify as hedging instruments, even if those external contracts are settled on a net basis with the same external counterparty, provided that the hedge accounting criteria in IFRS 9 are met. Note that it would not be considered a valid business purpose if the entity entered into the two transactions only to achieve hedge accounting for one of them (that is, if accounting treatment for one of them was the only reason for entering into two transactions and not one).

It might well be that, by entering into the external offsetting contracts and including them in the centralised portfolio, entity A is no longer able to evaluate the exposures on a net basis. As a result, it might decide to manage the portfolio of offsetting external derivatives separately from the entity's other exposures. Thus, it enters into an additional, single derivative to offset the portfolio's risk.

In this situation, the individual external derivative contracts in the portfolio can still be designated as hedging instruments of underlying gross exposures. This is so, even if the final external derivative is effected with the same counterparty under the same netting arrangement and, as a result, might net to zero.

The purpose of structuring the external derivative contracts in the above manner, which is consistent with the entity's risk management objectives and strategies, constitutes a substantive business purpose. Therefore, external derivative contracts that are legally separate contracts and serve a valid business purpose qualify as hedging instruments. In other words, hedge accounting is not precluded simply because the entity has entered into a swap that mirrors exactly the terms of another swap with the same counterparty, if there is a substantive business purpose for structuring the transactions separately.

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## ***3. Hedge effectiveness***



### 3.1. Sources of ineffectiveness

#### Question

**What are common examples of sources of ineffectiveness?**

#### Illustration

IFRS 9 requires an analysis of the potential sources of hedge ineffectiveness. Ineffectiveness will almost always arise, with the result that changes in the fair value or cash flows of the hedged item that are attributable to a hedged risk and the hedging instrument do not exactly offset within a period. Hedge accounting can continue, provided the hedging criteria are still met, but the ineffectiveness will need to be booked through P&L.

What are common examples of sources of ineffectiveness?

#### Solution

Examples of differences that can produce ineffectiveness and might need to be documented at inception include:

- **Basis differences** – the fair value or cash flows of the hedged item depend on a variable that is different from the variable that causes the fair value or cash flows of the hedging instrument to change. For example, an entity designates the benchmark interest rate as the hedged risk when the hedged item uses a different index, such as the prime base rate. The basis difference between those indices would affect the assessment and measurement of hedge ineffectiveness.
- **Location differences** – the fair value or cash flows of the hedged item and hedging instrument both depend on the price of the same commodity, but are based on the price at different locations. The price of a commodity will be different in different locations, because of factors such as regional supply and demand and transportation costs.
- **Timing differences** – the hedged item and hedging instrument occur or are settled at different dates. For example, an entity hedges the forecast purchase of a commodity with a derivative that settles at an earlier or later date than the date of the forecast purchase. Another example is a floating-rate debt whose variability is hedged with an interest rate swap where the interest rate reset dates on the two instruments are different.
- **Quantity or notional amount differences** – the hedged item and hedging instrument are based on different quantities or notional amounts.
- **Other risks** – changes in the fair value or cash flows of a derivative hedging instrument or hedged item relate to risks other than the specific risk being hedged. For example, an entity hedges the variability in the price of a forecast purchase of a commodity with a derivative whose cash flows are based on the price of a different commodity (used as a proxy), or there is a change in estimated future cash flows following impairment of the hedged item.
- **Use of off-market derivatives** – an off-market derivative is an existing derivative that has a non-zero fair value when hedge accounting is first applied. Hedge ineffectiveness can arise when using an off-market derivative in a number of commonplace scenarios, such as documentation of a hedge not completed at inception, temporary interruption of a hedging strategy due to changes in the hedge objective, hedges acquired in a business combination, and renegotiation of terms of the derivative.
- **Currency basis and forward points** – the different treatment of currency basis and forward points in calculating changes in the fair value of a derivative hedging instrument and the hedged item might create ineffectiveness if not excluded from the designation of the hedging instrument.
- **Credit risk** – counterparty and own credit risk will be a source of ineffectiveness.
- **Discount rate used** – the hedging instrument, and any hypothetical derivative used to calculate the change in fair value of the hedged risk, might be fair valued using different curves. For example, the overnight index swap (OIS) curve is commonly used as the discount rate when valuing collateralised swaps, whereas the entity might use an AA LIBOR-based swap curve to measure the change in the hedged item.

## 3.2. Economic relationship

### Question

**Is a quantitative test sufficient to prove an economic relationship?**

### Illustration

One of the qualifying criteria for hedge accounting under IFRS 9 is that an economic relationship must exist between the hedging instrument and the hedged item. This means that there must be an expectation that the value of the hedging instrument and the value of the hedged item would generally move in the opposite direction as a result of having the same or economically related underlyings or hedged risk.

Can a company assess the existence of an economic relationship by using only a quantitative test?

### Solution

No. An economic relationship exists when the hedging instrument and the hedged item have values that generally move in the opposite direction because of the same risk (that is, the hedged risk). IFRS 9 specifies that the mere existence of a statistical correlation between two variables does not, by itself, support a valid conclusion that an economic relationship exists. As a result, entities should always perform a qualitative analysis of the nature of the economic relationship between the hedged item and the hedging instrument.

Certain situations might only require a qualitative assessment. For example, where the critical terms of the hedged item and hedging instrument are closely aligned and the offsetting nature of the underlying economic relationship is readily apparent, it might be possible for an entity to conclude on the appropriateness of applying hedge accounting based on a qualitative assessment. This would be the case where a currency exposure associated with a forecast sale denominated in a foreign currency is hedged with a forward contract for the same currency, with the same amount and maturing on approximately the same date as the forecast foreign currency denominated sale.

Where the strength of the economic relationship is not obvious, entities may have to also include in their assessment a quantitative analysis of the possible behaviour of the hedging instrument and the hedged item during their respective terms, in order to demonstrate that there is an economic relationship. For example, if there is an exposure to risk of a foreign currency that is pegged to another currency, a forward contract that is perfectly matched to the forecast foreign currency transaction, other than it is denominated in the pegged currency, might be used because there is greater liquidity in that currency. In this situation, the hedge documentation should include a qualitative assessment explaining the manner in which the two currencies are pegged and the resulting economic relationship. Depending on the rigor of the currency controls used to peg the two currencies, the hedge documentation may need to be supplemented with a quantitative analysis of the historical exchange rates of the two currencies to further support the existence of the economic relationship.

Another instance would be where there is a common underlying between the hedged item and the hedging instrument, but there is also a basis difference (that is, a location difference or a quality difference associated with the price of the commodity). Because movements in the price of the common underlying may be offset by the movements in the basis difference, a quantitative analysis of historical total price movements may be necessary to support the presence of an economic relationship between the hedged item and the hedging instrument.

Different scenarios may need to be analysed in order to demonstrate that the behaviour of the hedging instrument is in line with those of the hedged item.

In any case, the hedging documentation should identify and explain the economic relationship, especially in the case when the underlying of the hedging instrument is not the same as the risk being hedged.

### 3.3. Rebalancing

#### Question

**In what situations is rebalancing required?**

#### Illustration

An entity with a EUR functional currency has a forecast purchase in HKD in six months' time amounting to HKD7.8 million. In order to hedge its foreign currency exposure, the entity wants to purchase foreign currency (that is, enter into foreign currency forward contracts) to effectively fix the purchase price in EUR.

The HKD is pegged to the USD (which means that the exchange rate is maintained within a band or at an exchange rate set by the Hong Kong Monetary Authority).

The entity could enter into a forward contract to buy HKD and pay EUR. However, entering into a forward contract to buy HKD and pay EUR is more expensive than entering into an agreement to buy USD and pay EUR (as there is a smaller market and less liquidity in HKD compared with USD). The entity decides instead to enter into a USD: EUR forward. As long as the HKD remains pegged to the USD, using a USD derivative as a hedging instrument will provide an economic hedge of the forecast HKD purchase.

In what situations is rebalancing required or not required?

#### Solution

##### *Rebalancing not required*

Assume the peg ratio is HKD7.8:USD1. However, even though it is pegged, it is not completely fixed (as the HKD is allowed to trade within the narrow range of HKD7.75 to 7.85). Since the range is very small, the entity is willing to accept this risk, so it enters into a forward contract for USD1 million (HKD7.8 million).

Rebalancing is not required where ineffectiveness arises merely because of fluctuations in exchange rates within the narrow trading range around the hedge ratio.

##### *Rebalancing required*

Consider the facts of the previous example, but assume that the exchange rate HKD: USD is re-pegged to, say, HKD7.2:USD1. If the derivative continues to be for USD1 million, the hedge ratio will no longer reflect the relationship between the hedging instrument and hedged item, and so will result in mandatory rebalancing.

Rebalancing should reflect the entity's risk management strategy, which could either be reducing the hedged item to HKD7.2 million of the forecast purchase of HKD7.8 million, or increasing its hedging instrument by buying another derivative to cover the remaining HKD600,000 of the hedged item.

##### *Rebalancing not applicable*

Continuing the above example, assume that sometime after the inception of the hedge, the peg between HKD and USD is removed, such that the currency exchange rate is floating (instead of pegged) within a very broad range such that now it is not possible to demonstrate that an economic correlation exists between the two currencies. In this situation, a change in the hedge ratio would not be applicable, since this may not ensure that the hedging relationship continues to meet that hedge effectiveness requirement. Accordingly, the hedge cannot be rebalanced but may need to be discontinued.

### 3.4. The hypothetical derivative method

#### Question

**What is the hypothetical derivative method?**

## *Illustration*

Although IFRS 9 has eliminated the 80-125% bright line effectiveness test, entities are still required to identify and measure ineffectiveness, and record it through P&L. The hypothetical derivative method is commonly used to calculate the change in fair values of the hedged item.

How can the hypothetical derivative method be applied in practice?

## *Solution*

The hypothetical derivative method is a common approach used to measure hedge ineffectiveness. It compares the change in the fair value or cash flows of the hedging instrument with the change in the fair value or cash flows of a hypothetical derivative that models the hedged risk. The derivative is 'hypothetical' because it does not exist. Paragraph B6.5.5 of IFRS 9 notes that this is 'not a method in its own right but a mathematical expedient that can only be used to calculate the value of the hedged item'.

For example, a cash flow hedge of the interest rate risk on a variable-rate asset or liability, the hypothetical derivative would be a swap with the same notional amount and the same re-pricing dates as the hedged item. Also, the index on which the hypothetical swap's variable rate is based should match the index on which the asset or liability's variable rate is based (not the one on which the hedging instrument's rate is based), and should reflect any caps, floors or any other non-separated embedded derivative features of the hedged item. Thus, the hypothetical swap would be expected to perfectly mirror the hedged cash flows. The change in fair value of the 'perfect' hypothetical swap is regarded as a proxy for the present value of the cumulative change in expected future cash flows on the hedged transaction. However, if hedge accounting starts part way through the life of the hedge relationship, the hypothetical swap (or benchmark rate) will not identically match the critical terms of the hedging instrument, as the relevant rate for the fixed leg of the hypothetical derivative or benchmark rate will be the market rate at inception of the hedge, and not the rate at inception of the hedged item or hedging instrument. This will give rise to ineffectiveness and might preclude the use of hedge accounting if rates have moved so significantly since the hedging instrument was taken out that an economic relationship no longer exists.

Once an entity has determined the change in fair value of the hypothetical swap and the change in the fair value of the actual swap for particular periods, it would use this data to measure the ineffectiveness in the hedging relationship. The actual swap would be recorded at fair value on the balance sheet, and the amount reported in equity would be adjusted (via OCI) to a balance that reflects the lesser of the cumulative change in the actual swap's fair value and the cumulative change in the 'perfect' hypothetical swap's fair value. Determining the fair value of both the 'perfect' hypothetical swap and the actual swap should use discount rates based on a relevant swap curve. Thus, for the hypothetical swap the discount rates used may be the spot rates implied by the current yield curve for hypothetical zero coupon bonds due on the date of each future net settlement of the swap. The amount of ineffectiveness, if any, recorded in P&L would then be equal to the excess of the cumulative change in the fair value of the actual swap over the cumulative change in the fair value of the 'perfect' hypothetical swap.

The hypothetical derivative method could be used in measuring the ineffectiveness of cash flow hedging relationships involving derivatives, such as cross-currency swaps, commodity swaps and forward exchange contracts. However, paragraph B6.5.5 of IFRS 9 states that the hypothetical derivative cannot include items that exist in the hedging instrument but not in the hedged item.

For example, in the valuation of cross-currency interest rate swaps and long-term currency forwards, spreads are applied to cash flows in currencies with a perceived higher credit risk or lower liquidity. These spreads – commonly referred to as 'currency basis spreads' – are typically quoted in the market against a USD LIBOR benchmark. These currency spreads could lead to hedge ineffectiveness, as the hypothetical derivative cannot include currency basis because it only exists in the hedging instrument. However, the IASB recognised the risk of ineffectiveness, and so it permits entities to separate the foreign currency basis from the hedging instrument and account for the changes in spread in the same manner as forward points as a cost of hedging as explained in Section 1, paras 4.4-5.

### 3.5. *Impact on hypothetical derivative of rebalancing*

#### *Question*

**Should the terms of a hypothetical derivative be reset to have a zero fair value after rebalancing?**

#### *Illustration*

Rebalancing refers to adjustments to the designated quantities of either the hedged item or the hedging instrument of an existing hedge relationship for the purpose of maintaining a hedge ratio that complies with the hedge effectiveness requirements (see IFRS 9 paragraph B6.5.7 and FAQ 3.3).

Does this mean that the terms of a hypothetical derivative used to measure ineffectiveness must also be reset to give a fair value of zero after rebalancing?

#### *Solution*

No. Rebalancing differs from discontinuation and re-designation of a hedging relationship, because it is considered a continuation of the hedging relationship. Rebalancing refers to the quantity of either the hedging instrument or the hedged item and not to their characteristics. As such, any hypothetical derivatives that have been created in order to perform effectiveness testing would not be reset to have a zero fair value. However, they would need to be adjusted for changes in the hedged quantity (that is, due to changes in the revised hedge ratio).

In addition, IFRS 9 paragraph B6.5.21 requires that an entity update its documentation of the analysis of the sources of hedge ineffectiveness that are expected to affect the hedge relationship during its remaining term when it rebalances a hedge relationship.

### 3.6. *Measuring ineffectiveness when hedging changes in spot foreign currency rates*

#### *Question*

**When an entity hedges changes in a spot foreign currency rate, how is the time value of money included when measuring ineffectiveness?**

#### *Illustration*

Entity XYZ whose functional currency is the euro, decides to hedge the foreign currency risk of USD1m highly probable sales in 9 months' time. In accordance with its risk management policy it designates changes in the spot foreign currency rate as the hedged risk. The designated hedging instrument is the spot component of a three month foreign exchange forward contract, which will be rolled forward until the time the forecast sales occur.

#### *Solution*

IFRS 9 requires that entities consider the time value of money when measuring hedge effectiveness. Hence, for the purpose of measuring ineffectiveness the hedged item should be measured on a present value basis (which means the spot foreign currency rate will need to be discounted). This is a change from IAS 39 under which entities often do not discount when hedging changes in the spot rate.

More specifically, when measuring ineffectiveness, the forecast sales are translated at the current spot rate at the date of the effectiveness test and this amount should be discounted over nine months to reflect the present value of the hedged item.

This is compared to the spot component of the forward contract which should be discounted over its three month maturity. This will create ineffectiveness, which must be recorded directly in profit or loss. Foreign

currency basis spread could also be a source of ineffectiveness unless excluded from the designated hedging instrument – see FAQ 3.7 for further details.

It should be noted that for a short term hedge between currencies with limited interest rate volatility the impact of this discounting may not be significant. However it could be more significant for longer term hedges. Entities will therefore need to consider the impact of the IFRS 9 requirements on their risk management strategy and whether to designate the forward or spot rate.

### 3.7. Foreign currency basis spread

#### Question

**Does foreign currency basis spread result in ineffectiveness in a hedge relationship?**

#### Illustration

Company K, a Euro functional currency entity, issues a USD variable rate debt. Company K's risk management strategy is to hedge the variability in both interest rates and foreign exchange rates. To meet its risk management strategy, entity K enters into a floating-to-fixed cross-currency interest rate swap with matching critical terms (that is, matching currencies, payment dates, re-pricing dates, and interest basis on the variable leg).

#### Solution

Yes, foreign currency basis will result in ineffectiveness if not excluded from the designation of the hedging instrument.

A cross-currency interest rate swap or currency forward contract includes a pricing element (liquidity charge or credit) that reflects the fact that the derivative instrument results in the exchange of two currencies in the future. This pricing element is usually referred to as 'foreign currency basis spread'. On the other hand, a hedged item (for example, a fixed or variable interest rate debt denominated in foreign currency) is usually a single currency instrument that, unlike the cross-currency interest rate swap, does not involve the exchange of two currencies. Hence its value does not include a foreign currency basis spread.

As the foreign currency basis spread is a feature in the hedging instrument that is not included in the hedged item, it results in ineffectiveness in the hedging relationship.

As an alternative to recognising this ineffectiveness, IFRS 9 allows separation of the initial foreign currency basis spread and excluding it from the designated hedging instrument. If so separated, the foreign currency basis spread may be accounted for as a cost of hedging in a way similar to the forward points in a forward contract.

Hence Company K can choose to:

- include the currency basis spread in the hedge designation which would result in some ineffectiveness because the currency basis spread does not exist in the hedged item (the USD debt);
- exclude the currency basis spread from the designated hedging instrument and recognise all movements in currency basis in profit or loss; or
- exclude the currency basis spread from the designated hedging instrument and apply the cost of hedging model in IFRS 9 para 6.5.15-.16. In this case changes in the fair value of the forward contract attributable to currency basis are recognised in other comprehensive income. Because the hedged item is time related (the interest and foreign currency risks exist for the life of the debt), the initial currency basis spread will be amortised to profit or loss over the period of the hedge.

### 3.8. Hedging with pre-existing derivatives?

#### Question

**What is the effect of hedging with pre-existing derivatives?**

#### Illustration

When a pre-existing derivative is designated as a hedging instrument, it will usually have a non-zero fair value because of its 'off-market terms'. How does this affect hedge accounting?

#### Solution

The 'off-market' nature of the derivative will be a source of ineffectiveness in the hedge relationship. In a cash flow hedge, ineffectiveness is commonly measured using a hypothetical derivative method [see question 3.4]. At the inception of the hedge relationship, the terms of the hypothetical derivative will be set to be 'on-market' and so will differ from those of the actual derivative, with the difference giving rise to ineffectiveness.

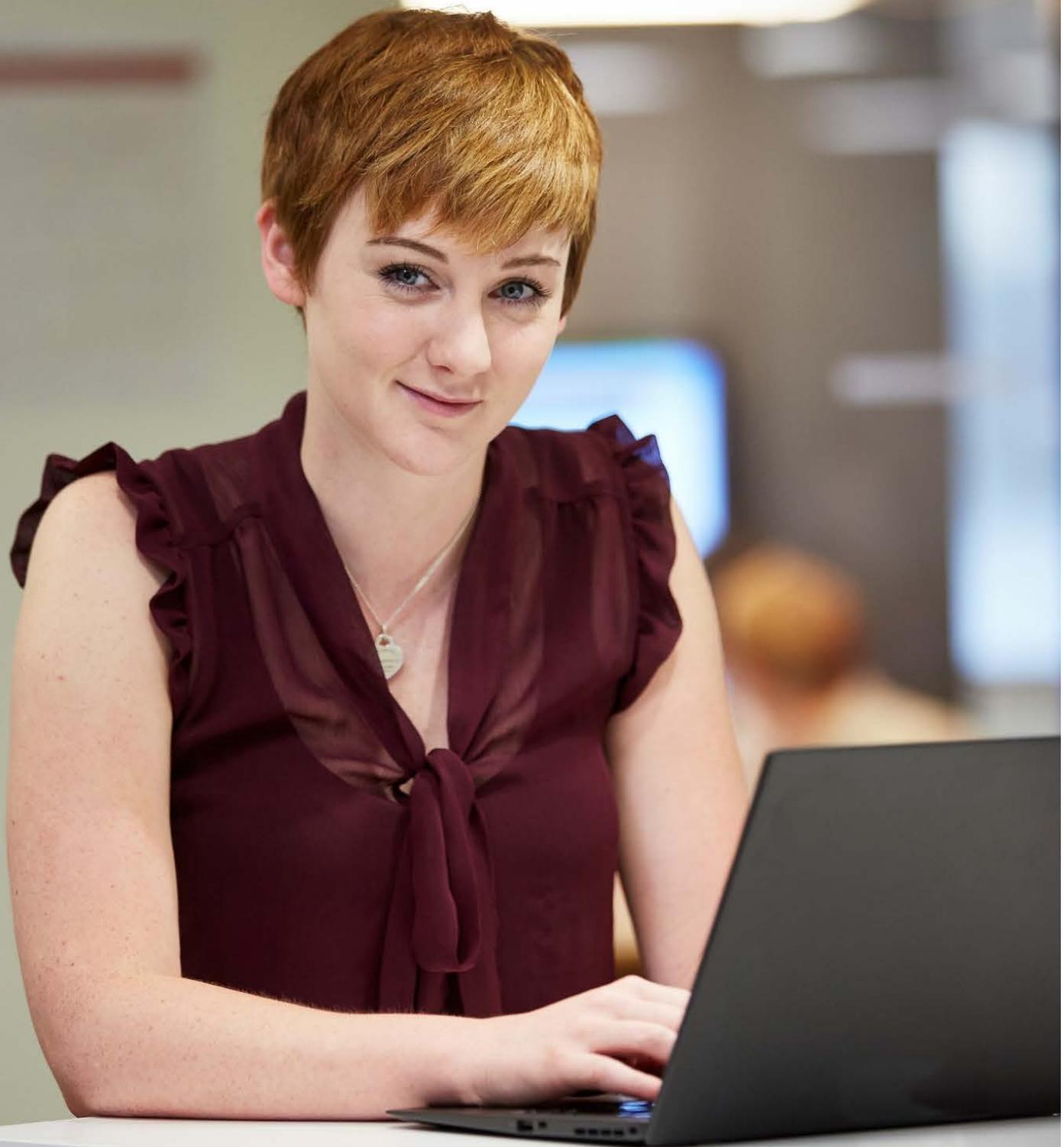
The 'off-market' nature of the derivative can be described as an 'embedded financing' within the derivative. For example, a derivative asset can be thought of as containing an 'embedded loan receivable', and a derivative liability as containing an 'embedded loan payable'. This 'embedded' financing is the source of the ineffectiveness due to fair value movements on the opening balance and on the off-market element of the interest.

The actual settlement of the original carrying value is not itself a fair value change and can be excluded from the measurement of ineffectiveness at each reporting date. However, it does not change the fact that the instrument is still a derivative and must be carried in its entirety at fair value, with all fair value movements posted to P&L or OCI, as appropriate.

Although ineffectiveness will need to be calculated and accounted for in profit or loss, IFRS 9 does not require the 80-125% 'highly effective' bright-line for the application of hedge accounting. Therefore, if using a non-zero fair value swap complies with the entity's risk management strategy and the IFRS 9 criteria for using hedge accounting are met (including that there is an economic relationship between the hedged item and the hedging instrument, and the proper determination of the hedge ratio), hedge accounting can still be applied.

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## ***4. Accounting and risk management***



## 4.1. Changes to risk management objectives

### Question

**Can the risk management objective for a hedge change even if the risk management strategy does not?**

### Illustration

Company X's risk management strategy is to fix the interest rate of a proportion of its debt in a range between 60% and 90%. The level of hedging will depend on market conditions, but the company's currently documented risk management objective is to have 80% of total debt bearing fixed interest.

Due to changes in market conditions, company X decides to modify its risk management objective to reduce the proportion of fixed-rate debt from 80% to 70% of total debt.

Under IFRS 9, can the risk management objective change even though the risk management strategy remains unchanged, and what are the consequences for hedge accounting?

### Solution

Yes. In certain situations, risk management objectives can change while the risk management strategy does not. IFRS 9 requires discontinuation of hedge accounting if the hedge relationship no longer meets the risk management objective.

As a result of the change in risk management objective, company X is required to discontinue its hedge accounting. The discontinuation of hedge accounting applies to the extent to which the risk management objective has changed (that is, 10%).

If the de-designated portion of the original hedging instruments is retained, it can be designated in another hedging relationship or measured at fair value through profit or loss.

## 4.2. De-designation of hedge relationships

### Question

**Is it possible to de-designate a hedge of foreign currency exposure on forecast purchases or sales under IFRS 9?**

### Illustration

Entity A has highly probable forecast purchases of EUR10 million on 31 May 20X7 with payment due on 31 July 20X7. The entity's risk management strategy is to hedge the foreign currency risk on foreign currency sales and purchases.

On 1 April 20X7, a EUR forward maturing on 31 July 20X7 is taken out and designated in a hedge relationship to offset EUR cash outflows on 31 July 20X7. The EUR cash flow on the derivative matches the cash flow on the hedged item.

Hedge accounting is applied from inception of the hedge with the designated foreign currency risk being movements in the forward foreign exchange rate.

How could hedge accounting be applied in the above scenario, in particular in the period after the inventory has been recognised?

### Solution

Entity A has a risk management strategy whereby it manages the foreign currency risk of forecast purchases and resulting receivables. In this regard Entity A designates the hedging strategy as mitigating volatility in cash flows arising from foreign currency risk on forecast purchases of EUR 10 million and the resulting accounts

payable balances. However, Entity A has a choice of how to implement that strategy via its documented risk management objective for the hedge, which, which will determine the accounting required after recognition of the inventory purchased.

**Risk management objective 1:** The entity's documented hedging objective is to mitigate volatility in cash flows arising from foreign currency risk on forecast purchases of EUR 10 million and the resulting accounts payable balances using a EUR forward.

In these circumstances:

- For the period up to 31 May 20X7 the movement in the fair value of the derivative (assuming the hedge is 100% effective) is taken to the cash flow hedge reserve.
- On 31 May, when inventory is recognised, a basis adjustment is required. Therefore the gain/loss in the cash flow hedge reserve relating to the period from 1 April 20X7 to 31 May 20X7 is transferred to inventory.
- For the period from 31 May 20X7 to 31 July 20X7 the hedged item is foreign currency movements on the accounts payable balance. Changes in the fair value of the derivative (assuming the hedge is 100% effective) are taken to the cash flow hedge reserve, however the movement in spot rate is recycled to profit or loss to offset the IAS 21 translation of the accounts payable balance.

**Risk management objective 2:** The entity's documented hedging objective is to manage foreign currency risk of forecast purchases and resulting payables, the entity manages foreign currency risk as a particular relationship only up to the point of recognition of the payable. After that date Entity A manages together the foreign currency risk from the EUR payables and EUR forward.

In these circumstances:

- For the period up to 31 May 20X7 the movement in the fair value of the derivative (assuming the hedge is 100% effective) is taken to the cash flow hedge reserve.
- On 31 May, when inventory is recognised, a basis adjustment is required. Therefore the gain/loss in the cash flow hedge reserve is transferred to inventory.
- Once inventory has been recognised, there is a 'natural' hedge because the gains and losses from the foreign currency risk on the derivative and payables are immediately recognised in profit or loss. Consequently, the hedging objective of the original hedge relationship no longer applies and Entity A can no longer apply hedge accounting (see IFRS 9 para B6.5.24).
- Hence fair value movements on the derivative for the period from 1 June 20X7 to 31 July 20X7 are recorded directly in profit or loss.
- However, on 31 May an accounts payable balance is also recognised. Because this balance will be retranslated under IAS 21 with the foreign currency impact recorded in profit or loss this provides a natural offset to the gains and losses on the derivative and there is no need for hedge accounting.
- Note: The analysis would be similar for a forecast sale on credit which results in recognition of an accounts receivable balance (except that no basis adjustment would be required).

### *4.3. Replacing the underlying hedged item*

#### *Question*

**Does the replacement of a hedged item result in discontinuance of hedge accounting, if the terms of the new hedged item are substantially different (under IFRS 9 B3.3.6) from the original instrument?**

## *Illustration*

Company A is exposed to interest rate risk on interest bearing debt. The company manages its exposure to interest rate risk through the proportion of fixed and variable rate net debt in its total net debt portfolio.

For the current period, Company A's approved strategy in accordance with its risk management policies is to maintain a certain ratio of fixed: floating rate net debt. To meet this chosen ratio, management has decided to enter into interest rate swaps to swap the floating rate of certain debt to fixed. As a result of this risk management strategy the company has designated a cash flow hedge of variable rate debt. In order to manage liquidity risk, the company has a strategy of exchanging existing variable rate debt instruments some time before their maturity with new variable rate instruments (normally with a longer maturity). As the strategy is to replace existing variable rate debt with new variable rate debt the underlying 'cash flow' risk is not changing.

For example: Company A entered into a 10 year debt instrument with the following terms:

- Notional: £50 m
- Interest rate: Libor + 25bp
- Start date: 30 June 2008
- Maturity date: 30 June 2018
- Interest settlement dates: Semi-annual – 1 January and 30 June

The interest rate cash flow risk was initially hedged using the following interest rate swap:

- Notional: £50 m
- Receive leg: Libor
- Pay leg: GBP 5 %
- Start date: 30 June 2008
- Maturity date: 30 June 2018
- Interest settlement dates: Semi-annual – 1 January and 30 June

The terms of the interest rate swap match the terms of the hedged item.

At 30 June 2016 when the current debt only has 2 years remaining, management decides to extend the term of the funding arrangements for liquidity purposes. Management decides to replace the current debt with debt of a longer maturity. In this scenario, assume the new debt has a maturity of 8 years and has terms (that is, interest settlement dates, interest basis, and currency) similar to that of the current debt. The underlying 'cash flow risk' will still be LIBOR related (consistent with the cash flow risk of the 'old debt').

If the terms of the new hedged item are substantially different from the original instrument (that is, the present value of the new debt is more than 10% different than the present value of the remaining cash flows of the old debt), IFRS 9 paragraph B3.3.6 requires de-recognition of the old debt. Does this:

Require immediate discontinuation of the hedge relationship and release of the amount deferred in cash flow hedge reserve; or

Can the amount in cash flow hedge reserve remain in equity if the new debt has similar cash flow risk characteristics than the old debt (that is, also have cash flow risk associated with LIBOR) and merely continues to be a hedge of the cash flow risk associated with the first two years of the new 8 year variable rate debt?

## Solution

It depends how the hedged risk has been identified in the original hedge documentation.

If the hedged risk has been defined as the cash flow variability from a 'specific identified debt instrument' then when the original debt instrument is de-recognised, hedge accounting has to be discontinued and the associated cash flow hedge reserve has to be reclassified to profit or loss.

If however the hedged risk has been defined as the '*cash flow variability due to changes in LIBOR*' and the hedged item as, for example, '*group of forecast interest rate cash flows that are expected to occur with a high degree of probability in specific future periods either from the current debt instrument or any other debt instrument taken out to refinance or otherwise replace the current debt instrument prior to its maturity and that has similar risk characteristics*' – then the new debt instrument may still fall within the designated hedged item. In this case, replacement or restructuring of the current debt instrument would not require discontinuance of hedge accounting (or the associated reclassification to profit or loss of the cash flow hedge reserve), even when the original debt instrument is de-recognised. To ensure continuance of hedge accounting the new underlying debt instrument should have similar cash flow variability risk as the previous debt instrument and meet all of the hedge accounting requirements (including the appropriate hedge effectiveness requirements).

A number of further issues require consideration to determine whether continuation of the current hedge relationship is appropriate:

- If the original hedged cash flows extended beyond management's planning horizon for financing (for example, if management's planning horizon for financing is 7 years, the variable rate debt was issued for a period of 10 years and management does not plan to replace the debt during the 7 year planning horizon) then the probability of the future cash flows being hedged is supported by the existence of the current loan. As it may be difficult to support the 'highly probable' requirement, the designation would have to be based on the specific loan. In this case it may be difficult to define the hedged risk in a flexible manner that would not only include the 'specific debt instrument'.

If, however, the hedged cash flows are within management's planning horizon for financing (for example, if management's planning horizon for financing is 7 years, the original variable rate debt was issued for a period of 7 years or less and management plans to replace the debt within the 7 year planning horizon for financing), it may be possible to designate the 'forecast highly probable variable interest rate payments' as the hedged item and not necessarily the cash flows from a specific debt instrument. It is however important that the 'highly probable' requirement is sufficiently supported. The hedged cash flows need to be sufficiently designated to ensure they are clearly identifiable when they occur and all the hedge qualifying criteria are met.

## 4.4. Aligned time value of an option

### Question

**When hedging with options, how should the 'alignment' principle be applied?**

### Illustration

An entity's risk management objective is to hedge the forecast purchase of 100 tonnes of a commodity on April 15, 20X1 against an increase in price above a specified threshold (that is, a one-sided risk). To meet this objective, the entity purchases a commodity option. The underlying commodity is the same and the option's strike price matches the specified threshold. However, it matures on April 30, 20X1.

How should the aligned time value of the option be determined in this scenario?

### Solution

The entire time value of the option relates to the hedged item if the critical terms (such as the notional amount, strike price, term and underlying) of the option and the hedged item are aligned.

In the above illustration, the entity cannot consider that the time value of the option is aligned with the hedged item because the dates do not match.

When the critical terms of the hedging option are not aligned with the critical terms of the hedged item, the entity determines the aligned time value using the valuation of the option whose critical terms would exactly match the critical terms of the hedged item (that is, in the above example an option that matures on 15 April 20X1).

If, at inception of the hedging relationship, the actual time value is higher than the aligned time value, the entity should:

- a. determine the amount that is accumulated in a separate component of equity on the basis of the aligned time value; and
- o account for the differences in the fair value changes between the actual and aligned time values in profit or loss.

If, at inception of the hedging relationship, the actual time value is lower than the aligned time value, the entity should determine the amount that is accumulated in a separate component of equity by reference to the lower of the cumulative change in fair value of the actual and the aligned options. Any differences should be recognised in profit or loss.

The entity may need to use an option pricing model to measure the initial value of an option having characteristics that exactly match the critical terms of the hedged item.

## 4.5. Net investment hedge (requirement to consider time value of money)

### Question

**How should a parent account for a net investment hedge in its consolidated accounts? In particular when does the requirement in IFRS 9 to consider the time value of money result in ineffectiveness?**

### Illustration

Entity A, a GBP functional currency entity, has a net investment in a EUR foreign operation.

#### *Scenario 1 – hedging instrument is a term loan*

In its consolidated accounts, Entity A hedges the net investment with a 5 year EUR term loan and applies hedge accounting.

#### **Solution 1**

##### *Accounting impact*

All foreign currency gains and losses on retranslating the net assets of the foreign operation are recognised in other comprehensive income in accordance with IAS 21. These are calculated by retranslating the net investment at the relevant spot rate. The effective portion of the gains and losses on the hedging instrument (the loan) are also recognised in other comprehensive income in accordance with IFRS 9 para 6.5.13. These gains and losses remain in the hedging reserve until disposal or partial disposal of the foreign operation when they are reclassified to profit or loss.

##### *Consideration of the time value of money and ineffectiveness*

The hedging instrument (the loan) is measured at amortised cost which is itself a present value measurement that takes into account the time value of money (IFRS 9 para BC 6.28). Furthermore IFRS 9 para BC 6.124 states that the foreign currency risk component of a non-derivative, such as a loan, that is used as a hedging instrument is the amount determined in accordance with IAS 21. IAS 21 also requires the net investment to be translated at the closing spot rate. This means that there is no requirement to make a further separate

adjustment for the time value of money on either the hedged item or the hedging instrument. Accordingly, no ineffectiveness will arise from IFRS 9's requirement to consider the time value of money.

### *Scenario 2 – hedging instrument is a currency forward contract*

In its consolidated accounts, Entity A hedges the net investment with an 18 month foreign currency forward contract and applies hedge accounting. It designates the hedged risk as changes in the forward exchange rate,

#### **Solution 2**

##### *Accounting impact*

By designating the hedged risk as changes in the 18 month forward exchange rate, Entity B is imputing a life of 18 months into the hedge relationship.

All foreign currency gains and losses on retranslating the net assets of the foreign operation are recognised in other comprehensive income in accordance with IAS 21. These are calculated by retranslating the net investment at the relevant spot rate.

The effective portion of the gains and losses on the hedging instrument (the forward contract) are also recognised in other comprehensive income in accordance with IFRS 9 para 6.5.13. The gains and losses on the hedging instrument are calculated using the forward rate and the effective portion include movements in value of the forward points as the designated hedged risk is changes in the forward exchange rate. Therefore, there will be a difference between the amount recorded on the hedged net investment and the amount recorded on the hedging instrument (the forward contract).

These gains and losses remain in reserves until disposal or partial disposal of the net investment (when they are reclassified to profit or loss) even though the life of the hedging instrument is only 18 months. This is because the hedged item (the net investment) does not affect profit or loss until its disposal or partial disposal.

##### *Consideration of the time value of money and ineffectiveness*

Since the term of the hedge relationship matches the maturity of the forward contract (18 months), no ineffectiveness will arise from IFRS 9's requirement to consider the time value of money.

However, not all of the fair value movements on the hedging instrument are recognised in other comprehensive income. This is because the hedging instrument (the forward contract) will contain a foreign currency basis spread that is not present in the hedged item (the net investment). Entity B can choose to:

- exclude the currency basis spread from the designated hedging instrument and recognise all movements in currency basis in profit or loss,
- exclude the currency basis spread from the designated hedging instrument and apply the cost of hedging model in IFRS 9 para 6.5.15-.16. In this case changes in the fair value of the forward contract attributable to currency basis are recognised in other comprehensive income. Because the hedged item is time related, the initial currency basis spread will be amortised to profit or loss over the life of the hedge, here 18 months, or
- include the currency basis spread in the hedge designation which would result in some ineffectiveness because the currency basis spread does not exist in the hedged item (the net investment).

## **4.6. Hedging revenue with a term loan or issued bond**

### *Question*

**How should an entity account for a cash flow hedge of a forecast sale where the hedging instrument is a term loan or issued bond? In particular does the requirement in IFRS 9 to consider the time value of money result in ineffectiveness?**

### *Scenario 1 – hedging instrument is a zero coupon foreign currency loan or bond*

Entity A, a GBP functional currency entity, has a zero coupon USD \$400k loan repayable in 1 years' time. It designates the loan as a hedge of the foreign currency risk on a highly probable USD \$400k forecast sale in 1 year. The hedged risk is designated as changes in the spot foreign exchange rate.

#### *Solution*

Note: When discussing ineffectiveness, the following solution does not consider the impact of credit risk.

#### *Accounting impact*

In accordance with IFRS 9 para 6.5.11, the lower of the cumulative gain or loss on the hedging instrument (the loan) and the cumulative change in fair value of the hedged item (the sale) is recognised through other comprehensive income in a separate component of equity. In the case of a loan (a non-derivative financial instrument) the relevant gain or loss on the hedging instrument is the IAS 21 retranslation amount (IFRS 9 BC 6.281). If this exceeds the cumulative change in fair value of the hedged item (the sale), the excess is recorded through profit or loss.

The amount in the hedging reserve is reclassified to profit or loss in the same period as the hedged cash flows (the forecast sale) takes place.

#### *Consideration of the time value of money and ineffectiveness*

The designated hedged item is a future cash flow in 1 years' time. Accordingly the fair value change of the hedged item (the forecast sale) is calculated by discounting changes in the spot exchange rate from the date of sale so as to take into account the time value of money.

The hedging instrument (the loan) is measured at amortised cost which is itself a present value measurement that takes into account the time value of money (IFRS 9 para BC 6.281). Furthermore IFRS 9 para BC 6.124 states that the foreign currency risk component of a non-derivative, such as a loan, that is used as a hedging instrument is the amount determined in accordance with IAS 21. This means that there is no requirement to make a further separate adjustment for the time value of money on the hedging instrument.

The issue arises of what discount rate should be used when measuring the change in fair value of the hedged item (the forecast sale) and measuring ineffectiveness. IFRS 9 has no explicit guidance on what rate should be used. An acceptable approach would be to use a risk free interest rate to discount both the hedged item and hedging instrument for the purposes of calculating ineffectiveness.

Accordingly, the spot movement in the cash flows associated with both the forecast sale and the USD loan could be discounted at the risk free rate.

To the extent that the cumulative discounted spot movement on the hedged sale equals, or exceeds, that on the USD loan then the entire IAS 21 retranslation gain/loss on the loan would be recognised in OCI though application of the 'lower of' guidance in [IFRS 9 para 6.5.11.]. On the other hand, to the extent that the cumulative spot movement on the USD loan, when discounted at the risk free rate, exceeds that on the hedged sale the amount deferred in OCI would be the discounted spot movement on the forecast sale. However the amount deferred in OCI should be restricted, where necessary, to the IAS 21 retranslation of the debt (in recognition of the fact that the discounted loan balance might be lower than the amount arising from discounting the loan cash flow at the risk free rate.

### *Scenario 2 – hedging instrument is a one year interest bearing loan*

Entity A, a GBP functional currency entity, has an interest bearing USD \$400k loan repayable in 1 years' time. It designates the loan as a hedge of the foreign currency risk on a highly probable USD \$400k forecast sale in 1 year. The hedged risk is designated as changes in the spot foreign exchange rate.

## *Solution*

The following solution covers three alternative scenarios for the cash flows on the loan and their implication for hedge accounting.

### *Scenario 2.1*

There are monthly interest cash flows paid throughout the term of the loan and a principal repayment at maturity. The designated hedged amount of sales is equal to the principal repayment at maturity of the loan.

#### *Accounting impact*

The principal cash flows on the forecast sale and loan match, but there are additional cash flows on the loan, the interest payments, which are not matched against forecast sales. These interest cash flows will result in some ineffectiveness (this is discussed further below).

In accordance with IFRS 9 para 6.5.11, the lower of the cumulative gain or loss on the hedging instrument (the loan) and the cumulative change in fair value of the hedged item (the sale) is recognised through other comprehensive income in a separate component of equity. In the case of a loan (a non-derivative financial instrument) the relevant gain or loss on the hedging instrument is the IAS 21 retranslation amount (IFRS 9 BC 6.281). If this exceeds the cumulative change in fair value of the hedged item (the sale), the excess is recorded through profit or loss.

The amount in the hedging reserve is reclassified to profit or loss in the same period as the hedged cash flows (the forecast sale) takes place.

#### *Consideration of the time value of money and ineffectiveness*

The designated hedged item is a future cash flow in 1 year's time. Accordingly the fair value change of the hedged item (the forecast sale) is calculated by discounting changes in the spot exchange rate from the date of sale so as to take into account the time value of money.

The hedging instrument (the loan) is measured at amortised cost which is itself a present value measurement that takes into account the time value of money (IFRS 9 para BC 6.281). Furthermore IFRS 9 para BC 6.124 states that the foreign currency risk component of a non-derivative, such as a loan, that is used as a hedging instrument is the amount determined in accordance with IAS 21. This means that there is no requirement to make a further separate adjustment for the time value of money on the hedging instrument.

However there will be interest cash flows on the loan over the next year, that are reflected in its amortised cost carrying value (that is the present value of both principal and interest cash flows discounted using the original effective interest rate), but that are not matched by equivalent cash flows on the forecast sale. The carrying amount of the loan matches the forecast sale only if compared on an undiscounted basis. IFRS 9 requires that an entity considers the time value of money (IFRS 9 BC 6.281) for calculating ineffectiveness, so the calculation of the fair value change attributable to foreign exchange risk of the hedged item (a forecast sale in 1 year's time) must be on a discounted basis.

For example, assume the amortised cost of the loan is \$400k, but the present value of the future sale is \$380k. This means that there will be greater foreign currency gains or losses on the loan based on its retranslation under IAS 21, than on the hedged item (the forecast sale). As only the lower amount is recognised through other comprehensive income in equity, the difference will be recorded as ineffectiveness in profit or loss.

See Scenario 1 above for a discussion of the appropriate discount rate to use.

### *Scenario 2.2:*

There are monthly interest cash flows paid throughout the term of the loan and a principal repayment at maturity. The designated hedged amount of sales is equal to the principal repayment at the maturity of the loan but Entity A also designates additional sales during the term of the loan to match the interest cash flows.

### *Accounting impact*

The cash flows on the loan (both principal and interest) match those on the forecast sales so no ineffectiveness will arise (this is discussed further below).

In accordance with IFRS 9 para 6.5.11, the lower of the cumulative gain or loss on the hedging instrument (the loan) and the cumulative change in fair value of the hedged item (the sales) is recognised through other comprehensive income in a separate component of equity. In the case of a loan (a non-derivative financial instrument) the relevant gain or loss on the hedging instrument is the IAS 21 retranslation amount (IFRS 9 BC 6.281). If this exceeds the cumulative change in fair value of the hedged item (the sales), the excess is recorded through profit or loss.

The amount in the hedging reserve is reclassified to profit or loss in the same period as the hedged cash flows (the forecast sales) take place. Therefore an amount will be recycled each month as that month's hedged sales occur.

### *Consideration of the time value of money and ineffectiveness*

The designated hedged item is a series of future cash flows arising on sales in each month for the next year. Accordingly the fair value change of the hedged item (the forecast sales) is calculated by discounting changes in the spot exchange rate from the date of each sale so as to take into account the time value of money.

The hedging instrument (the loan) is measured at amortised cost which is itself a present value measurement that takes into account the time value of money (IFRS 9 para BC 6.281). Furthermore IFRS 9 para BC 6.124 states that the foreign currency risk component of a non-derivative, such as a loan, that is used as a hedging instrument is the amount determined in accordance with IAS 21. This means that there is no requirement to make a further separate adjustment for the time value of money on the hedging instrument.

The cash flows on the hedging instrument, being interest payments made during the term of the loan and the principal repayment match the forecast sales during the period including the forecast sale at maturity of the loan. If the discount rate used for the calculation of ineffectiveness is the same for both the hedged item (the forecast sales) and the hedging instrument (the loan) no ineffectiveness will arise (see the discussion on discount rates in Scenario 1 above).

### *Scenario 2.3*

Interest accrues on the loan that is settled together with principal amount at maturity. The carrying value of the loan at the date of designating the hedge matches the principal repayment due at maturity in 1 year's time (i.e. there are no transaction costs or premium/discounts on the loan) and also the (undiscounted) amount of the forecast future sale.

### *Accounting impact*

The principal cash flow on the loan matches the cash flow on the forecast sale. But there is an additional interest cash flow on the loan, which is not matched against forecast sales. This interest cash flow will result in some ineffectiveness (this is discussed further below).

In accordance with IFRS 9 para 6.5.11, the lower of the cumulative gain or loss on the hedging instrument (the loan) and the cumulative change in fair value of the hedged item (the sales) is recognised through other comprehensive income in a separate component of equity. In the case of a loan (a non-derivative financial instrument) the relevant gain or loss on the hedging instrument is the IAS 21 retranslation amount (IFRS 9 BC 6.281). If this exceeds the cumulative change in fair value of the hedged item (the sales), the excess is recorded through profit or loss.

The amount in the hedging reserve is reclassified to profit or loss in the same period as the hedged cash flows (the forecast sales) take place.

*Consideration of the time value of money and ineffectiveness*

As Entity A has only designated sales equal to the amount of the principal repayment on the loan, similar to Scenario 1 above, the cash flows on the loan at maturity are greater than the designated value of sales and as a result ineffectiveness will arise.

Alternatively, similar to Scenario 2.2 above, Entity A could designate additional sales, to equal the value of the cash repayment at maturity of the loan. In this case no ineffectiveness will arise from the time value of money (see also the discussion on discount rates used under Scenario 1 above).

**4.7. Partial term hedge of a financial asset or financial liability***Question*

**Can cash flows or fair value movements be hedged for only a portion of the time to maturity of the financial asset or financial liability?**

*Illustration*

Entity A acquires a 10% fixed-rate government bond with a remaining term to maturity of ten years. Entity A measures the bond at amortised cost. On the same date, to hedge against fair value exposure on the bond associated with the first five years' of its life, the entity acquires a five-year pay-fixed, receive-floating swap. The swap has a fair value of zero at the inception of the hedge relationship.

*Solution*

Yes.

The IAS 39 Implementation Guidance (at para F.2.17 on partial term hedging) allows hedging a financial instrument (the hedged item) for only a portion of its cash flows or fair value, if effectiveness can be measured and the other hedge accounting criteria are met. Although IFRS 9 did not carry forward the IAS 39 Implementation Guidance, in its Basis for Conclusions, the IASB emphasised that not carrying forward the Implementation Guidance did not mean that it had rejected that guidance.

The swap could be designated as hedging the fair value exposure of the interest rate payments on the government bond until year 5, and the change in value of the principal payment due at maturity, to the extent affected by changes in the yield curve relating to the five years of the swap.

The same principle applies if the hedged item had been a financial liability instead of a financial asset with the same terms. In that situation, the entity could designate the fair value exposure of the first five years' interest payments due to changes in interest rate only, and hedge that exposure using a five-year receive-fixed, pay-floating interest rate swap.

The entity is also able to achieve hedge accounting for partial term cash flow hedges of financial items. For instance, assume an entity issues a ten-year floating-rate debt and wishes to hedge the variability in the first three years of interest payments using a three-year receive-floating, pay-fixed interest rate swap. The entity could designate the swap as hedging the variability in cash flows arising from the first three years of interest payments.



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## ***Detailed illustrations***

# ***Section 3***

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# Introduction

The following detailed examples illustrate how hedge accounting can be applied in practice. The objective is to present the mechanics of applying IFRS 9 requirements, starting with the entity's risk management and effectiveness testing policies, working through the necessary designation, assessment of economic relationships and culminating with the accounting entries.

The examples illustrate some of the most common hedging strategies used in practice and those now possible under the new hedge accounting criteria of IFRS 9. The issues addressed are summarised in the table below:

Illustration	Type of hedge and hedged risk	Key points
<b>1 Hedge of forecast foreign currency purchases</b>	Cash flow hedge FX risk (spot component only).	<ul style="list-style-type: none"> <li>• Spot rate designated</li> <li>• Basis adjustment required for inventory</li> <li>• Cost of hedging approach elected – Forward points taken to OCI</li> <li>• Inclusion of time value of money in measuring hedge ineffectiveness</li> </ul>
<b>2 Hedge of forecast foreign currency sales with a purchased option</b>	Cash flow hedge FX risk (one-sided risk and intrinsic value designation)	<ul style="list-style-type: none"> <li>• Intrinsic value designated</li> <li>• Reclassification of intrinsic value and time value when sales occur</li> <li>• Cost of hedging approach required given intrinsic value designation</li> </ul>
<b>3 Hedge of net foreign currency position comprising offsetting risk positions</b>	Cash flow hedge FX net risk (forward risk).	<ul style="list-style-type: none"> <li>• Hedging of net position</li> <li>• Presentation of the effect of hedging</li> </ul>
<b>4 Hedge of a floating rate borrowing with a floating to fixed swap</b>	Cash flow hedge Interest rate risk.	<ul style="list-style-type: none"> <li>• LIBOR risk designated</li> </ul>
<b>5 Hedge of a floating rate borrowing with a purchased cap</b>	Cash flow hedge Interest rate risk (one-sided risk and intrinsic value designation).	<ul style="list-style-type: none"> <li>• Amortisation of time value of option</li> <li>• Impact of cap being in or out of the money</li> <li>• Cost of hedging approach required given intrinsic value designation</li> </ul>
<b>6 Hedge of a fixed rate borrowing to floating with subsequent hedge back to fixed</b>	Fair value hedge and Cash flow hedge Interest rate risk	<ul style="list-style-type: none"> <li>• Ability to add a hedge on top of a previous hedged position and designate the hedged item as a combination of a derivative and a non-derivative (aggregated hedge)</li> </ul>

Illustration	Type of hedge and hedged risk	Key points
<b>7 Jet fuel hedging (designation of risk components being crude oil price risk and refining margin or 'crack spread' price risk)</b>	Cash flow hedge Commodity risk components a Crude oil (hedge 1) b Refining margin/crack spread (hedge 2) at a later date.	<ul style="list-style-type: none"> <li>• Ability to hedge components of non-financial items i.e. exclude fixed margin, tax and other costs</li> <li>• Basis adjustment required for inventory</li> <li>• No need to reset hypothetical derivative on hedge 1 when hedge 2 is entered into as hedge 2 is a new hedge</li> </ul>
<b>8 Hedge of forecast aluminium purchases denominated in a foreign currency</b>	Cash flow hedge a Commodity risk aluminium forward price, and b FX risk at a later date	<ul style="list-style-type: none"> <li>• Ability to add a hedge on top of a previous hedged position and designate the hedged item as a combination of a derivative and a non-derivative (aggregated hedge)</li> <li>• No need to reset hypothetical derivative when additional risk is layered on (new hedge relationship)</li> </ul>
<b>9 Hedge of a net investment in a foreign operation</b>	Net investment hedge Foreign currency risk	<ul style="list-style-type: none"> <li>• Consideration of time value of money</li> </ul>
<b>10 Hedge of foreign currency denominated borrowing with a cross-currency interest rate swap (CCIRS)</b>	Cash flow hedge Currency risk.	<ul style="list-style-type: none"> <li>• A method of accounting for currency basis spread</li> </ul>

These illustrations do not set out all of the ways of complying with IFRS 9's hedge accounting requirements. Nor are they exhaustive: other approaches to hedge accounting may be equally acceptable. The illustrations include 'helpful hint' boxes that highlight important issues, give additional guidance and contain tips relating to the illustrations.

In the illustrations both current and deferred tax effects have been excluded. The tax rules for derivatives vary between jurisdictions and can be complex such that specialist assistance is recommended.

The illustrations also exclude the disclosures required by IFRS 7.

# Illustration 1: Hedge of forecast foreign currency purchases

## Background and assumptions

Company A is a French company with a EUR functional currency. Its reporting dates are 30 June and 31 December.

Company A produces and sells packaging for the food industry. Company A is going to launch a new product and needs to purchase raw material for its production.

Production is scheduled to start in September 20x6. Company A's management expects to purchase a significant amount of raw material in July 20x6 for the start of production. An unrelated company based in the US will supply the raw material. Based on A's production plans and the prices that the supplier is currently charging, Company A's management forecasts that 5,000,000 units of raw material will be received and invoiced on 31 July 20x6 at a price of USD 2 per unit. The invoice is expected to be paid on 30 September 20x6.

On 1 July 20x5, Company A's management decides to hedge the foreign currency risk arising from its highly probable forecast purchase. Company A enters into a forward contract to buy USD and sell EUR. On that date, the forecast purchase is considered highly probable, as the board of directors has approved the launch of the new product, management is setting up the new production line, and negotiations with the American supplier are well advanced.

The foreign currency forward contract entered into as a hedge of the highly probable forecast purchase is as follows:

<b>Type</b>	Forward contract
<b>Amount purchased</b>	USD 10,000,000
<b>Amount sold</b>	EUR 7,887,057
<b>Forward rate</b>	EUR 1 = USD 1.2679
<b>Spot rate at inception</b>	EUR 1 = USD 1.2693
<b>Start date</b>	1/7/20x5
<b>Maturity date</b>	30/9/20x6

Market rates on key dates during the hedge are as follows:

	1/7/20x5	31/12/20x5	30/6/20x6	31/7/20x6	30/9/20x6
<b>EUR/USD spot rate</b>	1.2693	1.2530	1.2732	1.2823	1.3178
<b>EUR/USD forward rate<sup>1</sup></b>	1.2679	1.2526	1.2726	1.2819	1.3178
<b>EUR discount rate</b>	0.9935	0.9961	0.9987	0.9991	1.0000
<b>USD discount rate</b>	0.9946	0.9964	0.9992	0.9994	1.0000

<sup>1</sup> For a forward maturing on 30 September 20x6

## *Extracts from foreign currency risk management strategy*

Company A's functional currency is the EUR. Company A is exposed to foreign exchange risk on its purchases and sales that are denominated in currencies other than EUR. It is therefore exposed to the risk that movements in exchange rates will affect both its net income and financial position, as expressed in EUR.

Company A's foreign currency exposure arises from:

- Highly probable forecast transactions (sales/purchases) denominated in foreign currencies;
- Firm commitments denominated in foreign currencies; and
- Monetary items (mainly trade payables and receivables) denominated in foreign currencies.

Company A is mainly exposed to EUR/USD risks. Transactions denominated in foreign currencies other than USD are presently considered as not material and are not hedged.

Company A's policy is to hedge all material foreign exchange risk associated with highly probable forecast transactions, firm commitments and monetary items denominated in foreign currencies.

Company A's policy is to hedge the risk of changes in the relevant spot exchange rate.

### ***Helpful hint***

*An entity has a choice of three accounting approaches for hedges of a foreign currency risk using a forward contract:*

- 1. Forward rate designation*
- 2. Spot rate designation with changes in the value of forward points recognised in P&L*
- 3. Spot rate designation with changes in the value of forward points deferred in OCI*

*The choice can be made on a hedge by hedge basis. Ineffectiveness may arise if the timing of the forecast transaction does not match the maturity of the forward contract whichever designation is used. This is because IFRS 9 requires the time value of money to be considered when measuring hedge ineffectiveness; discounted amounts must be used for this purpose.*

*In addition, if the entity uses a spot rate designation with forward points recognise in P&L, changes in the value of these forward points will give rise to volatility in profit or loss.*

## *Extracts from hedging policies*

### *Hedging instruments*

Only vanilla forward contracts are used to hedge foreign exchange risk.

All derivatives must be entered into with counterparties with a credit rating of A or higher.

### *Hedging relationship*

Only the spot element of the forward contract is designated as the hedging instrument and therefore only the spot component is included in the hedge relationship (i.e. the forward points are excluded from the hedge relationship and recognised in other comprehensive income).

## *Hedge documentation*

At the inception of a hedging relationship management should formally document the hedging relationship including:

- Risk management objective and strategy;
- Identification of the hedging instrument, the hedged item, the nature of the risk being hedged (EUR/USD spot exposure) and potential sources of ineffectiveness; and
- Description of how management will assess whether the hedging relationship meets the hedge effectiveness requirements, including: (a) that there is an economic relationship between the hedged item and hedging instrument; (b) credit risk does not dominate the value changes that result from the economic relationship; and (c) the hedge ratio in the hedge relationship is the same as the quantity of the hedged item and of the hedging instrument that the entity actually uses for hedging purposes.

## *Hedge effectiveness*

Company A shall assess on an ongoing basis, whether the hedging relationship meets the hedge effectiveness requirements. At a minimum, Company A will perform the ongoing assessment at each reporting date or upon a significant change in the circumstances affecting the hedge effectiveness requirements, whichever comes first. The assessment relates to expectations about hedge effectiveness and therefore is only forward-looking.

Consistent with the risk management policy and nature of risk exposure, hedge effectiveness requirements are demonstrated based on critical terms (amount, currency, maturity date). Under Company A's policy, management is therefore required to align the characteristics of the hedging instrument to those of the hedged item (nominal amount, currency and maturity). For hedges of forecast transactions, the forward looking assessment should also confirm that the transaction is still highly probable.

In the hedge documentation, management will demonstrate on the basis of a qualitative assessment of those critical terms that an economic relationship exists meaning that the hedging instrument and the hedged item have values that will generally move in opposite directions because of the same risk, which is the hedged risk.

## *Accounting entries*

If the criteria for applying cash flow hedge accounting are met, the accounting entries during the duration of the hedge are as follows:

- Change in fair value related to the change in spot rate of the hedging instrument ('change in fair value attributable to spot') is recognised in other comprehensive income (and in the cash flow hedge reserve in equity). This is the hedged risk. The standard does not prescribe how this should be calculated, but requires time value of money to be considered. As such Entity A calculates this change in fair value by identifying at inception of the hedge which part of the expected cash flows is related to the spot rate ('the spot component') expressed in functional currency. At each testing date this spot component is recalculated using the market spot rate at the time of calculation. The movement in the spot component is equal to the change in expected cash flows due to spot rate changes. This change is discounted to identify the part of the fair value change which is related to change in spot risk taking into account time value of money; and
- Change in fair value of the forward points ('the forward element') is recognised in other comprehensive income (and in the cost of hedging reserve in equity) to the extent that it relates to the hedged item.
- Any ineffectiveness in the relationship is recognised directly in P&L.
- When the hedged forecast transaction subsequently results in the recognition of a non-financial asset (Raw material inventory), Entity A shall remove the accumulated hedging gain or loss at that date from the cash flow hedge/cost of hedging reserve and include it directly in the initial cost or other carrying amount of the asset. (This is referred to as a basis adjustment).

**Helpful hint**

*The amount that is included as a basis adjustment is limited to the amount that the entity expects will be recovered in profit or loss in one or more future periods. If the change in fair value of the hedging instrument is a loss and the entity expects that all or a portion of that loss will not be recovered in future periods, that amount should be reclassified immediately to profit or loss (either as a reclassification from the cash flow hedge reserve, or if inventory has been recognised, by reducing the carrying value of that inventory).*

*If the hedge is discontinued prior to maturity of the derivative (for example because the hedging objective was to hedge to the date the inventory is delivered but the derivative matures when the accounts payable balance is due to be settled) then subsequent fair value movements relating to both the spot and forward components will be recorded directly in P&L.*

**Extracts from hedge documentation**

Company A's hedge documentation is as follows:

**Risk management objective**

In order to comply with Company A's foreign exchange risk management strategy as described above, the foreign exchange risk arising from the highly probable forecast purchase, payable on 30 September 2006 and detailed below, is hedged.

**Hedging relationship**

Cash flow hedge: hedge of the foreign currency risk arising from highly probable forecast purchases.

**Nature of risk being hedged**

EUR/USD spot exchange rate risk arising from a highly probable forecast purchase denominated in USD that is expected to occur on 31 July 20x6 and to be settled on 30 September 20x6.

**Identification of hedged item**

<b>Hedged amount</b>	USD 10,000,000
<b>Nature of transaction</b>	Forecast purchase of 5,000,000 units of raw material

Expected timescale for forecast transaction to take place:

<b>Delivery</b>	31/7/20x6
<b>Cash payment</b>	30/9/20x6
<b>Expected price</b>	USD 2 per unit

Rationale for forecast transaction being highly probable to occur:

- The board of directors has approved the launch of the new product;
- Management is setting up the new production line which is scheduled to start in September 20x6;
- Negotiations with the American supplier are well advanced;
- The process is still on schedule and management expect to take delivery on 31 July 20x6 as planned; and
- The volume of the purchases is in line with production forecasts.

## Identification of hedging instrument

Transaction number: reference number K1121 in the treasury management system.

The hedging instrument is a vanilla forward contract to buy USD 10,000,000 with the following characteristics:

Type	Forward contract
Amount purchased	USD 10,000,000
Strike price	EUR 7,887,057
Forward rate at inception	EUR 1 = USD 1.2679
Spot rate at inception	EUR 1 = USD 1.2693
Spot component at inception	EUR 7,878,358
Start date	1/7/20x5
Maturity date	30/9/20x6

Only changes in the spot component of forward contract K1121 are designated as the hedging instrument of the forecast purchase identified as the hedged item.

The forward element that exists at inception is the following:

- $(10,000,000 \text{ USD}/\text{forward rate}) - (10,000,000 \text{ USD}/\text{spot rate}) = (10,000,000 \text{ USD}/1.2679) - (10,000,000 \text{ USD}/1.2693) = 8,699 \text{ EUR}$ .
- The terms of the forward contract are fully aligned with the critical terms of the hedged item.

## Hedge effectiveness

In order to qualify for hedge accounting, the following effectiveness requirements have to be fulfilled.

### Economic relationship

As per 'the cash flow hedge on foreign exchange currency exposure policy', critical terms shall be applied to assess qualitatively the economic relationship between the hedging instrument and the hedged items.

The hedged item creates an exposure to sell USD 10m and buy EUR. The forward contract is to buy USD 10m and sell EUR. As the hedged exposure is exactly matched by the USD leg of the forward contract (i.e. they are both the same amount of USD with the same payment date), there is a clear economic relationship between the hedging instrument and the hedged item.

### Effect of credit risk

As credit risk is not part of the hedged risk, the credit risk of Company A only impacts value changes of the hedging instrument.

Credit risk arises from the credit rating of Company A and the counterparty to the forward contract. Group Treasury monitors the company and the bank's credit risk for adverse changes. The risk associated with Company A and the bank is considered minimal and at inception does not dominate the value changes that result from the economic relationship (i.e. the effect of changes in USD/EUR). This will be re-assessed in cases where there is a significant change in either party's circumstances.

### Hedge ratio

To comply with the risk management policy, the hedge ratio is based on a forward contract with a notional amount of USD 10,000,000 for the purchase of 5,000,000 units of the raw material with an expected purchase price of USD 10,000,000. This results in a hedge ratio of 1:1 or 100%.

**Helpful hint**

*In this example the hedge ratio is 1:1 but in some cases it will not be possible to purchase the perfect hedging instrument – for example the forward contract might have a slightly different notional or maturity date. Providing the hedge ratio does not result in an imbalance that would create hedge ineffectiveness that could result in an accounting outcome inconsistent with the purpose of hedge accounting (IFRS 9 para 6.4(c)(iii) and there is a clear economic relationship between the hedging instrument and hedged item this would not prevent hedge accounting.*

**Sources of ineffectiveness**

The following potential sources are identified:

- Changes in timing of the payment of the hedged item;
- Reduction in the amount of the hedged purchase considered to be highly probable or its price; and
- A change in the credit risk of Company A or the bank counterparty to the forward contract.

**Helpful hint**

*The impact of foreign currency basis spreads has been ignored for simplification purposes. However, in reality this would represent a source of ineffectiveness in the relationship (IFRS 9 para B6.5.5) unless it is excluded from the designated hedging instrument (see FAQ 3.7).*

**Frequency of assessing hedge effectiveness**

Hedge effectiveness is assessed at inception of the hedge, at each reporting date (30 June and 31 December), and upon a significant change in the circumstances affecting the hedge effectiveness requirements.

**Helpful hint**

*Although retrospective testing is not required, Company A must document the hedge effectiveness requirements are still expected to be met at each reporting period and post ineffectiveness in P&L.*

**Items excluded from the assessment of hedge effectiveness**

All changes in fair value of the derivative instrument attributable to changes in the forward rate between the USD and EUR will be excluded from assessment of hedge effectiveness as the hedged risk has been designated as changes in the spot rate. Such amounts will be deferred as a component of OCI.

**Helpful hint**

1. *If Company A were to hedge its forecast purchases with options under the cost of hedging methodology, the time value would not be included in the designated one sided risk of a non-optional hedged item because time value is not a component of a forecast transaction that will affect profit and loss. All movements in time value will be recorded initially in the cost of hedging reserve and subsequently included in the initial cost of the inventory when it is recognised.*
2. *Where the entity chooses not to apply the cost of hedging methodology for dealing with forward points i.e. deferring movements in forward points in OCI, the hedge documentation will have to be adjusted to state that movements in the forward points' component will be recorded directly in P&L.*

**Effectiveness tests and accounting entries****1 July 20x5****Hedge effectiveness assessment**

As described in the hedge documentation, critical terms of the hedging instrument and the hedged items perfectly match. Therefore, management can qualitatively assess that there is an economic relationship between

the hedging instrument and the hedged item and that they will generally move in the opposite direction. Furthermore, the forecasted transaction is highly probable to occur.

The hedge ratio is set as described in the hedge documentation.

As the credit rating of the counterparty to the derivative is AA and Company A's credit risk is considered to be high, the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

### *Inception of forward*

No entry as the fair value of the forward contract is nil, as shown below.

Derivative as at 1/7/20x5		
Notional amount in USD	10,000,000	USD
Forward rate	1.2679	
EUR equivalent based on valuation date (A)	7,887,057	EUR
EUR contracted amount (B)	(7,887,057)	EUR
Total (A+B)	0	EUR
Discount Factor	0.9935	EUR
FV of derivative in EUR	0	EUR

### *31 December 20x5*

#### *Hedge effectiveness assessment*

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transaction, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness). Furthermore, the forecasted transaction is highly probable to occur.

**Conclusion:** The hedge effectiveness requirements are met.

#### *Fair value forward*

All the criteria for hedge accounting are met for the period ended 31 December 20x5. Cash flow hedge accounting can therefore be applied.

Derivative as at 31/12/20x5			Derivative as at 31/12/20x5		
Full Fair Value			Change in fair value attributable to spot		
Notional amount in USD	10,000,000	USD	Notional amount in USD	10,000,000	USD
Forward rate at valuation date	1.2526		Spot rate at valuation date	1.253	
EUR equivalent (A)	7,983,395	EUR	Spot component at valuation date (A)	7,980,846	EUR
EUR contracted amount (B)	(7,887,057)	EUR	Spot component at inception (B)	7,878,358	EUR
Total (A+B)	96,337	EUR	Difference (A-B)	102,488	EUR
Discount factor EUR	0.9961		Discount factor EUR	0.9961	

<b>FV of the derivative</b>	<b>95,962 EUR</b>	<b>PV change of spot component<sup>2</sup></b>	<b>102,088 EUR</b>
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Risks other than foreign exchange risk, including credit risk, have been ignored for simplification purposes. Therefore it is assumed that the present value of the spot component is the same as the fair value of the hypothetical derivative for effectiveness testing purposes and there is no ineffectiveness to record in the P&L. In reality the standard notes that the hypothetical derivative cannot include anything that is not in the hedged item, such as credit risk.

<b>Derivative as at 31/12/20x5</b>			
<b>Forward points</b>			
Change in full fair value (FV)		95,962	EUR
Change in FV attributable to spot		102,088	EUR
Change in value of forward points		(6,126)	EUR

### **Helpful hint**

*When an entity separates the forward element of a contract it can either recognise changes in the fair value of the forward points in other comprehensive income and accumulate them in a separate component of equity (the cost of hedging model) or record gains and losses related to the forward element directly in P&L (IFRS 9 para 6.5.15).*

*Where the cost of hedging model is applied, the forward points should be amortised 'on a rational and consistent basis' for a time period hedge, and recorded in the P&L when the hedged item affects P&L for a transaction related hedge.*

*In this example the forecast purchases are transaction related and therefore the forward points will only be released, first as a basis adjustment to inventory when the inventory is purchased, and then to profit or loss when the inventory is subsequently sold (or impaired).*

<b>The entry is as follows</b>	<b>DR</b>	<b>CR</b>	
<b>Derivative</b>	95,962		EUR
<b>Other Comprehensive Income – Hedging reserve</b>		102,088	EUR
<b>Other Comprehensive Income – Forward element</b>	6,126		EUR
<b>Cash Flow Hedge – Change in fair value of the forward contract</b>			

### **Helpful hint**

*When an entity excludes forward points from the hedge relationship and does not apply the cost of hedging approach, the accounting entries will be as follows:*

<b>The entry is as follows</b>	<b>DR</b>	<b>CR</b>	
<b>Derivative</b>	95,962		EUR
<b>Other Comprehensive Income – Hedging reserve</b>		102,088	EUR
<b>Income statement – Forward element</b>	6,126		EUR

<sup>2</sup> This is one acceptable method for determining the change in fair value attributable to the spot component but there may also be other acceptable approaches, for example calculating the discounted spot value at inception for both the derivative and hedged item and then measuring movements in those values over time.

## 30 June 20x6

### Hedge effectiveness assessment

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transaction, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness). Furthermore, the forecasted transaction is highly probable to occur.

**Conclusion:** The hedge effectiveness requirements are met.

### Fair value forward

All the criteria for hedge accounting are met for the period ended 30 June 20x6. Cash flow hedge accounting can therefore be applied.

Derivative as at 30/6/20x6			Derivative as at 30/6/20x6		
Full Fair Value			Change in fair value attributable to spot		
Notional amount in USD	10,000,000	USD	Notional amount in USD	10,000,000	USD
Forward rate at valuation date	1.2726		Spot rate at valuation date	1.2732	
EUR equivalent (A)	7,857,929	EUR	Spot component at valuation date (A)	7,854,226	EUR
EUR contracted amount (B)	(7,887,057)	EUR	Spot component at inception (B)	7,878,358	EUR
Total (A+B)	(29,128)	EUR	Difference (A-B)	(24,133)	EUR
Discount factor EUR	0.9987		Discount factor EUR	0.9987	
FV of the derivative	(29,090)	EUR	PV change of spot component	(24,101)	EUR

Derivative as at 30/6/20x6		
Forward points		
Change in full fair value (FV)		(125,052) EUR
Change in FV attributable to spot		(126,189) EUR
Change in forward value		1,137 EUR
Cumulative change in forward value		(4,989) EUR

The entry is as follows:

The entry is as follows	DR	CR
Derivative		125,052 EUR
Other Comprehensive Income – Hedging reserve	126,189	EUR
Other Comprehensive Income – Forward element		1,137 EUR
Cash Flow Hedge – Change in fair value of the forward contract		

### Helpful hint

*When an entity excludes forward points from the hedge relationship and does not apply the cost of hedging approach, the accounting entries will be as follows:*

The entry is as follows	DR	CR
Derivative		125,052 EUR
Other Comprehensive Income – Hedging reserve	126,189	EUR
Income statement – Forward element		1,137 EUR

## 31 July 20x6

### Hedge effectiveness assessment

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transaction, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness). Furthermore, the forecasted transaction is highly probable to occur.

**Conclusion:** The hedge effectiveness requirements are met.

### Recognition of delivery

	DR	CR	
Inventory (raw material)	7,798,487		EUR
Trade payable		7,798,487	EUR
Purchase of USD 10m at spot rate of 1.2823			

As the trade payable is short-term, Company A has determined that the effect of discounting is not material. The trade payable is therefore recognised at its face value.

### Fair value of forward

All the criteria for hedge accounting are met for the period ended 30 June 20x6. Cash flow hedge accounting can therefore be applied.

Derivative as at 31/7/20x6			Derivative as at 31/7/20x6		
Full Fair Value			Change in spot component		
Notional amount in USD	10,000,000	USD	Notional amount in USD	10,000,000	USD
Forward rate at valuation date	1.2819		Spot rate at valuation date	1.2823	
EUR equivalent (A)	7,800,921	EUR	Spot component at valuation date (A)	7,798,487	EUR
EUR contracted amount (B)	(7,887,057)	EUR	Spot component at inception (B)	7,878,358	EUR
Total (A+B)	(86,136)	EUR	Difference (A-B)	(79,871)	EUR
Discount factor EUR	0.9991		Discount factor EUR	0.9991	
FV of the derivative	(86,059)	EUR	PV change of spot component	(79,799)	EUR

Derivative as at 31/7/20x6		
Forward points		
Change in full fair value (FV)		(56,969) EUR
Change in FV attributable to spot		(55,698) EUR
Change in forward value		(1,271) EUR
Cumulative change in forward value		(6,260) EUR

The entry is as follows:

	DR	CR	
Derivative		56,969	EUR
Other Comprehensive Income – Hedging reserve	55,698		EUR
Other Comprehensive Income – Forward element	1,271		EUR

### Cash Flow Hedge – Change in fair value of the forward contract

#### Helpful hint

When an entity excludes forward points from the hedge relationship and does not apply the cost of hedging approach, the accounting entries will be as follows:

	DR	CR	
Derivative		56,968	EUR
Other Comprehensive Income – Hedging reserve	55,698		EUR
Income statement – Forward element	1,271		EUR

#### Basis adjustment

The loss on the hedging derivative related to changes in prevailing spot rates and the balance on the cost of hedging reserve is included in the carrying amount of the inventory acquired. The basis adjustment affects profit or loss on sale of the goods containing the hedged items (the raw material) or on impairment of the inventory.

	DR	CR	
Equity – Hedging reserve		79,799	EUR
Inventory (Raw material)	79,799		EUR
Equity – Forward element		6,260	EUR
Inventory (Raw material)	6,260		EUR

**Basis adjustment for the inventory acquired by Company A**

**Forward points removed from equity and included in cost of inventory as transaction related hedge**

#### Helpful hint

IFRS 9 requires that a basis adjustment is applied when hedging a forecast transaction that results in the recognition of a non-financial asset or non-financial liability, as is the case here with the recognition of raw material inventory.

The 'basis adjustment' approach was optional under IAS39.

A further difference to IAS 39 is that when the basis adjustment is made to inventory (or other non-financial item) it does not go through OCI as it is not a reclassification adjustment under IAS 1. The impact is that the overall gain or loss on the hedging derivative is recorded twice in the statement of comprehensive income (but potentially in different accounting periods) – Once through OCI during the hedging period and once in cost of sales when the inventory is sold.

The amount in the cost of hedging reserve in relation to any fair value movements of the forward element previously deferred in equity via OCI are also transferred directly to inventory.

As the forward contract hedges the cash flow for settlement of the trade payable which occurs after the recognition of the inventory, if material some of the change in value of the forward points recognised in other comprehensive income would not be removed from the costs of hedging reserve at this time. In this example it is assumed that the amount is not material so the entire cumulative change in forward points recognised in the cost of hedging reserve as at the date of recognition of inventory have been included in the initial cost of inventory as a basis adjustment.

**30 September 20X6****Translation of trade payable at the spot rate**

The trade payable is a monetary item denominated in a foreign currency that must be retranslated at the spot rate under IAS 21, with the resulting currency gain or loss recognised in profit or loss.

The calculation of the gain or loss is as follows:

Trade payable translated at 31 July at 1.2823	7,798,487	EUR
Trade payable translated at 30 September at 1.3178	7,588,405	EUR
Foreign exchange gain to be recognised in profit and Loss	210,082	EUR

The accounting entry is as follows:

	DR	CR	
Foreign exchange difference (income statement)		210,082	EUR
Trade payable	210,082		EUR
<b>Revaluation of trade payable</b>			

**Fair value derivative**

Recognition of the change in the fair value of the derivative

Derivative as at 30/9/20x6			Derivative as at 30/9/20x6		
<b>Full Fair Value</b>			<b>Change in spot component</b>		
Notional amount in USD	10,000,000	USD	Notional amount in USD	10,000,000	USD
Forward rate at valuation date	1.3178		Spot rate at valuation date	1.3178	
EUR equivalent (A)	7,588,405	EUR	Spot component at valuation date (A)	7,588,405	EUR
EUR contracted amount (B)	(7,887,057)	EUR	Spot component at inception (B)	7,878,358	EUR
Total (A+B)	(298,652)	EUR	Difference (A-B)	(289,953)	EUR
Discount factor EUR	1		Discount factor EUR	1	
FV of the derivative	(298,652)	EUR	PV change of spot component	(289,953)	EUR

Derivative as at 30/9/20x6		
<b>Forward points</b>		
Change in full fair value (FV)		(212,593) EUR
Change in FV attributable to spot		(210,154) EUR
Change in forward value		(2,439) EUR
Cumulative change in forward value		(8,699) EUR

The accounting entry is as follows:

	DR	CR	
Derivative		212,593	EUR
Other Comprehensive Income – Hedging reserve	210,154		EUR
Other Comprehensive Income – Forward element	2,439		EUR
<b>Cash Flow Hedge – Change in fair value of the forward contract</b>			

### *Recycling hedge reserve*

The accounting entry to release the amount in the hedge reserve to hedge FX recognised on the payable:

	DR	CR	
Other comprehensive income – Hedging reserve		210,154	EUR
Foreign exchange difference (income statement) <sup>3</sup>	210,154		EUR
Other comprehensive income – Forward element		2,439	EUR
Income statement – Forward element	2,439		EUR
<b>Recycling of hedge reserve and forward points to P&amp;L</b>			

### *Settlement of the derivative*

Under the terms of the forward contract, Company A receives USD 10m at 1.2679 (EUR 7,588,405) and pays EUR 7,887,057. The difference is the fair value of the derivative (EUR 298,652).

The accounting entry is as follows:

	DR	CR	
Cash in USD	7,588,405		EUR
Cash in EUR		7,887,057	EUR
Derivative	298,652		EUR
<b>Settlement of derivative</b>			

### *Payment of the trade payable*

	DR	CR	
Cash in USD		7,588,405	EUR
Trade payable	7,588,405		EUR
<b>Payment of trade payable</b>			

<sup>3</sup> The difference between the hedge reserve and translation of payable is due to discounting

**Helpful hint**

*Hedge accounting is not always necessary when a company is hedging the foreign currency risk arising from short-term monetary items such as foreign currency payables and receivables.*

*A common strategy under IAS 39 was to de-designate the hedge once the purchase had been recognised (30 July 20x6). This achieves a similar result to that achieved under hedge accounting, as:*

- 1. The derivative, not being designated as a hedging instrument, would have been measured at fair value through profit or loss on 30 September 20x5; and*
- 2. The foreign currency payable, which is a monetary item, would have been revalued using the spot exchange rate at the balance sheet date.*

*IFRS 9 does not permit de-designation of a hedging relationship if the hedging objective has not changed; nor does it designation of a derivative for only part of its life. The above designation and de-designation will therefore only be in line with IFRS 9 if it forms part of the company's risk management strategy and objective for this hedge relationship.*

*IFRS 9 para B6.5.24(c) does envisage such a scenario and notes that within a strategy to manage the foreign currency risk of forecast sales and the resulting receivables (or purchases and payables), the entity may 'manage' the currency risk until settlement date or until recognition of the receivable/payable. In the latter case it would have to discontinue at that point even though there is an economic hedge until settlement date.*

*If the hedge were discontinued early in accordance with IFRS 9 para B6.5.24(c) or because the forecast transaction (the purchases in this example) no longer met the hedge objective but were still expected to occur then the balances in equity (hedging reserve and forward element) on this transaction related hedge remain in equity until recognition of the hedged non-financial item or until the hedged item hits P&L.*

**Summary of entries**

To summarise the result that was achieved through the application of hedge accounting:

- Inventory was recognised at EUR 7,884,546, which is the spot price on 31 July 20x6 (EUR 7,798,487), plus the change in the discounted spot since inception (EUR 79,799) plus the movement in the fair value of the forward element up to recognition of the inventory (EUR 6,260).
- Net cash paid was €7,887,057, which is \$10 million at the hedged rate of 1.2679.
- Profit or loss includes the following amounts:
  - EUR 2,439 recognised as an interest expense, which represents the remaining movements on the forward points for the period from 31 July 20x6 to 30 September 20x6;
  - EUR 72 recognised as an FX loss. This is the net of a EUR 210,082 gain on the trade payable and EUR 210,154 loss on the derivative (larger than the gain due to the unwind of the discount of the spot component of the derivative) during the last two months; and
  - The remaining difference between amounts recognised in profit and loss and the settlement on the derivative is the amount of the basis adjustment of 86,059 EUR taken directly from equity to the inventory account that will affect profit or loss when the inventory is sold.
  - The detailed entries are reflected in the table on the next page.

*Balance sheet and income statement*

	Balance sheet										Income statement					
	OCI – Hedge reserve		OCI – Forward element		Derivative instrument		Trade payable		Inventory		Cash (USD and EUR)		Forward element		FX differences	
	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr
<b>1/7/20x5</b>																
<b>Inception of FX Forward</b>																
<b>31/12/20x5</b>																
<b>CFH accounting</b>		102,088	6,126		95,962											
<b>30/6/20x6</b>																
<b>CFH accounting</b>	126,189			1,137	125,052											
<b>31/7/20x6</b>																
<b>Recognition inventory</b>								7,798,487	7,798,487							
<b>CFH accounting</b>	55,698		1,271		56,969											
<b>Basis adjustment</b>		79,799		6,260					86,059							
<b>30/9/20x6</b>																
<b>FX revaluation</b>							210,082									210,082
<b>CFH accounting</b>	210,154	210,154	2,439	2,439	212,593									2,439		210,154
<b>Settlement derivative</b>					298,652						7,588,405	7,887,057				
<b>Settlement Payable</b>							7,588,405					7,588,405				
<b>Total</b>	-	-	-	-	-	-	-	-	7,884,546	-	7,887,057	2,439			72	

*Statement of changes in equity*

	OCI – Hedge reserve Dr/(Cr)	OCI – Time value Dr/(Cr)	Retained earnings and other reserves Dr/(Cr)
Profit for the year	-	-	-
Fair value on cash flow hedges	102,088	(6,126)	-
Recycling of cash flow hedge reserve	-	-	-
<b>Equity as at 31/12/20x5</b>	<b>102,088</b>	<b>(6,126)</b>	
Profit for the year			(2,511)
Fair value on cash flow hedges	(392,041)	(2,573)	
Reclassification to inventory (not via OCI)	79,799	6,260	
Recycling of cash flow hedge reserve	210,154	2,439	
<b>Equity as at 31/12/20x5</b>	<b>0</b>	<b>0</b>	<b>(2,511)</b>

## Illustration 2: Hedge of forecast foreign currency sales with a purchased option

### Background and assumptions

Company B is a Dutch company with a EUR functional currency. Its reporting dates are 30 June and 31 December.

Company B produces and sells electronic components for automobiles. Company B is far advanced in its negotiations with an American client and expects to deliver 300,000 units at a price of USD 200 per unit on 30 June 20x2 to this client. The invoice is expected to be paid on 31 July 20x2.

On 1 January 20x1, Company B's management decides to hedge the foreign currency risk arising from its highly probable forecast sale. On that date, the forecast sale is considered as highly probable, as the board of directors has approved the sale, and the negotiations with the American client are far advanced. The company's management decides to purchase an FX option to sell USD against EUR as to retain the 'upside' if the FX rate weakens whilst protecting against the FX rate strengthening.

The foreign currency put option bought as a hedge of the highly probable forecast sale is as follows:

<b>Type</b>	FX Put Option
<b>Amount purchased</b>	USD 60,000,000
<b>Strike price</b>	EUR 1 = USD 1.3361 e.g. EUR 44,906,818
<b>Spot rate at inception</b>	EUR 1 = USD 1.3361
<b>Intrinsic value at inception</b>	EUR 0
<b>Premium</b>	EUR 3,186,036
<b>Start date</b>	1/1/20x1
<b>Maturity date</b>	31/7/20x2

Fair value on the key dates during the hedge relationship are as follows:

	1/01/20x1	30/06/20x1	31/12/20x1	30/06/20x2	31/07/20x2 <sup>4</sup>
<b>Full fair value of the derivative</b>	3,186,036	4,349,489	1,467,593	19,981	-
<b>Intrinsic value of the derivative<sup>5</sup></b>	-	3,533,215	-	-	-
<b>Time value of the derivative</b>	3,186,036	816,274	1,467,593	19,981	-
<b>Spot rate</b>	1.3361	1.4502	1.2935	1.2577	1.2304
<b>Strike rate</b>	1.3361	1.3361	1.3361	1.3361	1.3361

<sup>4</sup> As the option expired out of the money, the fair value of the derivative is zero

<sup>5</sup> Intrinsic Value is defined by Company A as the difference between the strike rate and the spot rate multiplied by the nominal amount. This value is discounted to reflect time value of money.

**Helpful hint**

*IFRS 9 does not specify how the intrinsic value of an option should be determined. In practice it is calculated as either:*

- *the difference between the strike price of the option and the spot price of the underlying multiplied by the notional amount of the option (the 'spot intrinsic value'); or*
- *the difference between the strike price of the option and the forward price of the underlying multiplied by the notional amount of the option (the 'forward intrinsic value').*

*Company B should consider discounting the difference between strike and spot/forward price as otherwise there is likely to be ineffectiveness to record when comparing the intrinsic value to the discounted value of the hedged item.*

The above fair values of the option are determined based a Black-Scholes option pricing model. The valuation methodology is not part of this illustrative example.

**Extracts from foreign currency risk management strategy**

Company B's functional currency is the EUR. Company B is exposed to foreign exchange risk when some of its purchases and sales are denominated in currencies other than EUR. It is therefore exposed to the risk that movements in exchange rates will affect both its net income and financial position, as expressed in EUR.

Company B's foreign currency exposure arises from:

1. Highly probable forecast transactions (sales/purchases) denominated in foreign currencies;
  - Firm commitments denominated in foreign currencies; and
  - Monetary items (mainly trade payables and receivables) denominated in foreign currencies.

Company B is mainly exposed to EUR/USD risks. Transactions denominated in foreign currencies other than USD are presently considered as not material and are not hedged. Company B's policy is to hedge all material foreign exchange risk associated with highly probable forecast transactions, firm commitments and monetary items denominated in foreign currencies.

Company B's policy is to hedge the risk of changes in the relevant spot exchange rate.

**Extracts from hedging policies****Hedging instruments**

For contractual cash-flow, Company B should use forward currency contracts.

Company B should use FX options to hedge foreign exchange risk to maintain the upside potential while protecting against adverse changes. To enter into an option, Company B will pay a premium.

All derivatives must be entered into with counterparties with a credit rating of AA or higher.

## Hedging relationship

Only the intrinsic value of an option contract is designated as the hedging instrument and therefore only the intrinsic value is included in the hedge relationship (i.e. the time value is excluded).

### Helpful hint

*As permitted in IFRS 9 para 6.2.4(a), an entity has a choice of two accounting approaches for hedges using an option contract:*

- 1. Designation of the full fair value changes of the option.*
- 2. Designation of intrinsic value changes only with changes in the time value of the option deferred in OCI. Note the requirement above to consider the effect of discounting in calculating the intrinsic value.*

## Hedge documentation

At the inception of a hedging relationship management should formally document the hedging relationship including:

- The risk management objective and strategy;
- Identification of the hedging instrument, the hedged item, potential sources of ineffectiveness and the nature of the risk being hedged (EUR/USD spot exposure),
- Description of how management will assess whether the hedging relationship meets the hedge effectiveness requirements, including: (a) that there is an economic relationship between the hedged item and hedging instrument,; (b) credit risk does not dominate the value changes that result from the economic relationship; and (c) the hedge ratio is the same as the quantity of the hedged item and hedging instrument that the entity actually uses for hedging purposes.

## Hedge effectiveness

Entity A shall assess on an ongoing basis, whether the hedging relationship meets the hedge effectiveness requirements. At a minimum, an entity shall perform the ongoing assessment at each reporting date or upon a significant change in the circumstances affecting the hedge effectiveness requirements, whichever comes first. The assessment relates to expectations about hedge effectiveness and therefore is only forward-looking.

Consistent with risk management policy and nature of risk exposure, hedge effectiveness requirements is demonstrated based on critical terms (amount, currency, maturity date). Management is therefore required to align the characteristics of the hedging instrument to those of the hedged item (nominal amount, currency, maturity. For hedges of forecast transactions, the forward looking assessment should also confirm that the transaction is still highly probable.

In the documentation, management will demonstrate on the basis of a qualitative assessment of those critical terms that the hedging instrument and the hedged item have values that will generally move in opposite directions because of the same risk, which is the hedged risk.

## Accounting entries

If the criteria for applying cash flow hedge accounting are met, the accounting entries during the duration of the hedge are as follows:

- The effective portion of the change in the intrinsic value of the hedging instrument is recognised in other comprehensive income (and then in the cash flow hedge reserve in equity). The standard requires time value of money to be considered when measuring ineffectiveness. Time value of money is not the same as the time value of an option. As such, time value of money should be included in the calculation of the effective portion of the change in the intrinsic value of the option.
- Changes in fair value of the time value component of a transaction related hedge item shall be recognised in other comprehensive income to the extent they relate to the hedged item and shall be accumulated in a separate component of equity.

If cash flow hedge criteria are not met any more or if the option has matured, the accounting entries are the following:

- **Intrinsic value component:** as per IFRS 9 para 6.5.11(d) (ii), the amount that has been accumulated in the cash flow hedge reserve shall be reclassified from the separate component of equity to profit or loss as a reclassification adjustment in the same period or periods during which the hedged expected future cash flows affect profit or loss e.g. when the sales are made.
- **Time value component of a transaction related hedge item:** as per IFRS 9 para 6.5.15(b) (ii), the cumulative change in fair value arising from the time value of the option that has been accumulated in a separate component of equity shall be reclassified from the separate component of equity to profit or loss as a reclassification adjustment in the same period or periods during which the hedged expected future cash flows affect profit or loss.

### **Helpful hint**

*IFRS 9 and IAS 1 are silent over where in profit or loss to present the effect of hedge accounting (i.e. the reclassification adjustments described above).*

*In this example Company B would likely choose to report the effective portion of the hedge (i.e. the change in intrinsic value) in revenue reflecting that the hedged item is sales.*

*Similarly, as the derivative was specifically taken out to hedge sales, it would be possible to record the costs of hedging (i.e. the change in the time value) in revenue. Alternative acceptable treatments would be cost of sales, finance income/expense or other gains/losses.*

*Company B should disclose its chosen policy and apply it consistently.*

## **Extracts from hedge documentation**

At the inception of the hedging relationship, there must be a formal designation and documentation of the hedging relationship and the entity's risk management objective and strategy for undertaking the hedge.

Company B's documentation is as follows:

### ***Risk management objective and strategy***

In order to comply with Company B's foreign exchange risk management strategy which is to hedge all material foreign currency risk, the foreign exchange risk arising from the highly probable forecast sale designated as the hedged item below is hedged.

### ***Type of hedging relationship***

Cash flow hedge: hedge of the foreign currency risk arising from highly probable forecast sale.

### ***Nature of the risk being hedged***

USD/EUR spot exchange rate risk going above 1.3361 arising from a highly probable forecast sale denominated in USD that is expected to occur on 30 June 20x2 and to be settled on 31 July 20x2.

### ***Identification of the hedged item***

Nature of the transaction: forecast sale of 300,000 units of raw material for USD 200 per unit.

<b>Hedged amount</b>	USD 60,000,000
Expected timescale for forecast transaction to take place:	
<b>Delivery</b>	30/6/20x2

<b>Cash payment</b>	31/7/20x2
<b>Expected price</b>	USD 200 per unit

Rationale for forecast transaction being highly probable to occur:

- Delivery of electronic component is scheduled in June 20x2;
- Sale has been approved by the board of directors; and
- Negotiations with the American client are far advanced.

### *Identification of hedging instrument*

Transaction number: reference number #12345 in the treasury management system

The hedging instrument is a FX Put option to sell USD 60,000,000 with the following characteristics:

<b>Type</b>	FX put option
<b>Amount purchased</b>	USD 60,000,000
<b>Strike price</b>	EUR 1 = USD 1.3361 i.e. EUR 44,906,818
<b>Spot rate at inception</b>	EUR 1 = USD 1.3361
<b>Intrinsic value at inception</b>	EUR 0
<b>Premium</b>	EUR 3,186,036
<b>Start date</b>	1/1/20x1
<b>Maturity date</b>	31/7/20x2

As per IFRS9 para 6.2.4(b), only the intrinsic value of the option contract #12345 is designated as the hedging instrument of the forecast sale identified on the previous page.

### *Hedge effectiveness*

In order to qualify for hedge accounting, the following effectiveness requirements have to be met.

#### *Economic relationship*

As per 'the cash flow hedge on foreign exchange currency exposure policy', critical terms shall be applied to assess qualitatively the economic relationship between the hedging instrument and the hedged items.

#### *Effect of credit risk*

As credit risk is not part of the hedged risk, the credit risk of Company B only impacts value changes of the hedging instrument.

Credit risk arises from the credit rating of Company B and the counterparty to the option contract. Group Treasury monitors the company and the bank's credit risk for adverse changes. The risk associated with Company B and the bank is considered minimal and at inception does not dominate the value changes that result from the economic relationship (i.e. the effect of changes in USD/EUR). This will be re-assessed in cases where there is a significant change in either party's circumstances.

#### *Hedge ratio*

To comply with the risk management policy, the currency option is for the full amount of the forecast sales, USD 60,000,000 worth. This results in a hedge ratio of 1:1 or 100%.

#### *Sources of ineffectiveness*

The following potential sources are identified:

- Changes in timing of the receipt of the hedged item;

- Reduction in the total amount or price of the hedged item; and
- A change in the credit risk of Company B or the bank counterparty to the put option.

### **Helpful hint**

*The impact of foreign currency basis spreads has been ignored for simplification purposes. However, in reality this would represent a source of ineffectiveness in the relationship (IFRS 9 para B6.5.5) unless it is excluded from the designated hedging instrument (see FAQ 3.7).*

### **Frequency of assessing hedge effectiveness:**

At inception of the hedge, at each reporting date (30 June and 31 December) and upon a significant change in the circumstances affecting the hedge effectiveness requirements.

### **Helpful hint**

*Although retrospective testing is not required, Company B must document the hedge effectiveness requirements are still expected to be met at each reporting period and post ineffectiveness to P&L.*

### **Items excluded from the assessment of hedge effectiveness**

Time value will not be included in the designated one sided risk (of the USD:EUR rate moving above 1.3361) on highly probable forecast sales (a non-optional hedged item) because time value is not a component of the forecast transaction that will affect profit and loss. All movements in time value will be recorded initially in OCI and the cost of hedging reserve and released to P&L when the sales and retranslation of the subsequent receivable take place.

## **Effectiveness tests and accounting entries**

### **1 January 20x1**

#### **Hedge effectiveness**

As described in the hedge documentation, the critical terms of the hedging instrument and the hedged item perfectly match. Therefore, management can qualitatively assess that the hedging instrument and the hedged items will move in the opposite direction and will perfectly offset.

As the credit rating of the counterparty to the derivative is high and Company B's credit risk is considered to be good, the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge is expected to be highly effective.

#### **Recognition of premium**

The fair values of the derivative as of 1 January 20x1 is as follows:

Full fair value	3,186,036	EUR
Intrinsic value	-	EUR
Time value	3,186,036	EUR

The entry of the recognition of the premium of the derivative is as follows:

	DR	CR	
Derivative (financial asset)	3,186,036		EUR
Cash		3,186,036	EUR

## 30 June 20x1

### Hedge effectiveness on 30 June 20x1

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transaction, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** the hedge is expected to be highly effective.

### Fair value of derivative<sup>6</sup>

All the criteria for hedge accounting are met for the period ended 30 June 20x1. Cash flow hedge accounting can therefore be applied.

The fair value of the derivative as of 30 June 20x1 is as follows:

Derivative as at 31/12/20x5		
Notional amount in USD	(60,000,000)	USD
Spot rate at valuation date	1.4502	EUR/USD
Spot component at valuation date (A)	(41,373,604)	EUR
Notional amount at Strike rate (B)	(44,906,818)	EUR
Difference (A-B)	3,533,215	EUR
Discount factor EUR*	0.98341	
PV change of spot component	<b>3,474,607</b>	<b>EUR</b>

\* Calculated as  $1/(1+1.56\%)^{(1+1/12)}$

Full fair value	4,349,489	EUR
Change in fair value attributable to spot	3,474,607	EUR
Time value	874,882	EUR

Risks other than foreign exchange risk, including credit risk, have been ignored for simplification purposes and therefore it is assumed that the change in fair value attributable to the intrinsic value is the same as that of the hedged item for effectiveness testing purposes. In reality the standard notes that the aligned derivative cannot include anything that is not in the hedged item, such as credit risk.

The entry for the recognition of the change in fair value of the derivative is as follows:

	DR	CR	
Derivative (financial asset) <sup>7</sup>	1,163,453		EUR
Other comprehensive income – Hedging reserve		3,474,607	EUR
Other comprehensive income – Time value element <sup>8</sup>	2,311,154		EUR

<sup>6</sup> For the purposes of this illustration, currency basis has been ignored.

<sup>7</sup>  $4,349,489 - 3,186,036 = 1,163,453$

<sup>8</sup>  $3,186,036 - 874,882 = 2,311,154$

## 31 December 20x1

### Hedge effectiveness

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transaction, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** the hedge is expected to be highly effective.

### Fair value derivative

Fair values of the derivative as of 31 December 20x1 are as follows:

Full fair value	1,467,593	EUR
Intrinsic value	-	EUR
Time value	1,467,593	EUR

The entry of the recognition of the change in fair value of the derivative is as follows:

	DR	CR	
Derivative (financial asset) <sup>9</sup>		2,881,896	EUR
Other comprehensive income – Hedging reserve	3,474,607		EUR
Other comprehensive income – Time value element <sup>10</sup>		592,711	EUR

## 30 June 20x2

### Hedge effectiveness

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transaction, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** the hedge is expected to be highly effective.

### Fair value derivative

All the criteria for hedge accounting are met for the period ended 30 June 20x2. Cash flow hedge accounting can therefore be applied.

Fair values of the derivative as of 30 June 20x1 are as follows:

Full fair value	19,981	EUR
Intrinsic value	-	EUR
Time value	19,981	EUR

The entry of the recognition of the change in fair value of the derivative is as follows:

	DR	CR	
Derivative (financial asset) <sup>11</sup>		1,447,612	EUR
Other comprehensive income – Hedging reserve		-	EUR

<sup>9</sup> 1,467,593 – 4,349,489 = (2,881,896)

<sup>10</sup> 874,882 – 1,467,593 = (592,711)

<sup>11</sup> 19,981 – 1,467,593 = (1,447,612)

<b>Other comprehensive income – Time value element<sup>11</sup></b>	1,447,612	EUR
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### *Recognition of the sale*

	DR	CR	
<b>Revenue<sup>12</sup></b>		47,706,130	EUR
<b>Trade receivable</b>	47,706,130		EUR

### *Reclassification adjustment*

As per IFRS9 para 6.5.11(d)(ii), the amount that has been accumulated in the cash flow hedge reserve shall be reclassified from the separate component of equity to profit or loss (in this case revenue) as a reclassification adjustment in the same period or periods during which the hedged expected future cash flows affect profit or loss.

As required by IFRS9 para 6.5.15(b)(ii), the cumulative change in fair value arising from the time value of the option that has been accumulated in a separate component of equity shall be reclassified from the separate component of equity to profit and loss in the same period during which the hedged expected future cash flows affect profit or loss.

As of 30 June 20x2 and before the reclassification adjustment, the situation is as follows:

	DR	CR	
<b>Derivative (financial asset)</b>	19,981		EUR
<b>Other comprehensive income – Hedging reserve</b>	-	-	EUR
<b>Other comprehensive income – Time value element</b>	3,166,055		EUR

The reclassification adjustment entry is as follows:

	DR	CR	
<b>Other comprehensive income – Time value element<sup>13</sup></b>		3,166,055	EUR
<b>Profit or loss<sup>14</sup></b>	3,166,055		EUR

## *31 July 20x2*

### *Fair value derivative*

Fair values of the derivative as of 31 July 20x1 are as follows:

<b>Full fair value</b>	-	EUR
<b>Intrinsic value</b>	-	EUR
<b>Time value</b>	-	EUR

As the option expired out of the money, there was no further settlement on it. The entry is as follows:

	DR	CR	
<b>Fair value gains/losses derivative (Income statement)</b>	19,981		EUR

<sup>12</sup> 60,000,000/1.2577

<sup>13</sup> Equal to cumulative change in the time value

<sup>14</sup> See earlier helpful hint – the reclassification could be recorded in revenue as the hedged item was future sales, or elsewhere in profit or loss

Derivative (financial asset)	19,981	EUR
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### Revaluation of receivable

	DR	CR	
FX gains/losses		1,058,499	EUR
Receivable	1,058,499		EUR
<b>60,000,000/1.2304 – 60,000,000/1.2577</b>			

### Receipt of receivable

	DR	CR	
Cash	48,764,629		EUR
Trade receivable		48,764,629	EUR
<b>60,000,000/1.2304</b>			

### Helpful hint

*Hedge accounting is not always necessary when a company is hedging the foreign currency risk arising from short-term monetary items such as foreign currency payables and receivables.*

*A common strategy under IAS 39 was to de-designate the hedge once the receivable had been recognised (30 June 20x2). This achieves a similar result to that achieved under hedge accounting, as:*

- The derivative, not being designated as a hedging instrument, would have been measured at fair value through profit or loss on 31 July 20x2; and*
- The foreign currency receivable, which is a monetary item, would have been revalued using the spot exchange rate at the balance sheet date.*

*IFRS 9 does not permit de-designation of a hedging relationship if the hedging objective has not changed, nor does it permit designation of a derivative for only part of its life. The above designation and de-designation will therefore only be in line with IFRS 9 if it forms part of the company's risk management strategy and objective for this hedge relationship.*

*IFRS 9 para B6.5.24(c) does envisage such a scenario and notes that within a strategy to manage the foreign currency risk of forecast sales and the resulting receivables (or purchases and payables) that the entity may 'manage' the currency risk until settlement date or until recognition of the receivable/payable. In the latter case it would have to de-designate at that point even though there is an economic hedge until settlement date.*

## Result of hedge accounting

To summarise the result that was achieved through application of hedge accounting:

- The option ended out of the money. As such revenue was recorded at the spot rate at the date of sale and a gain was recognised on the receivable.
- The time value at inception of the option was partly recognised when the sale occurred. The amount reclassified at that point was equal to the loss on time value at the date of recognition of the sale (3,186,036).
- The remaining time value covers the period from sale to settlement of the receivable and is recognised in the income statement over the period when the receivable exists (19,981).

The detailed entries are reflected in the table on the next page.

*Balance sheet and income statement*

	Balance sheet										Income statement	
	Derivative instrument		OCI – Hedge reserve		OCI – Time value		Receivable		Cash (USD and EUR)		DR	CR
	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR		
<b>1/1/20x1</b>												
<b>Inception of FX option (premium)</b>	3,186,036										3,186,036	
<b>30/6/20x1</b>												
<b>CFH accounting</b>	1,163,453			3,474,607	2,311,154							
<b>31/12/20x1</b>												
<b>CFH accounting</b>		2,881,896	3,474,607		592,711							
<b>30/6/20x2</b>												
<b>Recognition of sale</b>								47,706,130				47,706,130
<b>CFH accounting</b>		1,447,612			1,447,612							
<b>Reclassification</b>							3,166,055				3,166,055	
<b>31/7/20x2</b>												
<b>Fair value movement</b>		19,981									19,981	
<b>Revaluation receivable</b>								1,058,499				1,058,499
<b>Receipt Receivable</b>								48,764,629	48,764,629			
<b>Total</b>	-		-		-	-			<b>45,578,593</b>			<b>45,578,593</b>

*Statement of changes in equity*

	OCI hedge reserve	OCI Costs of hedging	Retained earnings and other reserves
Profit for the year	-	-	-
Fair value on cash flow hedges	-	(1,718,443)	-
<b>Equity as at 31/12/20x1</b>	<b>-</b>	<b>(1,718,443)</b>	<b>-</b>
Profit for the year	-	-	45,578,094
Fair value on cash flow hedges	-	(1,447,612)	-
Reclassification cash flow hedge reserve	-	3,166,055	-
<b>Equity as at 31/12/20x2</b>	<b>-</b>	<b>-</b>	<b>45,578,094</b>

## Illustration 3: Hedge of net foreign currency position comprising offsetting risk positions

### Background and assumptions

Company C is a Swiss company with a CHF functional currency. Its reporting dates are 30 June and 31 December.

Company C produces and sells production parts for the automotive industry. The company hedges the net amount of payments and receipts of foreign currency on a monthly basis. The company has 14.5 m of highly probable EUR receipts and 4.25 m of highly probable EUR payments in February 20x6 from purchases and sales with long standing customers and suppliers. Based on the payment terms and past experience, Company C expects that the settlement of these purchases and sales will be made at the end of February 20x6.

On 1 February 20x5, Company C's management decides to hedge the foreign currency risk arising from the net position of the highly probable purchases and sales. It hedges the net 10.25 m exposure with an FX forward contract selling EUR and buying CHF. The hedged item is represented by:

Highly probable purchases of raw materials and related payable (settlement expected on 28 February 20x6)	(4,250,000)	EUR
Highly probable sales of finished goods and related receivable (settlement expected on 28 February 20x6)	14,500,000	EUR
Net position	10,250,000	EUR

The expected timing is as follows:

Start of hedging transaction	1/2/20x5
Delivery of raw materials	30/11/20x5
Consumption of inventory	31/12/20x5
Sales	31/1/20x6
Payment and receipt and settlement of derivative	28/2/20x6

Exchange rates on various dates during the life of the hedge are as follows:

Exchange rates	1/2/20x5	30/6/20x5	30/11/20x5	31/12/20x5	31/1/20x6	28/2/20x6
CHF/EUR spot rate	1.3064	1.2071	1.2156	1.2112	1.2093	1.2050
CHF/EUR forward rate <sup>15</sup>	1.2923	1.1955	1.2134	1.2097	1.2081	1.2050
Forward points	(0.0139)	(0.0116)	(0.0022)	(0.0015)	(0.0012)	0.0000

<sup>15</sup> For a forward maturing on 28 February 20x6

The effective annual interest rates and discount factors applicable for discounting a cash flow on 28 February 20x6 at various dates during the hedge are as follows:

Interest rates and discount factors	1/2/20x5	30/6/20x5	30/11/20x5	31/12/20x5	31/1/20x6	28/2/20x6
CHF interest rates	0.1017%	0.0829%	0.0415%	0.0430%	0.0851%	0.0901%
EUR interest rates	1.1429%	1.5505%	1.1810%	1.0002%	0.9483%	0.9500%
CHF discount factor	0.9989	0.9994	0.9999	0.9996	0.9999	1.0000
EUR discount factor	0.9879	0.9898	0.9971	0.9917	0.9993	1.0000

### Helpful hint

*For simplification of this example the critical terms of the hedged item and the hedging instrument have been set to identical dates and matching nominal amounts, resulting in no ineffectiveness until there is a change e.g. in the expected timing during the lifetime of this hedge relationship.*

*IFRS 9 does not require that the hedge relationship is highly effective quantitatively (i.e. that the effectiveness ranges between 80% and 125%). However the requirements of IFRS 9 para 6.4.1 (b) require that the hedge documentation should state how the entity will assess whether the hedging relationship meets the hedge effectiveness requirements (including its analysis of the sources of hedge ineffectiveness). Company C chooses to do this based on matching critical terms of the hedging instrument and hedged item. Should the critical terms of the hedged cash flows or the FX forward change, then Company C would have to justify its expectation of continued economic effectiveness of the hedge relationship, and determine the ineffectiveness to be taken to profit or loss. This ineffectiveness could for example be measured with a hypothetical derivative reflecting the settlement date of the hedged item compared to that of the actual FX forward.*

*Furthermore, like IAS 39, IFRS 9 para 6.5.11 (a) requires that the hedging reserve should be adjusted to reflect the lower of the change in fair value of the FX forward and the change in value of the exposure since inception of the hedge. Therefore a quantitative analysis is still necessary to determine the amount of the cash flow hedge reserve.*

## Extracts from foreign currency risk management strategy

Company C's functional and presentation currency is the CHF (Swiss Franc). Company C is exposed to foreign exchange risk because some of its purchases and sales are denominated in currencies other than CHF. It is therefore exposed to the risk that movements in exchange rates will affect its cash flows, net income and financial position, as expressed in CHF.

Company C's foreign currency exposure arises from:

- Highly probable forecast transactions (sales/purchases) denominated in foreign currencies;
- Firm commitments denominated in foreign currencies; and
- Monetary items (mainly trade receivables and trade payables) denominated in foreign currencies.

Company C manages FX risk on a net basis. The net position consists of hedged items that individually are eligible hedged items (raw material purchases/trade payables and sales/trade receivables).

Company C is mainly exposed to EUR/CHF risks. Transactions denominated in foreign currencies other than EUR are presently considered as not material and are not hedged.

Company C's policy is to hedge all material foreign exchange risk associated with highly probable forecast transactions, firm commitments and monetary items denominated in foreign currencies using monthly buckets.

## *Extracts from hedging policies*

### *Hedging instruments*

Company C uses only forward contracts to hedge foreign exchange risk. All derivatives must be entered into with counterparties with a credit rating of A or higher.

### *Hedging relationship*

The hedge relationship is a hedge of foreign currency risk on a forward basis and the designation specifies the reporting period in which the forecast transactions are expected to affect profit or loss, their nature and volume. Since the hedged position includes offsetting risk positions the gains and losses on the hedging instrument are presented in a separate line from those on the hedged items.

### *Hedge documentation*

At the inception of a hedging relationship management should formally document the hedging relationship including:

- The risk management objective and strategy;
- Identification of the hedging instrument, the hedged item, the nature of the risk being hedged (EUR/CHF forward exposure) and potential sources of ineffectiveness; and
- Description of how management will assess whether the hedging relationship meets the hedge effectiveness requirements, including: (a) that there is an economic relationship between the hedged item and hedging instrument; (b) credit risk does not dominate the value changes that result from the economic relationship; and (c) the hedge ratio in the hedge relationship is the same as the quantity of the hedged item and of the hedging instrument that the entity actually uses for hedging purposes.

### *Hedge effectiveness*

Management assesses on an ongoing basis, whether the hedging relationship meets the hedge effectiveness requirements. At a minimum, Company C shall perform the ongoing assessment at each reporting date or upon a significant change in circumstances affecting the fulfilment of the hedge effectiveness requirements, whichever comes first. The assessment relates to expectations about hedge effectiveness and therefore is only forward-looking. For forecast transactions, the forward looking assessment should confirm that the transaction is still highly probable.

Consistent with Company C's risk management policy and the nature of the risk exposure, hedge effectiveness is assessed based on critical terms (amount, currency, maturity date). Management is therefore required to align the characteristics of the hedging instrument to those of the hedged item (nominal amount, currency and maturity). For practical purposes amounts are rounded to the closest 100,000 units of currency.

In the documentation, management will demonstrate on the basis of a qualitative assessment of the critical terms that the hedging instrument and the hedged item have values that will generally move in opposite directions.

### *Helpful hint*

*In this example the hedge designation is on a forward basis. If the hedge designation had been on a spot rate basis the entity could have chosen either to use the cost of hedging model or to expense the forward points in profit or loss. If the cost of hedging model was used the standard is not explicit on how the forward points should be allocated to the elements of the net position. As such it would be acceptable to either:*

- *Gross up the forward points and allocate the gross forward points to each of the hedged items as if two offsetting derivatives had been used as the hedging instruments, or*
- *Allocate the forward points to the position to which they are aligned. In this example all forward points would be allocated to the hedged sale and related receivable as this is the larger of the offsetting risk positions that comprise the net position.*

## Accounting entries

When determining the amounts that are recognised in the cash flow hedge reserve under the ‘lower of’ test<sup>16</sup>, the amount shall consider the changes in the value of the items in the net position that have a similar effect as the hedging instrument (that will generally be the smaller of the two gross exposures that make up the hedged net position) in conjunction with the fair value change on the hedging instrument (IFRS 9 para B6.6.9). It compares the sum of these to the change in the fair value of the items in the net position that do not have a similar effect as the hedged item (that will generally be the larger of the two gross exposures that make up the hedged net position). In this case Entity C is hedging the net position of sales equal to EUR 14,500,000 and purchases of EUR 4,250,000 with a derivative of notional EUR 10,250,000. So Entity C compares:

1. The fair value changes of the forward contract (notional of EUR 10,250,000) plus the changes in value due to the hedged foreign currency risk of the highly probable forecast purchases and related payable which have a similar effect as the hedging instrument (EUR 4,250,000); with
2. Changes in value due to the hedged foreign currency risk of the highly probable forecasted sales and related receivable (EUR 14,500,000).

However, the changes in the value of the highly probable forecast purchases and related payable are recognised only once the transactions they relate to are recognised, such as when delivery is made as explained further below.

If the criteria for applying cash flow hedge accounting are met, the accounting entries during the duration of the hedge are as follows:

- The change in fair value of the hedging instrument due to the change in forward FX rate is recognised in other comprehensive income (and then in the cash flow hedge reserve in equity). The entity recognises only amounts on the forward exchange contract (and not those on the hedged purchases and sales) until the highly probable forecast sales transactions are recognised, at which time the changes relating to the forecast sales which have been deferred in the cash flow hedge reserve are recycled to profit or loss.
- The hedged purchases and related payable are recognised at the prevailing spot rate (in accordance with IAS 21). A basis adjustment is then applied to the amount of inventory to include in the initial carrying amount the FX gain/loss on the amount of purchases included in the hedged net position. Subsequently, when inventory is recognised in profit or loss as cost of goods sold, the hedge adjustment is presented in a separate line item such as ‘effects of hedging’.
- The hedged sales and related receivable are recognised at the prevailing spot rate (in accordance with IAS 21). The gains and losses on the hedging instrument (i.e. the forecast purchases plus the foreign exchange forward) attributable to the hedged sales are reclassified to profit and loss when the sales affect profit and loss and are presented in a separate line item such as ‘effects of hedging’.

### Helpful hint

*If a group of items does not have offsetting risk positions then an entity can present the hedging gains or losses in the same line item as those that include the hedged items in the statement of profit or loss (or other comprehensive income if the entity is hedging an asset measured at fair value through other comprehensive income).*

<sup>16</sup> IFRS 9 para 6.5.11 requires that the lower of the cumulative gain or loss on the hedging instrument and the cumulative change in fair value of the hedged item is recognised through other comprehensive income in a separate component of equity.

## Extracts from hedge documentation

Company C's hedge documentation is as follows:

### *Risk management objective*

In order to comply with Company C's foreign exchange risk management strategy, the net foreign exchange risk arising from the highly probable forecast transactions and related payable and receivable as detailed below is hedged.

### *Hedging relationship*

Cash flow hedge: hedge of the foreign currency risk arising from highly probable sales and purchases hedged on a net basis.

### *Nature of risk being hedged*

The hedged risk is the forward EUR/CHF exchange rate risk arising from highly probable forecast sales and purchases denominated in EUR that are expected to occur in November 20x5 and January 20x6 and to be settled on 28 February 20x6. Company C hedges the net foreign exchange exposure associated with the cash flows required to realise the receivable for the sale and settle the payable for the raw materials purchase.

### *Identification of hedged item*

Hedged transactions and amounts: a net EUR 10,250,000 consisting of

- The first 20,000 units of highly probable purchase of raw material (type PO997) with a unit price of EUR 212.50 amounting to EUR 4,250,000 and
- The first 25,000 units of highly probable sales of finished goods (type DE12) with a unit price of EUR 580 amounting to EUR 14,500,000.

The timeline of the FX exposures and the related hedging instrument is as follows:

<b>Delivery of raw materials</b>	30/11/20x5
<b>Consumption of inventory</b>	31/12/20x5
<b>Sales</b>	31/1/20x6
<b>Payment and of trade payable and receipt of trade receivable</b>	28/2/20x6

### *Helpful hint*

*When a group of items that constitutes a net position is designated as a hedged item, an entity shall designate the overall group of items that includes the items that can make up the net position. An entity is not permitted to designate a non-specific abstract amount of a net position. An entity shall designate gross positions that give rise to the net position so that the entity is able to comply with the requirements for the accounting for qualifying hedging relationships (IFRS 9 paras B6.6.4 and B6.6.8).*

### *Rationale for the forecast transactions being highly probable to occur:*

- Long-standing relationship with the supplier and customer, associated with reliable delivery and buying patterns;
- High quality of forecasts of the respective sales and purchasing departments, as supported by past history of forecasts being met; and
- Clearly structured procurement and sales agreements.

## Identification of hedging instrument

Transaction number: reference number DBF0815 in the treasury management system.

The hedging instrument is a forward contract to sell EUR 10,250,000 with the following characteristics:

<b>Type</b>	Forward contract
<b>Amount sold</b>	EUR 10,250,000
<b>Amount purchased</b>	CHF 13,246,075
<b>Forward rate at inception</b>	1 EUR = 1.2923 CHF
<b>Spot rate at inception</b>	1 EUR = 1.3064 CHF
<b>Start date</b>	1/2/20x5
<b>Maturity date</b>	28/2/20x6

The entire change in fair value of the forward contract DBF0815 is designated as the hedging instrument, including forward points.

## Hedge effectiveness

In order to qualify for hedge accounting, the following effectiveness requirements have to be fulfilled.

### Economic relationship

As per 'the risk management policies for foreign currency risk policy', critical terms shall be applied to assess qualitatively the economic relationship between the hedging instrument and the hedged items.

The hedged items create a net exposure to buy EUR10.25m and sell CHF at the payment date. The forward contract to sell EUR for CHF on the payment date creates an offset for these two transactions.

As the EUR notional of the derivative of 10.25 m EUR together with the designated purchases and related payable of 4.25 m EUR exactly match the designated sales and related receivable of 14.5 m EUR, management assessed that an economic relationship exists.

### Effect of credit risk

As credit risk is not part of the hedged risk, the credit risk of Company C only impacts value changes of the hedging instrument.

Credit risk arises from the credit rating of Company C and the counterparty to the forward contract, Bank ABC. Group Treasury monitors the company and the bank's credit risk for adverse changes. The risk associated with Company C and the bank is considered minimal and does not dominate the value change. Credit risk will be re-assessed in cases where there is a significant change in either party's circumstances.

### Hedge ratio

To comply with the risk management policy, the hedge ratio is 1:1 or 100% at the date of inception of the hedge.

### Sources of ineffectiveness

The following potential sources of ineffectiveness are identified:

- Changes in timing of the payment of any of the two items constituting the hedged item;
- Reduction in the total amount or price of any of the two items constituting the hedged item;; and
- A change in the credit risk of Company C or the counterparty to the forward contract.

**Helpful hint**

*The impact of foreign currency basis spreads has been ignored for simplification purposes. However, in reality this would represent a source of ineffectiveness in the relationship (IFRS 9 para B6.5.5) unless it is excluded from the designated hedging instrument (see FAQ 3.7).*

**Frequency of assessing hedge effectiveness:**

Hedge effectiveness is assessed at inception of the hedge, at each reporting date (30 June and 31 December) and upon a significant change in the circumstances affecting the hedge effectiveness requirements.

**Effectiveness tests and accounting entries****1 February 20x5****Hedge effectiveness assessment**

As described in the hedge documentation, the hedging instrument and the hedged transactions offset each other in currency terms and in amounts, meaning there is a clear economic relationship between the hedging instrument and hedged item as required under IFRS 9. Thereby, management qualitatively demonstrates that the hedging instrument and the hedged items will move equally in the opposite direction.

As the credit rating of the counterparty to the derivative is high and Company C's credit risk is considered to be good, the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge is expected to be highly effective.

No entry, as the fair value of the forward contract is nil, as shown below:

Derivative as at 1/2/20x5		
Notional amount in EUR	(10,250,000)	EUR
Forward rate	1.2923	CHF/EUR
EUR notional in CHF (A)	(13,246,075)	CHF
Notional amount in CHF (B)	13,246,075	CHF
A+B	0	CHF
Discount factor CHF	0.9989	
FV of the CHF leg (B)	0	CHF

For the purposes of this illustrative example, counterparty credit risk is assumed to have an insignificant impact on the valuation of the forward contract.

**30 June 20x5****Hedge effectiveness assessment**

As described in the hedge documentation, the hedging instrument and the hedged transactions offset each other in currency terms and in amounts, meaning there is a clear economic relationship between hedging instrument and hedged item as required under IFRS 9. Thereby, management qualitatively demonstrates that the hedging instrument and the hedged items will move in the opposite direction.

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** the hedge is expected to be highly effective.

*Fair value of derivative<sup>17</sup>*

All the criteria for hedge accounting are met for the period ended 30 June 20x5. Cash flow hedge accounting can therefore be applied. The fair value of the hedging instrument on 30 June 20x5 is as follows:

Derivative as at 30/6/20x5		
Notional amount in EUR	(10,250,000)	EUR
Forward rate	1.1955	EUR/CHF
EUR notional in CHF (A)	(12,253,875)	CHF
CFH contracted amount (B)	13,246,075	CHF
A+B	992,200	CHF
Discount factor CHF	0.9994	
FV	991,605	CHF

The lower of test is performed by comparing the change in the fair value of the derivative together with the change in the value of the forecasted purchase and related payable (due to the change in the hedged forward rate) to the change in the value of the forecast sale and related receivable (due to the change in the hedged forward rate). To calculate the change in the value of the forecast transaction the hypothetical derivative method is used. As the critical terms match the hypothetical derivative has the same terms as the hedging derivative.

Type	Hypo for purchase	Hypo for sales
Amount sold	EUR 4,250,000	CHF 18,738,350
Amount purchased	CHF 5,492,275	EUR 14,500,000
Forward rate at inception	1 EUR = 1.2923 CHF	1 EUR = 1.2923 CHF
Start date	1/2/20x5	1/2/20x5
Maturity date	28/2/20x6	28/2/20x6

The value of the hypothetical derivative is as follows:

Hypotheticals at 30/6/20x5	Hypo purchases	Hypo sales	
Notional amount in EUR	(4,250,000)	14,500,000	EUR
Forward rate	1.1955	1.1955	EUR/CHF
EUR notional in CHF (A)	(5,080,875)	17,334,750	CHF
CFH contracted amount (B)	5,492,275	(18,738,350)	CHF
A+B	411,400	(1,403,600)	CHF
Discount factor CHF	0.9994	0.9994	
FV	411,153	(1,402,758)	CHF

<sup>17</sup> For the purposes of this example, currency basis has been ignored.

The lower of test is performed as follows:

Lower of test		
Change in hedging derivative	991,605	CHF
Change in hypo – purchases	411,153	CHF
<b>Total</b>	<b>1,402,758</b>	<b>CHF</b>
Change in hypo – sales	(1,402,758)	CHF
<b>Lower of</b>	<b>1,402,758</b>	<b>CHF</b>

Only the amounts related to the forward contract are recognised until the highly probable forecast transactions are recognised. The entry is as follows:

	DR	CR	
Derivative	991,605		CHF
OCI – Cash flow hedge reserve <sup>18</sup>		991,605	CHF
Recognition of change in fair value (CHF): (991,605 – 0 = 991,605)			CHF

### 30 November 20x5

#### Hedge effectiveness assessment on 30 November 20x5

As described in the hedge documentation, the hedging instrument and the hedged transactions offset each other in currency terms and in amounts, meaning there is a clear economic relationship between hedging instrument and hedged items as required under IFRS 9. Thereby, management qualitatively demonstrates that the hedging instrument and the hedged items will move equally in the opposite direction.

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** the hedge is expected to be highly effective.

#### Fair value of derivative

The fair value of the hedging instrument on 30 November 20x5 is as follows:

Derivative as at 30/11/20x5		
Notional amount in EUR	(10,250,000)	EUR
Forward rate	1.2134	EUR/ CHF
<b>EUR notional in CHF (A)</b>	<b>(12,437,350)</b>	<b>CHF</b>
CFH contracted amount (B)	13,246,075	CHF
<b>A+B</b>	<b>808,725</b>	<b>CHF</b>
Discount factor CHF	0.9999	
<b>FV</b>	<b>808,644</b>	<b>CHF</b>

<sup>18</sup> Please note that the assumed ineffectiveness due to credit risk is 0. The hypothetical derivative would have no credit risk. The forward is entered into with a bank that has a rating of A or higher and the time to maturity is limited. The credit risk associated with Company H is also considered limited. Due to these aspects this example assumes the CVA DVA is not material. Further, for the purpose of this example, currency basis has been ignored.

The lower of test is performed by comparing the change in the fair value of the derivative together with the change in the value of the forecasted purchase and related payable (due to the change in the hedged forward rate) to the change in the value of the forecast sale and related receivable (due to the change in the hedged forward rate). To calculate the change in the value of the forecast transaction the hypothetical derivative method is used. As the critical terms match the hypothetical derivative has the same terms as the hedging derivative.

The value of the hypothetical derivative is as follows:

Hypothetical at 30/11/20x5	Hypo purchases	Hypo sales	
Notional amount in EUR	(4,250,000)	14,500,000	EUR
Forward rate	1.2134	1.2134	EUR/ CHF
EUR notional in CHF (A)	(5,156,950)	17,594,300	CHF
CFH contracted amount (B)	5,492,275	(18,738,350)	CHF
A+B	335,325	(1,144,050)	CHF
Discount factor CHF	0.9999	0.9999	
FV	335,291	(1,143,935)	CHF

The lower of test is performed as follows:

Lower of test		
Change in hedging derivative		808,644 CHF
Change in hypo – purchases		335,291 CHF
Total		1,143,935 CHF
Change in hypo – sales		(1,143,935) CHF
Lower of		1,143,935 CHF

Only the amounts related to the forward contract are recognised until the highly probable forecast transactions are recognised. The entry is as follows:

	DR	CR	
OCI – Cash flow hedge reserve <sup>19</sup>	182,961		CHF
Derivative		182,961	CHF
Recognition of change in fair value (CHF): $808,644 - 991,605 = (182,961)$			

### *Recognition of the raw material purchase on 30 November 20x5*

	DR	CR	
Inventory (raw material)	5,166,300		CHF
Trade payable		5,166,300	CHF
Recognition of raw material $4,250,000 \times 1.2156$			

<sup>19</sup> Please note that this example assumes that ineffectiveness due to credit risk is 0. The hypothetical derivative would have no credit risk. The forward is entered into with a bank that has a rating of A or higher and the time to maturity is limited.

### Reclassification related to purchase

The effect of applying hedge accounting to the forecasted purchase is recognised at the time inventory is recognised. This ensures a basis adjustment is performed. The amount reclassified from the hedge reserve to the inventory balance is determined using the hypothetical derivative method.

The value of the hypothetical derivative related to the purchase of inventory is calculated as 335,291. Therefore this amount is recognised as a basis adjustment. This amount is offset by an equal hedging adjustment related to the forecasted sales that will be recognised when the sales are recorded in profit and loss.

	DR	CR	
Inventory (raw material)	335,291		CHF
OCI – Cash flow hedge reserve (release)		335,291	CHF
<b>Reclassification</b>			

### 31 December 20x5

#### Hedge effectiveness assessment on 31 December 20x5

As described in the hedge documentation, the hedging instrument and the hedged transactions offset each other in currency terms and in amounts, meaning there is a clear economic relationship between hedging instrument and hedged items as required under IFRS 9. Thereby, management qualitatively demonstrates that the hedging instrument and the hedged items will move equally in the opposite direction.

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** the hedge is expected to be highly effective.

#### Fair value of derivative and revalue payable

The fair value of the hedging instrument on 31 December 20x5 is as follows:

Derivative as at 31/12/20x5			
Notional amount in EUR	(10,250,000)		EUR
Forward rate		1.2097	EUR/CHF
EUR notional in CHF (A)	(12,399,425)		CHF
CFH contracted amount (B)		13,246,075	CHF
A+B		846,650	CHF
Discount factor CHF		0.9996	
FV		846,311	CHF

As of 30 November onwards the net position hedged consists of a trade payable and a forecasted sale transaction. As per IFRS 9 para B6.2.3 the foreign currency risk component of a monetary item is calculated following IAS 21. As such, the lower of test is performed by comparing the fair value change in the derivative together with the retranslation of the payable to the change in value of the forecast sales. To calculate the change in value of the forecast transaction the hypothetical derivative method is used. As the critical terms match the hypothetical derivative has the same terms as the hedging derivative.

The value of the hypothetical derivatives are as follows:

Hypothetical at 31/12/20x5		Hypo sales	
Notional amount in EUR		14,500,000	EUR

Forward rate	1.2097	EUR/CHF
EUR notional in CHF (A)	17,540,650	CHF
CFH contracted amount (B)	(18,738,350)	CHF
A+B	(1,197,700)	CHF
Discount factor CHF	0.9996	
FV	(1,197,221)	CHF

IAS 21 revaluation of payable	Payable	
CHF value at 31/12/20x5	(5,147,600)	CHF
CHF value at 30/11/20x5	(5,166,300)	CHF
IAS 21 change	18,700	CHF

The lower of test is performed as follows:

Lower of test		
Change in hedging derivative	846,311	CHF
Change in hypo – purchases	335,291	CHF
Change in trade payable	18,700	CHF
Total	1,200,302	CHF
Change in hypo – sales	(1,197,221)	CHF
Lower of	1,197,221	CHF

As such the journal entry is as follows.

	DR	CR
Derivative	37,667	CHF
Trade payable	18,700	CHF
OCI – Cash flow hedge reserve		53,286
Ineffectiveness		3,081
Recognition of revaluation of trade payable and derivative. The effective portion is determined using the lower of test as shown above.		

### *Sale of inventory*

On 31 December the inventory that was part of the hedged net position is sold. As such, the inventory is recognised in profit and loss as cost of goods sold. The hedging adjustment included in the inventory carrying value is presented separately in the income statement.

	DR	CR
Change in inventory (presented using nature of expense method)	5,166,300	CHF
Effect of hedging	335,291	CHF
Inventory (raw material)		5,501,591
Recognition of inventory consumption		

## 31 January 20x6

### Hedge effectiveness assessment on 31 January 20x6

As described in the hedge documentation, the hedging instrument and the hedged transactions offset each other in currency terms and in amounts, meaning there is a clear economic relationship between hedging instrument and hedged items as required under IFRS 9. Thereby, management qualitatively demonstrates that the hedging instrument and the hedged items will move equally in the opposite direction.

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** the hedge is expected to be highly effective.

### Fair value of derivative and revalue payable

The fair value of the hedging instrument on 31 January 20x6 is as follows:

Derivative as at 31/1/20x6		
Notional amount in EUR	(10,250,000)	EUR
Forward rate	1.2081	EUR/CHF
EUR notional in CHF (A)	(12,383,025)	CHF
CFH contracted amount (B)	13,246,075	CHF
A+B	863,050	CHF
Discount factor CHF	0.9999	
FV	862,992	CHF

Similar to the previous period, the net position for this month consists of a trade payable and a forecasted sale transaction. As such the lower of test is performed by comparing the fair value change in the derivative together with the value change of the payable to the change in value of the forecasted sales. To calculate the change in the forecasted transaction the hypothetical derivative method is used. As the critical terms match the hypothetical derivatives have the same terms as the hedging derivative.

The value of the hypothetical derivatives are as follows:

Hypotheticals at 31/1/20x6		
Notional amount in EUR	14,500,000	EUR
Forward rate	1.2081	EUR/CHF
EUR notional in CHF (A)	17,517,450	CHF
CFH contracted amount (B)	(18,738,350)	CHF
A+B	(1,220,900)	CHF
Discount factor CHF	0.9999	
FV	(1,220,818)	CHF

IAS 21 revaluation of payable		
CHF value at 31/1/20x6	(5,139,525)	CHF
CHF value at 31/12/20x5	(5,147,600)	CHF
IAS 21 change	8,075	CHF

The lower of test is performed as follows:

Lower of test		
Change in hedging derivative	862,992	CHF
Change in hypo – purchases	335,291	CHF
Change in trade payable	26,775	CHF
<b>Total</b>	<b>1,225,058</b>	<b>CHF</b>
Change in hypo – sales	(1,220,818)	CHF
<b>Lower of</b>	<b>1,220,818</b>	<b>CHF</b>

### Helpful hint

*Note that the lower of test has been performed on a cumulative basis, as is normally the case in practice because it is likely to give better effectiveness than performing the test on a period-by-period basis. However, it does look unusual in this example because this is a hedge of a net position and therefore the previous change in the hypothetical derivative for inventory purchases is still included in the effectiveness calculation and has not yet been released from equity even though the inventory has already been purchased. The adjustment (335,291) will be released when the sales are recorded through profit or loss.*

As such the journal entry is as follows.

	DR	CR
Derivative	16,681	CHF
Trade payable	8,075	CHF
OCI – Cash flow hedge reserve		23,597 CHF
Ineffectiveness		1,159 CHF
Recognition of revaluation of trade payable and derivative. The effective portion is determined using the lower of test shown above.		

### Recognition of the sales

The entry is as follows:

	DR	CR
Trade receivable	17,534,850	CHF
Sales		17,534,850 CHF
Recognition of sales 14,500,000*1.2093		

### Reclassification related to sales

As described above (Accounting entries), the cash flow hedge reserve is reclassified in the same period or periods during which the hedged item affects profit and loss. The forecast sale affects profit and loss as of 31 January 20x6 (this example assumes all revenue recognition criteria are met as of this date). The hedge adjustment is calculated based on the movement of the hypothetical derivative related to the sales. This is 1,220,818 which because of the lower of test performed, is exactly equal to the balance remaining in the hedge reserve (consisting of the effective portion of the revaluation of the derivative and the trade payable).

The entry is as follows:

	DR	CR	
OCI – Cash flow hedge reserve (release)	1,220,818		CHF
Effect of hedging		1,220,818	CHF
Hedge adjustment related to sales			

### Helpful hint

*If the group of items in a hedge of a net position have offsetting risk positions, the hedging gain or loss must be presented in a separate line item. In this example, the gain reclassified from reserves is presented in a separate line item to the related revenue.*

## 28 February 20x6

### Revaluation of the derivative and translation of the trade receivable and the trade payable

The fair value of the hedging instrument on 28 February 20x6 is as follows:

Derivative as at 28/2/20x6		
Notional amount in EUR	(10,250,000)	EUR
Forward rate	1.205	EUR/CHF
EUR notional in CHF (A)	(12,351,250)	CHF
CFH contracted amount (B)	13,246,076	CHF
A+B	894,826	CHF
Discount factor CHF	1.0000	
FV	894,826	CHF

From 31 January onward the forecasted sale has resulted in a receivable and as such the net position now consists of a trade payable and a trade receivable, the net of which is hedged using a foreign currency forward. As such the lower of test is performed by comparing the fair value change in the derivative together with the value change of the payable to the translation of the trade receivable.

The retranslation of the payable and the receivable are as follows:

IAS 21 revaluation	Receivable	Payable	
CHF value at 28/2/20x6	17,472,500	(5,121,250)	CHF
CHF value at 31/1/20x6	17,534,850	(5,139,525)	CHF
IAS 21 change	(62,350)	18,275	CHF

The lower of test is performed as follows:

Lower of test			
Change in hedging derivative		894,826	CHF
Change in hypo – purchases		335,291	CHF
Change in trade payable		45,050	CHF
Total		1,275,167	CHF
Change in hypo – sales		(1,220,818)	CHF
Change in trade receivable		(62,350)	CHF
Lower of		1,275,167	CHF

As such the journal entry is as follows:

	DR	CR	
Derivative	31,834		CHF
Trade payable	18,275		CHF
Trade receivable		62,350	CHF
OCI – Hedge reserve		54,349	CHF
Ineffectiveness	12,241		CHF
OCI – Hedge reserve (release)	54,349		CHF
Recognition of revaluation of trade payable and derivative. The effective portion is determined using the lower of test shown above.			

### *Settlement of derivative*

	DR	CR	
CHF Cash	13,246,076		CHF
EUR Cash		12,351,250	CHF
Derivative		894,826	CHF
Settlement of derivative EUR cash is 10,250,000 * 1.205			

### *Settlement of trade receivable*

	DR	CR	
EUR Cash	17,472,500		CHF
Trade receivable		17,472,500	CHF
Settlement of trade receivable 14,500,000*1.205			

### *Settlement of trade payable*

	DR	CR	
Trade payable	5,121,250		CHF
EUR Cash		5,121,250	CHF
Settlement of trade payable 4,250,000*1.205			

## Result of hedge accounting

To summarise the result that was achieved with the hedge accounting:

- Inventory of CHF 5,166,300 was recognised at the spot rate on the date of purchase and a basis adjustment of CHF 335,291 was made to the cost of the inventory. The cost of inventory is not recognised at the hedged rate. This is because the hedge relationship was designated on a forward basis and the inventory is recognised part way through the life of the hedge.
- When the inventory is sold, the amount recognised in costs of sales is CHF 5,166,300, which is the same as if hedge accounting had not been applied. The basis adjustment of CHF 335,291 is recognised in a separate line item in profit or loss.
- Revenue of CHF 17,534,850 on the sales is recognised at the spot rate on the date of sale and an amount of CHF 1,220,818 is released from the cash flow hedge reserve and recognised in a separate line item in profit or loss. Similar to the point in the first bullet above, the result is that total income arising on the sale transaction is not recognised at the hedged rate. This is because the hedge relationship was designated on a forward basis and the sale is recognised part way through the life of the hedge.
- Once the payable for the inventory and subsequently the receivable for the sales are recognised, ineffectiveness arises. This is because the foreign exchange gain or loss on monetary assets and liabilities is determined based on IAS 21 which uses a spot rate. But, the hedging relationship was designated on a forward basis.
- Even though the purchase of inventory and the sale are at different times, Company C is still able to hedge the net position, but this requires a disaggregation of the purchases and sales by the reporting periods in which they are expected to affect profit or loss.

The detailed entries are reflected in the table on the next page.

### Helpful hint

*The example above is relatively straight forward as there is only one purchase and one sale, albeit in different periods. The example demonstrates some of the complexity of applying the IFRS 9 requirements for hedging a net position and that the impact of hedge accounting is not reflected in the same line item as the underlying transaction when it affects profit or loss. As a result, companies might still choose to designate the derivative as hedging part of the gross position (CHF 10,250,000 of the sales in this example).*

*Balance sheet and income statement*

	Balance sheet										Income statement									
	EUR cash/CHF cash		Derivative		Inventory		Trade payable/receivables		OCI-cash flow hedge reserve		Revenue		COGS		Hedge result		Ineffectiveness			
	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR		
<b>30/6/20x5</b>																				
Fair value derivative			991,605						991,605											
<b>30/11/20x5</b>																				
Fair value derivative			182,961						182,961											
Delivery					5,166,300				5,166,300											
Reclassification					335,291				335,291											
<b>31/12/20x5</b>																				
Fair value and retranslation			37,667				18,700		53,286										3,081	
Inventory consumption					5,501,591								5,166,300		335,291					
<b>31/1/20x6</b>																				
Fair value and retranslation			16,681				8,075		23,597										1,159	
Recognition sales							17,534,850						17,534,850							
Reclassification									1,220,818										1,220,818	
<b>28/2/20x6</b>																				
Fair value and retranslation			31,834				18,275	62,350	54,349	54,349									12,241	
Settlement derivative	13,246,076	12,351,250		894,826																
Receipt receivable	17,472,500								17,472,500											
Payment payable		5,121,250					5,121,250													
<b>Total</b>	<b>13,246,076</b>			-		-			-				<b>17,534,850</b>	<b>5,166,300</b>				<b>885,527</b>	<b>8,001</b>	

*Statement of changes in equity*

	OCI – Hedge reserve Dr/(Cr)	Retained earnings and other reserves Dr/(Cr)
Profit for the year		5,498,510
Fair value on cash flow hedges	(808,644)	
Recycling of cash flow hedge reserve	(335,291)	
Equity as at 31/12/20x5	<b>(1,143,935)</b>	5,498,510
Profit for the year		(18,743,427)
Fair value on cash flow hedges	(127,016)	
Recycling of cash flow hedge reserve	1,270,951	
Equity as at 31/12/20x6	<b>0</b>	<b>13,244,197</b>

## ***Illustration 4: Hedge of a floating rate borrowing with a floating to fixed swap***

### ***Background and assumptions***

Company D is a UK based company with a GBP functional currency. Its reporting dates are 30 June and 31 December.

On 1 July 20x2, Company D borrows £500m at LIBOR + 300 basis points ('credit spread') from Bank B to finance a major acquisition. Interest will be paid semi-annually on 31 December and 30 June. The debt matures on 30 June 20x5. No transaction costs are incurred on issuing the debt.

Company D's management expects the six-month LIBOR rate to increase in the near term and wishes to 'lock in' the present interest rate for its floating rate borrowing. On 1 July 20x2, Company D enters into a £500m interest rate swap to receive six-month LIBOR and pay 2% fixed interest.

The variable leg of the swap is pre-fixed/post-paid (i.e. payments are set at the beginning of each six-month period and paid in arrears) on 31 December and 30 June each year. The fair value of the swap is nil at the inception of the hedge. The swap matures on 30 June 20x5.

### ***Extracts from interest rate risk management policies***

Company D is exposed to interest rate risk on interest bearing debt and investments. Company D manages its exposure to interest rate risk through the proportion of fixed and variable rate net debt in its total net debt portfolio. Such a proportion is determined twice per year by Company D's board of directors on the recommendation of its financial risk committee.

To manage this proportion of fixed and variable rate net debt, Company D may enter into any of the following derivative financial instruments: interest rate swaps; forward starting interest rate swaps; and purchased interest rate caps.

All derivatives must be entered into with counterparties with a credit rating of AA or higher.

### ***Extracts from hedging policies***

#### ***Hedging instruments***

The interest rate swap is a derivative measured at fair value and is designated in the hedging relationship in its entirety, therefore the hedging instrument is eligible for hedge accounting.

#### ***Hedging relationship***

The hedged item is designated as the variability of the cash flows of the specific debt instrument arising from the future changes in the six-month LIBOR rate, which is an eligible hedged item.

## *Hedge documentation*

At the inception of a hedging relationship management should formally document the hedging relationship including:

- The risk management objective and strategy;
- Identification of the hedging instrument, the hedged item, the nature of the risk being hedged (LIBOR exposure) and potential sources of ineffectiveness; and
- Description of how management will assess whether the hedging relationship meets the hedge effectiveness requirements, including: (a) that there is an economic relationship between the hedged item and hedging instrument; (b) credit risk does not dominate the value changes that result from the economic relationship; and (c) the hedge ratio in the hedge relationship is the same as the quantity of the hedged item and of the hedging instrument that the entity actually uses for hedging purposes.

## *Hedge effectiveness*

Management assess whether the hedging relationship meets the effectiveness criteria at the inception of the hedging relationship, on an ongoing basis at each reporting date and upon a significant change in the circumstances effecting the hedge requirements. The assessment relates to expectations about hedge ineffectiveness and offsetting and therefore is only forward looking.

Consistent with Company D's risk management policy and nature of risk exposure, hedge effectiveness is assessed on critical terms (amount, interest rate, interest settlement dates, currency, and maturity date). Management is therefore required to align the characteristics of the hedging instrument to those of the hedged item.

In the hedge documentation management will demonstrate on the basis of a qualitative assessment of the critical terms that the hedging instrument and the hedged item have values that will generally move in opposite directions.

## *Accounting entries*

If the criteria for applying cash flow hedge accounting are met, the accounting entries throughout the duration of the hedge relationship are as follows:

- To the extent that the relationship is effective, the change in fair value of the hedging instrument is recognised in other comprehensive income and accumulated in a separate reserve in equity (hedge reserve);
- When the underlying hedged item impacts profit or loss (i.e. LIBOR-based interest is charged to the income statement in respect of the £500m loan), an amount is recycled from the hedge reserve to offset this impact in profit and loss, and;
- Any ineffectiveness is recognised in the income statement immediately.

## *Extracts from hedge documentation*

Company D's hedge documentation is as follows:

### *Risk management objective and strategy*

For 20x2 through to 20x5, Company D's board of directors, on the recommendation of the financial risk committee, has decided to maintain a ratio of fixed and floating rate net debt of between 70:30 and 60:40. In order to meet this ratio, management has decided to 'fix' the interest rate of the debt issued on 1 July 20x2.

### *Hedging relationship*

Cash flow hedge: Hedge of interest rate risk arising on variable interest payable on bank debt. Hedged with receive variable rate and pay fixed interest rate swap.

## *Nature of risk being hedged*

Interest rate risk: variability in coupons paid on the debt issued on 1 July 20x2 (or any replacement debt with similar characteristics) attributable to movements in six-month LIBOR.

Credit risk on the debt is not designated as part of the hedge relationship.

## *Identification of hedged item*

Transaction number: D009 – GBP debt issued (and any replacement debt with similar characteristics to the extent refinanced before maturity)

The hedged item is the interest cash flows on the GBP 500m debt with a coupon of six-month LIBOR + credit spread, paid semi-annually on 31 December and 30 June.

<b>Type</b>	Bank loan
<b>Notional amount</b>	GBP 500m
<b>Issue date</b>	1/7/20x2
<b>Maturity date</b>	30/6/20x5
<b>Interest rate</b>	Six-month LIBOR + 300 basis points

Settlement dates 31 December 20x2, 30 June 20x3, 31 December 20x3, 30 June 20x4, 31 December 20x4, 30 June 20x5.

## *Identification of hedging instrument*

Transaction number: reference number IRS123 in the treasury management system.

The hedging instrument is an interest rate swap with the following characteristics:

<b>Type</b>	Interest rate swap
<b>Notional amount</b>	GBP 500m
<b>Transaction date</b>	1/7/20x2
<b>Start date</b>	1/7/20x2
<b>Maturity date</b>	30/6/20x5
<b>Cash flows</b>	Receive six-month LIBOR, pay 2.00%
<b>Settlement dates</b>	31 December and 30 June

## *Hedge effectiveness*

In order to qualify for hedge accounting, the following effectiveness requirements have to be fulfilled.

### *Economic relationship*

The hedged item creates an exposure to pay six-month Libor interest on £500m notional, settled six monthly from 31 December 20x2 thorough to 30 June 20x5. The interest rate swap on the same notional creates an equal and opposite interest receipt and a fixed interest payment, therefore creating an exact offset for this transaction resulting in a net fixed interest payable.

### *Effect of credit risk*

As credit risk is not part of the hedged risk, the credit risk of Company D only impacts value changes of the hedging instrument.

Credit risk arises from the credit rating of Company D and the counterparty to the interest rate swap, the bank. Group Treasury monitors the company and the bank's credit risk for adverse changes. The risk associated with Company D and the bank is considered minimal and will be re-assessed in cases where there is a significant change in either party's circumstances.

### *Hedge ratio*

To comply with the risk management policy, the hedge ratio is based on debt with a notional of £500m with a six-month interest settlement date and maturity date of 30 June 20x5, offset by an interest rate swap with the same critical terms. This results in a hedge ratio of 1:1 or 100%.

### *Sources of ineffectiveness*

Potential sources of ineffectiveness are:

- A change in the credit risk of Company D or the counterparty to the interest rate swap.

In order to measure actual ineffectiveness which should be recorded in profit or loss, a hypothetical derivative is constructed on designation date to model the change in the fair value of the hedged item. This should be constructed without the inclusion of credit risk. The 'hypo' will therefore be constructed as a 'pay fixed GBP, receive floating GBP LIBOR' interest rate swap. For the purposes of this illustration it has been assumed that the result of the 'lower of<sup>20</sup>' test is that the full fair value change of the derivative is recognised in other comprehensive income if the effectiveness requirements of IFRS 9 are met.

### *Frequency of assessing hedge effectiveness:*

Assessment of hedge effectiveness is done at inception of the hedge, at each reporting date (30 June and 31 December) and upon a significant change in the circumstances affecting the hedge effectiveness requirements.

### *Items excluded from the assessment of hedge effectiveness:*

No items are excluded from the assessment of hedge effectiveness.

### *Relevant information*

The following information is relevant market rate and fair value information for the instruments throughout the life of the relationship:

Interest rates			Future cash flow date					
			31/12/x2	30/6/x3	31/12/x3	30/6/x4	31/12/x4	30/06/x5
Valuation date	1/7/x2	forward rate (pa)	1.852	1.873	1.91	1.998	2.116	2.265
		zero coupon rate (pa)	1.852	1.863	1.878	1.908	1.95	2.002
	31/12/x2	forward rate (pa)		1.730	1.739	1.741	1.792	1.816
		zero coupon rate (pa)		1.730	1.735	1.737	1.751	1.764
	30/6/x3	Forward rate (pa)			2.743	2.767	2.802	2.866
		zero coupon rate (pa)			2.743	2.755	2.771	2.795
	31/12/x3	Forward rate (pa)				2.234	2.402	2.499
		zero coupon rate (pa)				2.234	2.318	2.378
	30/6/x4	forward rate (pa)					3.012	3.211
		zero coupon rate (pa)					3.012	3.112
	31/12/x4	forward rate (pa)						2.541
		zero coupon rate (pa)						2.541

<sup>20</sup> IFRS 9 para 6.5.11 requires that the lower of the cumulative gain or loss on the hedging instrument and the cumulative change in fair value of the hedged item is recognised through other comprehensive income in a separate component of equity.

The forward rates quoted per annum represent the periodic interest rate for the referred periods at each valuation date and are used to determine expected future cash flows. The zero coupon rates quoted per annum represent the discount rate applicable to each future date at each valuation date and are used to determine the present value of the future cash flows.

Derivative fair values	1/7/20x2	31/12/x2	30/6/x3	31/12/x3	30/6/x4	31/12/x4	30/6/x5
Opening FV (after interest settlement)	-	-	(2,884,193)	7,671,981	2,765,088	5,347,527	1,302,540
Gross FV movement	-	(3,254,193)	9,881,174	(3,049,393)	3,167,439	(1,514,987)	49,960
Closing FV (before interest settlement)	-	(3,254,193)	6,996,981	4,622,588	5,932,527	3,832,540	1,352,500
Adjust for interest settlement	-	(370,000)	(675,000)	1,857,500	585,000	2,530,000	1,352,500
Closing FV (after interest settlement)	-	(2,884,193)	7,671,981	2,765,088	5,347,527	1,302,540	-

The cash flows on the debt and derivative over the periods are as follows:

Interest payments	31/12/x2	30/6/x3	31/12/x3	30/6/x4	31/12/x4	30/6/x5
Debt (6 mth LIBOR)	(4,630,000)	(4,325,000)	(6,857,500)	(5,585,000)	(7,530,000)	(6,352,500)
Debt (3% margin)	(7,500,000)	(7,500,000)	(7,500,000)	(7,500,000)	(7,500,000)	(7,500,000)
<b>Debt net</b>	<b>(12,130,000)</b>	<b>(11,825,000)</b>	<b>(14,357,500)</b>	<b>(13,085,000)</b>	<b>(15,030,000)</b>	<b>(13,852,500)</b>
Swap – Pay fixed (2%)	(5,000,000)	(5,000,000)	(5,000,000)	(5,000,000)	(5,000,000)	(5,000,000)
Swap – Receive float (6mth LIBOR)	4,630,000	4,325,000	6,857,500	5,585,000	7,530,000	6,352,500
<b>Swap net (pay)/receive</b>	<b>(370,000)</b>	<b>(675,000)</b>	<b>1,857,500</b>	<b>585,000</b>	<b>2,530,000</b>	<b>1,352,500</b>
<b>Net overall cash flow (equivalent to 5% fixed)</b>	<b>(12,500,000)</b>	<b>(12,500,000)</b>	<b>(12,500,000)</b>	<b>(12,500,000)</b>	<b>(12,500,000)</b>	<b>(12,500,000)</b>

## Effectiveness tests and accounting entries

### 1 July 20x2

#### Hedge effectiveness assessment

As described in the hedge documentation, critical terms of the hedging instrument and the hedged items perfectly match. Therefore, management can qualitatively assess that the hedging instrument and the hedged items will move in the opposite direction and will be perfectly offset.

As the credit rating of the counterparty to the derivative is high and Company D's credit risk is considered to be good, the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** the hedge is expected to be highly effective.

#### Inception of debt and swap

Description	DR	CR
Cash	500,000,000	
Loan liability		500,000,000

No accounting entry is made in respect of the interest rate swap as the fair value is nil.

## 31 December 20x2

### *Hedge effectiveness assessment*

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** the hedge is expected to be highly effective.

### *Fair value derivative*

All the criteria for hedge accounting are met for the period ended 31 December 20x2. Cash flow hedge accounting can therefore be applied. The entire change in the fair value of the swap is therefore recognised in equity. For the purposes of this illustration it has been assumed that the result of the 'lower of' test is that the full fair value change of the derivative is recognised in other comprehensive income.

The accounting entries are as follows:

Description	DR	CR
OCI – Cash flow hedge reserve	3,254,193	
Derivative		3,254,193

### *Record settlement of derivative interest*

For simplification purposes any booking of accrued interest is not recorded.

Description	DR	CR
Derivative	370,000	
Cash		370,000

### *Record recycling to income statement*

Description	DR	CR
Income statement – Interest expense	370,000	
OCI – Cash flow hedge reserve (due to release)		370,000

**Helpful hint**

The entries above follow the rules on hedge accounting under IFRS 9 but there are several ways the correct end position can be achieved. In particular, as an alternative to the entries shown above, a company could record the settlements on the derivative to interest expense and make a separate posting to recycle this amount from the cash flow hedge reserve to profit or loss as illustrated below.

IFRS does not prescribe posting schedules and actual posting schedules will depend on companies' system setup.

The alternative method discussed above would lead to the following journal entries with the same net result on the derivative balance, cash, OCI and finance expense:

**Record settlement of derivative interest**

Description	DR	CR
Income statement – Interest expense	370,000	
Cash		370,000

**Record recycling to income statement**

Description	DR	CR
OCI – Cash flow hedge reserve (FV gain/loss)	370,000	
OCI – Cash flow hedge reserve (due to release)		370,000

**Fair value derivative**

Description	DR	CR
OCI – Cash flow hedge reserve	2,884,193	
Derivative		2,884,193

IFRS 7 requires detailed disclosures when entities apply hedge accounting. In particular, the gains and losses recognised in OCI and the amount reclassified from the cash flow hedge reserve. The journal entries in this alternative method also show the correct amounts for the purposes of the IFRS 7 disclosure.

**Record interest on debt**

For simplification purposes the booking of accrued interest is not recorded and the interest cash flow on the debt is directly recorded in the income statement.

Description	DR	CR
Income statement – Finance expense	12,130,000	
Cash		12,130,000

**30 June 20x3****Hedge effectiveness assessment**

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** the hedge is expected to be highly effective.

### *Fair value of the derivative*

For the purposes of this illustration it has been assumed that the result of the 'lower of' test is that the full fair value change of the derivative is recognised in other comprehensive income.

Description	DR	CR
Derivative	9,881,174	
OCI – Cash flow hedge reserve		9,881,174

### *Settlement of derivative interest*

Description	DR	CR
Derivative	675,000	
Cash		675,000

### *Recycling to income statement*

Description	DR	CR
Income statement – Finance expense	675,000	
OCI – Cash flow hedge reserve (due to release)		675,000

### *Interest on debt*

For simplification purposes the booking of accrued interest is not recorded and the interest cash flow is directly recorded in the income statement.

Description	DR	CR
Income statement – Finance expense	11,825,000	
Cash		11,825,000

## *31 December 20x3*

### *Hedge effectiveness assessment*

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** the hedge is expected to be highly effective.

### *Fair value of the derivative*

For the purposes of this illustration it has been assumed that the result of the 'lower of' test is that the full fair value change of the derivative is recognised in other comprehensive income.

Description	DR	CR
OCI – Cash flow hedge reserve	3,049,393	
Derivative		3,049,393

### *Settlement of derivative interest*

Description	DR	CR
Cash	1,857,500	
Derivative		1,857,500

*Recycling to income statement*

Description	DR	CR
OCI – Cash flow hedge reserve (due to release)	1,857,500	
Income statement – Finance expense		1,857,500

*Interest on debt*

For simplification purposes the booking of accrued interest is not recorded and the interest cash flow is directly recorded in the income statement.

Description	DR	CR
Income statement – Interest expense	14,357,500	
Cash		14,357,500

*30 June 20x4**Hedge effectiveness assessment*

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** the hedge is expected to be highly effective.

*Fair value of the derivative*

For the purposes of this illustration it has been assumed that the result of the 'lower of' test is that the full fair value change of the derivative is recognised in other comprehensive income.

Description	DR	CR
Derivative	3,167,439	
OCI – Cash flow hedge reserve		3,167,439

*Settlement of derivative interest*

Description	DR	CR
Cash	585,000	
Derivative		585,000

*Recycling to income statement*

Description	DR	CR
OCI – Cash flow hedge reserve (due to release)	585,000	
Income statement – Finance expense		585,000

*Interest on debt*

For simplification purposes the booking of accrued interest is not recorded and the interest cash flow is directly recorded in the income statement.

Description	DR	CR
Income statement – Finance expense	13,085,000	
Cash		13,085,000

## 31 December 20x4

### Hedge effectiveness assessment

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** the hedge is expected to be highly effective.

### Fair value of the derivative

For the purposes of this illustration it has been assumed that the result of the 'lower of' test is that the full fair value change of the derivative is recognised in other comprehensive income.

Description	DR	CR
OCI – Cash flow hedge reserve	1,514,987	
Derivative		1,514,987

### Record settlement of derivative interest

Description	DR	CR
Cash	2,530,000	
Derivative		2,530,000

### Recycling to income statement

Description	DR	CR
OCI – Cash flow hedge reserve (due to release)	2,530,000	
Income statement – Finance expense		2,530,000

### Interest on debt

For simplification purposes the booking of accrued interest is not recorded and the interest cash flow is directly recorded in the income statement.

Description	DR	CR
Income statement – Finance expense	15,030,000	
Cash		15,030,000

## 30 June 20x5

### Hedge effectiveness assessment

The hedge continues to meet the effectiveness requirements as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** the hedge is highly effective.

### Fair value of the derivative

For simplification purposes the booking of accrued interest is not recorded.

Description	DR	CR
Derivative	49,960	
OCI – Cash flow hedge reserve		49,960

*Settlement of derivative interest*

Description	DR	CR
Cash	1,352,500	
Derivative		1,352,500

*Recycling to income statement*

Description	DR	CR
OCI – Cash flow hedge reserve (due to release)	1,352,500	
Income statement – Finance expense		1,352,500

*Interest on debt*

For simplification purposes the booking of accrued interest is not recorded and the interest cash flow is directly recorded in the income statement.

Description	DR	CR
Income statement – Finance expense	13,852,500	
Cash		13,852,500

*Settlement of loan*

Description	DR	CR
Loan	500,000,000	
Cash		500,000,000

*Result of hedge accounting*

To summarise the result that was achieved through application of hedge accounting:

- Interest is posted to the income statement at the hedged rate (plus the credit spread on the loan).
- The fair value gains and losses on the swap are recognised in OCI and therefore avoid volatility in profit or loss.
- No ineffectiveness is recognised as the critical terms match throughout the hedge relationship. If settlement dates on the loan and swap differed or if there were changes in credit risk of either party to the derivative this could result in ineffectiveness.
- Note that this example addresses a hedge of interest rate risk on a functional currency loan. If an entity chooses to borrow in a foreign currency and hedge the currency and/or interest rate risk further complications could arise, in particular due to the treatment of foreign currency basis risk.

The detailed entries are reflected in the table on the next page.

*Balance sheet and income statement*

	Balance sheet								Income statement	
	Cash		Loan liability		Derivative		OCI – cash flow hedge reserve		Interest expense	
	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR
<b>1/7/20x2</b>										
Issuance of debt	500,000,000			500,000,000						
<b>31/12/20x2</b>										
CFH accounting		370,000			370,000	3,254,193	3,254,193	370,000	370,000	
Interest on Debt		12,130,000							12,130,000	
<b>30/6/20x3</b>										
CFH accounting		675,000			10,556,174			10,556,174	675,000	
Interest on Debt		11,825,000							11,825,000	
<b>31/12/20x3</b>										
CFH accounting	1,857,500					4,906,893	4,906,893			1,857,500
Interest on Debt		14,357,500							14,357,500	
<b>30/6/20x4</b>										
CFH accounting	585,000				3,167,439	585,000	585,000	3,167,439		585,000
Interest on Debt		13,085,000							13,085,000	
<b>31/12/20x4</b>										
CFH accounting	2,530,000					4,044,987	4,044,987			2,530,000
Interest on debt		15,030,000							15,030,000	
<b>30/6/20x5</b>										
CFH accounting	1,352,500				49,960	1,352,500	1,352,500	49,960		1,352,500
Interest and repayment of debt		513,852,500	500,000,000						13,852,500	
<b>Total</b>		<b>75,000,000</b>		<b>-</b>		<b>-</b>		<b>-</b>	<b>75,000,000</b>	

*Statement of changes in equity*

	OCI – Hedge reserve Dr/(Cr)	Retained earnings and other reserves Dr/(Cr)
Profit for the year		(12,500,000)
Fair value on cash flow hedges	3,254,193	
Recycling of cash flow hedge reserve	(370,000)	
<b>Equity as at 31/12/20x2</b>	<b>2,884,193</b>	<b>(12,500,000)</b>
Profit for the year		(25,000,000)
Fair value on cash flow hedges	(6,831,781)	
Recycling of cash flow hedge reserve	1,182,500	
<b>Equity as at 31/12/20x3</b>	<b>(2,765,088)</b>	<b>(37,500,000)</b>
Profit for the year		(25,000,000)
Fair value on cash flow hedges	(1,652,452)	
Recycling of cash flow hedge reserve	3,115,000	
<b>Equity as at 31/12/20x4</b>	<b>(1,302,540)</b>	<b>(62,500,000)</b>
Profit for the year		(12,500,000)
Fair value on cash flow hedges	(49,960)	
Recycling of cash flow hedge reserve	1,352,500	
<b>Equity as at 31/12/20x5</b>	<b>0</b>	<b>(75,000,000)</b>

# Illustration 5: Hedge of a floating rate borrowing with a purchased cap

## Background and assumptions

Company E is a German company with a EUR functional currency. Its reporting dates are 30 June and 31 December.

On 30 June 20x4, Company E issues a EUR 100m two-year debt at par. The debt bears interest at a variable rate calculated as three-month EURIBOR plus 100 basis points set quarterly on 31 March, 30 June, 30 September and 31 December. The rate for the first coupon is set at 1.65%: three-month EURIBOR fixing as of 30 June 20x4 + margin of 100 bps. Interest is paid quarterly on 31 March, 30 June, 30 September and 31 December. No transaction costs are incurred on issuing the debt.

### Helpful hint

*Transaction costs are incremental costs that are directly attributable to the acquisition, issue or disposal of a financial asset or financial liability. The issuance of debt usually incurs transaction costs. These costs are included in the carrying amount of the liability when the debt is first recognised in the issuer's balance sheet. They affect the calculation of the effective interest rate on the debt but, as they are fixed, they do not modify the issuer's exposure to variability in cash flows.*

For simplification purposes in this example, the reporting dates for Company E are 30 June and 31 December and entries have only been shown for those dates.

On 30 June 20x4, Company E buys a two-year interest rate cap on three-month EURIBOR with a strike rate of 1.20%. The purchased cap is settled on 31 March, 30 June, 30 September and 31 December of each year based on the three-month EURIBOR at settlement date. Company E pays an upfront premium for the cap of EUR 250,000.

The zero-coupon curves derived from swap yield curves on various dates during the hedge are as follows:

Zero-coupon rates	30/9/x4	31/12/x4	31/3/x5	30/6/x5	30/9/x5	31/12/x5	31/3/x6	30/6/x6
30/06/x4 (%)	0.65	0.52	0.52	0.51	0.52	0.53	0.54	0.57
31/12/x4 (%)			1.03	1.05	1.06	1.07	1.08	1.10
30/06/x5 (%)					1.22	1.23	1.30	1.34
31/12/x5 (%)							1.07	1.14

The forward three-month EURIBOR curve derived from swap yield curves on various dates during the hedge are as follows (rates in red are actual fixings).

Actual/Forward EUR 3m rates	30/6/x4	30/9/x4	31/12/x4	31/3/x5	30/6/x5	30/9/x5	31/12/x5	31/3/x6
30/06/x4 (%)	0.65	0.51	0.49	0.50	0.55	0.57	0.62	0.71
31/12/x4 (%)	0.65	0.73	0.93	1.05	1.10	1.12	1.15	1.26
30/06/x5 (%)	0.65	0.73	0.93	1.29	1.34	1.43	1.51	1.57
31/12/x5 (%)	0.65	0.73	0.93	1.29	1.34	1.08	0.98	0.99
30/06/x6 (%)	0.65	0.73	0.93	1.29	1.34	1.08	0.98	1.23

*Note: Please note that the forward rates in the table are included for the purpose of the example and that these rates are not derived from the zero coupon rates presented above.*

### **Helpful hint**

*The zero-coupon curves (the first table above) represent the interest rates that would be applicable on various start and maturity dates in the future. For example, in the first table above, the first row shows the market rates at 30 June 20x4 for maturity on the dates in the column headings (i.e. a zero-coupon loan from 30 June 20x4 to 31 December 20x4 will have a rate of 0.52%, and a zero-coupon loan from 30 June 20x4 to 31 December 20x5 will have a rate of 0.53%).*

*The forward three-month EURIBOR curves (the second table above) represent the actual levels of three-month EURIBOR at a given date that are implied by the zero coupon curves.*

## **Extracts from interest rate risk management strategy**

Company E is exposed to interest rate risk on interest bearing debt and investments.

Company E manages its exposure to interest rate risk through the proportion of fixed and variable rate net debt in its total net debt portfolio. This proportion is determined twice a year by Company E's Board of Directors on the recommendation of its Financial Risk Committee.

To manage this proportion of fixed and variable rate net debt, Company E may enter into purchased interest rate caps. For the purpose of determining the proportion of fixed and variable rate debt, caps are regarded as 'converting' debt to fixed rate. However, the proportion of debt that is subject to a cap may not exceed 20% of the total net debt outstanding.

### **Helpful hint**

*Options, in contrast to forward contracts and swaps, give the holder the right but not the obligation to exercise the instrument and exchange the underlying(s) for a fixed amount. A purchased option has potential gains equal to or greater than potential losses, so can reduce P&L losses from changes in the fair value or cash flows of the hedged item. As it has the potential to reduce downside risk exposure, it can qualify as a hedging instrument.*

*A written option (as opposed to a purchased option) exposes its writer to the possibility of unlimited loss, but it limits the gain to the amount of premium received. A written option is not effective in reducing the P&L losses of a hedged item. Therefore, a written option does not qualify as a hedging instrument on its own, unless it is designated as an offset to a purchased option.*

*An interest rate collar may be designated as a hedging instrument, if the combination is either a net purchased option or a zero cost collar (that is, it is neither a net written nor a net purchased option). This will be the case if (i) no net premium is received, (ii) the critical terms and conditions of the written option and the purchased option are the same (except for the strike price), and (iii) the notional amount of the written option(s) is not greater than the notional amount of the purchased option(s).*

## **Extracts from hedging policies**

### **Hedging instruments**

Purchased options, up to a limit of 20% of the total net debt outstanding, are used to hedge interest rate risk.

*Note: please note that caps are options.*

All derivatives must be entered into with counterparties with a credit rating of A or higher (average notation of Moody's, Standard and Poor's and Fitch Ratings).

## *Hedging relationships*

Regarding option contracts, only the change in intrinsic value of the option contract is designated as the hedging instrument and hence included in the hedge relationship (i.e. the change in the time value of the option contract is excluded). The credit margin on the hedged debt is not included in the hedging relationship.

## *Hedge documentation*

At inception of a hedging relationship, Management of Company E should formally document the hedging relationship including:

- Risk management objective and strategy;
- Identification of the hedging instrument, the hedged item, the nature of the risk being hedged (risk of variation in interest rate on floating debt coupons) and sources of ineffectiveness; and
- Description of how management will assess whether the hedging relationship meets the hedge effectiveness requirements, including that there is an economic relationship between the hedged item and hedging instrument, credit risk does not dominate the value changes that result from the economic relationship and the hedge ratio in the hedge relationship is the same as the quantity of the hedged item and the hedging instrument that the entity actually uses for hedging purposes.

## *Hedge effectiveness*

Company E shall assess on an ongoing basis, whether the hedging relationship meets the hedge effectiveness requirements. At a minimum, Company E shall perform the ongoing assessment at each reporting date or upon a significant change in the circumstances affecting the hedge effectiveness requirements, whichever comes first. The assessment relates to expectations about hedge effectiveness and therefore is only forward-looking.

Consistent with risk management policy and nature of risk exposure, hedge effectiveness requirements is demonstrated based on critical terms (nominal amount, currency, settlement dates, indexation and maturity date). Management is therefore required to align the characteristics of the hedging instrument to those of the hedged item (nominal amount, currency, settlement dates, indexation and maturity date).

In this documentation, Company E will demonstrate on the basis of a qualitative assessment of those critical terms that an economic relationship exists meaning that the hedging instrument and the hedged item have values that will generally move in the opposite direction because of the same risk, which is the hedged risk.

### ***Helpful hint***

*Although IFRS 9 does not require a quantitative assessment of effectiveness, a calculation is still necessary in order to identify the amount of ineffectiveness to be booked. Ineffectiveness in a hedge of debt can be measured using the dollar offset method. When the hedging instrument is an option (e.g. a cap or a collar), the ineffectiveness can be measured by comparing the change in the intrinsic value of the option (the hedging instrument) with the change in the cash flows (present value) of the debt being hedged (the hedged item) due to a change in the relevant interest rate (risk being hedged) above or below a specified rate. The difference is ineffectiveness.*

The change in intrinsic value of a cap is the difference between the intrinsic value of the cap before and after a change in interest rates. The cap's cash flows used in this calculation of intrinsic value are calculated using the three-month EURIBOR forward rates and discounted using the zero-coupon rates derived from the relevant swap yield curve. For simplicity the effect of counterparty credit risk has been ignored in this example.

The change in the hedged item attributable to the hedged one-sided risk (of changes in 3 month EURIBOR above 1.2%) is calculated as the difference between the present value of the projected coupons to be paid on debt (excluding the credit spread) before and after the change in interest rates. The coupons are calculated using the three-month EURIBOR forward rates and discounted using the zero-coupon rates derived from the swap yield curve.

**Helpful hint**

*IFRS 9 does not specify how the intrinsic value of an option (such as the cap in this illustration) is determined. It is typically calculated as the difference between the strike price and the spot or forward price of the underlying multiplied by the nominal amount.. Companies should consider discounting the difference between the strike price and the spot/forward price as otherwise there is likely to be ineffectiveness to record when comparing the intrinsic value to the discounted value of the hedged item. Intrinsic value is defined in this example based on a forward rate curve. All future cash flows on the cap are projected at the applicable forward rate to calculate the intrinsic value, which is then discounted using the zero-coupon curve to take into account the time value of money. Using this method the cap may be 'in the money' in some periods and 'out of the money' in others.*

**Accounting entries**

If criteria for applying cash flow hedge accounting are met, the accounting entries during the duration of the hedge are as follows:

- The change in the intrinsic value of the hedging instrument is recognised in other comprehensive income (and then in the cash flow hedge reserve in equity) and released to the Profit or Loss account over the life of the relationship.
- The change in the time value of an option that hedges a time-period related hedged item such as a floating rate debt is recognised in a separate component of equity to the extent that it relates to the hedged item. The initial time value that exists at the inception of the hedging relationship is amortised to profit or loss on a systematic and rational basis over same period over which any intrinsic value of the cap would affect profit and loss. As the cap hedges interest risk on a time-period related item the initial time value is amortised over the period for which the interest rate risk is hedged.

**Helpful hint**

*This accounting treatment of time value applies only if the critical terms of the option such as the nominal amount, life and underlying are aligned with the hedged item. If the critical terms of the option and the hedged item are not fully aligned, Company E shall determine how much of the initial time value relates to the hedged item and account for the difference between that amount and the total time value in profit and loss. In this example we assume that the time value in the option is completely aligned to the hedged item.*

**Extracts from hedge documentation**

Company E's hedge documentation is as follows:

**Risk management objective and strategy**

For the current period, Company E's approved strategy in accordance with its risk management policies is to maintain a ratio of fixed to floating rate net debt of between 40:60 and 50:50. In order to meet this chosen ratio, management has decided to cap the floating rate of this debt. After taking out this cap, capped the proportion of debt that is subject to a cap remains below the limit of 20% of the total net debt outstanding.

**Hedging relationship**

Cash flow hedge: hedge of the interest rate risk arising from a floating-rate debt bearing interest at three-month EURIBOR plus 100 basis points with a purchased cap with a strike rate of 1.20%. The credit margin of 100 bps on the debt is not included in the hedging relationship.

**Nature of risk being hedged**

Interest rate risk: variability in coupons paid on the debt number 10123 (TMS reference) attributable to movements in three-month EURIBOR when three-month EURIBOR is above 1.20%. Credit risk on the debt is not designated as being hedged.

## Identification of hedged item

The hedged item has the following characteristics:

<b>TMS reference</b>	10123
<b>Type</b>	Term loan
<b>Counterparty</b>	Bank Z whose credit rating is AA
<b>Notional amount</b>	EUR 100m
<b>Indexation</b>	Three-month EURIBOR (at payment date for the next period)
<b>Margin</b>	100 bps
<b>Start date</b>	30/6/20x4
<b>Maturity date</b>	30/6/20x6
<b>Interest payment dates</b>	Quarterly on 31 March, 30 June, 30 September and 31 December

## Identification of hedging instrument

The hedging instrument has the following characteristics:

<b>TMS reference</b>	10124
<b>Type</b>	Purchased cap
<b>Counterparty</b>	Bank B whose credit rating is AA
<b>Notional amount</b>	EUR 100m
<b>Strike</b>	1.20%
<b>Underlying</b>	Three-month EURIBOR (at settlement date for the next period)
<b>Start date</b>	30/6/20x4
<b>Maturity date</b>	30/6/20x6
<b>Settlement dates</b>	Quarterly on 31 March, 30 June, 30 September and 31 December
<b>Premium paid</b>	EUR 250,000

Hedge designation: Only the change in the intrinsic value of the purchased cap is designated as the hedging instrument.

The time value of the cap is excluded from the designation and is equal to EUR 250,000 at inception.

## Hedge effectiveness

In order to qualify for hedge accounting, the following effectiveness requirements have to be fulfilled.

### Economic relationship

The hedged item creates variability of cash flows arising from the future changes in three-month EURIBOR. The purchased option caps the variability due to three-month EURIBOR to a maximum of 1.20%. The coupon payment of the bond resets and is paid on the same dates as interest rates are reset and paid (if in the money) on the purchased cap. As the same interest rate basis is used and the timing for interest resets and payments match, there is a clear economic relationship between the hedging instrument and the hedged item.

### Effect of credit risk

As credit risk is not part of the hedged risk, the credit risk of Company E only impacts value changes of the hedging instrument.

Credit risk arises from the credit rating of Company E and the counterparty to the purchased cap, Bank B. Group Treasury monitors the company and the bank's credit risk for adverse changes. The risk associated with

Bank B and Company E is considered minimal at inception of the hedge and will be re-assessed in cases where there is a significant change in its circumstances.

### *Hedge ratio*

To comply with the risk management policy, the hedge ratio is based on a EUR100m term loan, paying quarterly interest based on three-month EURIBOR that is hedged with a purchased cap based on a notional amount of a EUR100m, capping the three-month EURIBOR component of the quarterly interest payments at 1.20%. The hedge ratio is therefore 1:1 or 100%.

### *Sources of ineffectiveness*

The following potential sources of ineffectiveness are identified:

1. Reduction or modification in the hedged item (i.e. debt repayment).
- A change in the credit risk of Company E or the counterparty to the purchased cap.

Assessment of hedge effectiveness is performed at inception of the hedge, at each reporting date (30 June and 31 December) and upon a significant change in the circumstances affecting the hedge effectiveness requirements, whichever comes first.

In order to measure actual ineffectiveness which should be recorded in profit or loss, a hypothetical derivative is constructed on designation date to model the change in the fair value of the hedged item. The hypothetical derivative will be constructed to calculate the fair value changes of the hedged risk i.e. in this case the one-sided interest rate risk associated with EURIBOR being above 1.2%. As credit risk is not included in the designated hedged risk, the hypothetical derivative should be constructed without the inclusion of credit risk. For the purposes of this illustration it has been assumed that the result of the 'lower of<sup>21</sup>' test is that the full fair value change of the derivative is recognised in other comprehensive income if the effectiveness requirements of IFRS 9 are met.

### *Frequency of assessing hedge effectiveness:*

Hedge effectiveness is assessed at inception of the hedge, at each reporting date (30 June and 31 December) and upon a significant change in the circumstances affecting the hedge effectiveness requirements.

## *Effectiveness tests and accounting entries*

### *30 June 20x4*

#### *Hedge effectiveness assessment*

As described in the hedge documentation, critical terms of the hedging instrument and the hedged item perfectly match. Therefore in accordance with hedging policy, Management can qualitatively assess that the hedging instrument and the hedged item will move in the opposite direction and will be perfectly offset.

The hedge ratio is 1:1 as described in the hedge documentation.

As the credit rating of the counterparty to the derivative is high and Company E's credit risk is considered to be good, the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

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<sup>21</sup> IFRS 9 para 6.5.11 requires that the lower of the cumulative gain or loss on the hedging instrument and the cumulative change in fair value of the hedged item is recognised through other comprehensive income in a separate component of equity.

### Issue of debt

The debt is recognised at the proceeds received by Company E, which represents its fair value on the issuance date. The debt is classified as other financial liabilities and will be subsequently measured at amortised cost.

	DR	CR	
Cash	100,000,000		EUR
Other financial liabilities – Debt		100,000,000	EUR
<b>Issuance at par of a EUR 100m two-year variable rate debt</b>			

### Recognition of premium cap

The cap entered into by Company E is recognised at fair value in the balance sheet, which is the premium paid by Company E.

	DR	CR	
Derivative instrument – Cap	250,000		EUR
Cash		250,000	EUR
<b>Recognition of the interest rate cap at fair value</b>			

### Helpful hint

*As the strike of the cap at 1.20% is above three-month EURIBOR forward curve at 30 June 20x4, the cap has no intrinsic value at inception. The premium paid by Company E represents only time value.*

## 31 December 20x4

### Hedge effectiveness assessment

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** The hedge effectiveness requirements are met.

### Fair value of the cap

Only the change in the intrinsic value of the cap amounting to EUR 14,756 is part of the hedge relationship. For the purposes of this illustration it has been assumed that the result of the 'lower of' test is that the full fair value change of the derivative in respect of its intrinsic value is recognised in other comprehensive income. Since there has been no change in the economic relationship, the change in the intrinsic value of the cap is therefore entirely recognised in other comprehensive income (and then in the cash flow hedge reserve in equity).

The intrinsic value is calculated as follows:

- Based on the table presented earlier the forward rate 31.12.x4 – 31.03.x6 = 1.26%.
- $(1.26\% - 1.20\% \text{ [strike]}) * 100,000,000 \text{ EUR} * 90/360 = 15,000$
- Discount using the 1.10% interest rate applicable (refer to zero coupon table):  
 $1/(1+1.1\%)^{540/360} = 0.9837$ .
- $15,000 * 0.9837 = 14,756$ .

**Helpful hint**

*IFRS 9 para 6.5.15 requires that when the hedge relationship is based upon changes in the intrinsic value, the change in fair value of the time value in an option contract is taken to other comprehensive income (and then reported in a separate component of equity). The time value is recognised in profit and loss based on the type of hedged item the option hedges. For a hedge of a transaction related item such as a forecasted purchase or sale the revalued time value is recognised at the date the forecasted transaction is recognised (for example as a basis adjustment in the case of a hedge of a forecasted purchase of a non-financial item). For a hedge of a time-period related hedged item, the aligned time value that existed at the start of the hedge is amortised over the period of the hedge.*

**Helpful hint**

*In this example, as calculated above, the intrinsic value of the option is based on cash flows that are expected to arise in future periods based on the forward three-month EURIBOR curve. If based on the forward interest rate the option will be in the money, the future cash flows are discounted using the applicable rates from the zero-coupon curve. The present value of those cash flows is the intrinsic value of the option.*

*There are other acceptable methods to determine the intrinsic value of an option. In practice it can be calculated based on either:*

- the difference between the strike price of the option and the spot price of the underlying multiplied by the notional amount of the option (the 'spot intrinsic value'); or*
- the difference between the strike price of the option and the forward price of the underlying multiplied by the notional amount of the option (the 'forward intrinsic value').*

*In both cases companies should consider discounting the difference between the strike price and the spot/forward price as otherwise there is likely to be ineffectiveness to record when comparing the intrinsic value to the discounted value of the hedged item.*

The journal entry posted is as follows:

	DR	CR	
Derivative instrument cap – Asset		25,240	EUR
Other comprehensive income – Cash flow hedge reserve		14,756	EUR
Other comprehensive income – Cost of hedging reserve	39,996		EUR
Cash flow hedge – Change in fair value of the option contract			

**Settlement interest on the cap**

As presented in the table below, the change in the fair value of the cap amounts to EUR (25,240) for the period ended 31 December 20x4. Cash settlement of the first 2 coupons is nil since three-month EURIBOR fixings were below the cap strike rate: respectively 0.65% and 0.73% vs. cap strike at 1.20%.

Hedging instrument	Fair value 30/6/20x4	Change	Fair value before settlements 31/12/20x4	Cash settlements	Fair value after settlements 31/12/20x4
Fair value of the cap	250,000	(25,240)	224,760	-	224,760
Intrinsic value	-	14,756	14,756	-	14,756
Time value	250,000	(39,996)	210,004	-	210,004

Note: *The fair value has been assumed rather than calculated for the purpose of this example. In practice, the fair value would be established using an option pricing model and would vary with factors such as interest rates, the remaining term of the cap and the volatility of interest rates. The calculation of the intrinsic value is shown above. The time value is the difference between the full fair value and the intrinsic value.*

### Recognition of interest paid on the debt

The two floating rate coupons for the first six months are paid (first applicable rate set at 1.65% including credit margin, second applicable rate set at 1.73% including credit margin).

	DR	CR	
Finance costs – Interest expense 30/9/20x4	412,500		EUR
Cash		412,500	EUR
Finance costs – Interest expense 31/12/20x4	432,500		EUR
Cash		432,500	EUR
<b>Interest on the debt for six months</b>			

Note: *for simplification, the journal entries relating to the accrual of interest have not been included.*

### Amortisation of time value

The time value of the option existing at the start of the hedge relationship is amortised over the period of the hedge to reflect the cost of hedging of the interest risk over the term of the loan. The amount amortised is  $250,000/4 = 62,500$  per half year.

The journal entry is as follows:

	DR	CR	
Finance costs – Interest expense <sup>22</sup>	62,500		EUR
Other comprehensive income – Costs of hedging reserve		62,500	EUR
<b>Cash flow hedge – Amortisation time value over time</b>			

<sup>1</sup>  $250,000 \times 180 / (2 \times 360)$ , amortisation of the initial fair value of the cap.

Note: *Accounting entries are not cumulative but related to the period elapsed.*

## 30 June 20x5

### Hedge effectiveness assessment

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** The hedge effectiveness requirements are met for the period ended 30 June 20x5.

### Fair value of the cap

As presented in the table below, the change in the fair value of the cap amounts to EUR 342,838 for the period ended 30 June 20x5.

<sup>22</sup> IFRS 9 does not specify where in profit or loss the amortisation of the time value should be. In this example, because the option is designated in a hedging relationship of a debt instrument, it has been deemed appropriate to include the amortisation of time value in finance costs.

Hedging instrument	Fair value 31/12/20x4	Change	Fair value before settlements 30/6/20x5	Cash settlements	Fair value after settlements 30/6/20x5
<b>Fair value of the cap</b>	224,760	365,338	590,098	(22,500)	567,598
<b>Intrinsic value</b>	14,756	267,818	282,574	(22,500)	260,074
<b>Time value</b>	210,004	97,520	307,524	-	307,524

#### Intrinsic valuation calculation

Cash flow date	Difference above cap (%)	Discount rate (%)	Present value
30/6/20x5	0.09	0.00	22,500
30/9/20x5	0.14	1.22	34,894
31/12/20x5	0.23	1.23	57,150
31/3/20x6	0.31	1.30	76,753
30/6/20x6	0.37	1.34	91,277
<b>Total</b>			<b>282,574</b>

Only the change in the intrinsic value of the cap amounting to EUR 245,318 (260,074 – 14,756) is part of the hedge relationship. For the purposes of this illustration it has been assumed that the result of the 'lower of' test is that the full fair value change of the derivative in respect of its intrinsic value is recognised in other comprehensive income. Since there has been no change in the economic relationship, the change in the intrinsic value of the cap is therefore entirely recognised in other comprehensive income (and then in the cash flow hedge reserve in equity). The change in the time value element is also recognised in other comprehensive income (and then in a separate component of equity such as a cost of hedging reserve)

	DR	CR	
<b>Derivative instrument cap – Asset</b>	365,338		EUR
<b>Other comprehensive income – Cash flow hedge reserve</b>		267,818	EUR
<b>Other comprehensive income – Cost of hedging reserve</b>		97,520	EUR
<b>Cash flow hedge – Change in fair value of the option contract</b>			

#### *Recognition of interest paid on the debt*

The two floating rate coupons for the first six months of 20x5 are paid (first applicable rate set at 1.93% including credit margin, second applicable rate set at 2.29% including credit margin).

	DR	CR	
<b>Finance costs – Interest expense 31/3/20x5</b>	482,500		EUR
<b>Cash</b>		482,500	EUR
<b>Finance costs – Interest expense 30/6/20x5</b>	572,500		EUR
<b>Cash</b>		572,500	EUR
<b>Interest on the debt for six months</b>			

**Settlement of interest on the cap and recycling of gain on the cap that relates to this period**

The Journal Entry posted is as follows:

	DR	CR	
Cash	22,500		EUR
Derivative instrument		22,500	EUR
OCI – Cash flow hedge reserve (due to release)	22,500		EUR
Income statement – Finance expense		22,500	EUR
<b>Interests on the cap for 1 period of three months: EUR 100m x (1.29%-1.20%) x 90/360 are recycled</b>			

**Helpful hint**

The entries above follow the rules on hedge accounting under IFRS 9 but there are several ways that the correct end position can be achieved. In particular, as an alternative to the entries shown above, a company could record the settlements on the derivative to interest expense and make a separate posting to recycle this amount from the cash flow hedge reserve to profit or loss as illustrated below. IFRS does not prescribe posting schedules and actual posting schedules will depend on companies' system setup.

The alternative method discussed above would lead to the following journal entries with the same net result on the derivative balance, cash, OCI and finance expense:

**Record settlement of derivative interest**

Description	DR	CR
Cash	22,500	
Income statement – Finance expense		22,500

**Record recycling to income statement**

Description	DR	CR
OCI – Cash flow hedge reserve (due to release)	22,500	
OCI – Cash flow hedge reserve (due to FV gain/loss)		22,500

**Fair value derivative**

Description	DR	CR
Derivative	342,838	
OCI – Cash flow hedge reserve		245,318
OCI – Cost of hedging reserve		97,520

**Amortisation of time value**

The time value of the option existing at the start of the hedge relationship is amortised over the period of the hedge to reflect the cost of hedging of the interest risk over the term of the loan. The amount amortised is  $250,000/4 = 62,500$  per half year.

The journal entry is as follows:

	DR	CR	
Finance costs – Interest expense	62,500		EUR
Other comprehensive income – Time value		62,500	EUR
<b>Cash flow hedge – Amortisation time value over time</b>			

## 31 December 20x5

### Hedge effectiveness assessment

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** The hedge effectiveness requirements are met.

### Fair value of the cap

As presented in the table below, the change in the fair value of the cap amounts to EUR (372 598) for the period ended 31 December 20x5. For all future periods the forward three-month EURIBOR curve is below the strike price of the cap, so the intrinsic value of the cap is nil.

Hedging instrument	Fair value 30/6/20x5	Change	Value before settlements 31/12/20x5	Cash settlements	Fair value after settlements 31/12/20x5
Fair value of the cap	567,598	(372,598)	195,000	(35,000)	160,000
Intrinsic value	260,074	(225,074)	35,000	(35,000)	-
Time value	307,524	(147,524)	160,000	-	160,000

### Intrinsic valuation calculation

Cash flow date	Difference above cap (%)	Discount rate (%)	Present value
31/12/20x5	0.00	0.00	0
31/3/20x6	0.00	1.07	0
30/6/20x6	0.00	1.14	0
<b>Total</b>			0

Only the change in the intrinsic value of the cap amounting to EUR (225,074) is part of the hedge relationship. For the purposes of this illustration it has been assumed that the result of the 'lower of' test is that the full fair value change of the derivative in relation to its intrinsic value is recognised in other comprehensive income. Since there has been no change in the economic relationship, the change in the intrinsic value of the cap is therefore recognised in other comprehensive income (and then in the cash flow hedge reserve in equity) and the time value element in a separate component of OCI.

	DR	CR	
Derivative instrument cap – Asset		372,598	EUR
OCI – Cash flow hedge reserve	225,074		EUR
OCI – Costs of hedging reserve	147,524		EUR
<b>Cash flow hedge – Change in fair value of the option contract</b>			

### Recognition of interest paid on the debt

The two floating rate coupons for the six-month period are paid (first applicable rate set at 2.34% including credit margin, second applicable rate set at 2.08% including credit margin).

	DR	CR	
Finance costs – Interest expense 30/9/20x5	585 000		EUR
Cash		585 000	EUR
Finance costs – Interest expense 31/12/20x5	520 000		EUR
Cash		520 000	EUR
<b>Interest on the debt for six months</b>			

### Settlement of interest on the cap and recycling of gain on the cap that relates to this period

There is only one cash settlement on the cap during the period, as whilst it is in the money in the first 3-month period it is out of the money in the second 3-month period (i.e., in the second 3-month period the cap is not exercised because the three-month EURIBOR fixings are below its strike price). The Journal Entry posted is as follows:

	DR	CR	
Cash	35,000		EUR
Derivative instrument		35,000	EUR
OCI – Cash flow hedge reserve (due to release)	35,000		EUR
Income statement – Finance expense		35,000	EUR
<b>Interests on the cap for 1 period of three months: EUR 100m x (1.34%-1.20%) x 90/360 are recycled</b>			

### Amortisation time value

The time value of the option existing at the start of the hedge relationship is amortised over the period of the hedge to reflect the cost of hedging of the interest risk over the term of the loan. The amount amortised is  $250,000/4 = 62,500$  per half year.

The journal entry is as follows:

	DR	CR	
Finance costs – Interest expense	62,500		EUR
OCI – Costs of hedging reserve		62,500	EUR
<b>Cash flow hedge – Amortisation time value over time</b>			

## 30 June 20x6

### Hedge effectiveness assessment

The hedge continues to meet the effectiveness requirements as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** The hedge effectiveness requirements are met for the period ended 30 June 20x6.

### Fair value of the cap

As presented in the table below, the change in the fair value of the cap (before cash settlements) amounts to EUR (152,500) for the period ended 30 June 20x6.

Hedging instrument	Fair value 31/12/20x5	Change	Fair value before settlements	Cash settlements	Fair value after settlements 30/6/20x6
<b>Fair value of the cap</b>	160,000	(152,500)	7,500	(7,500)	-
<b>Intrinsic value</b>	-	7,500	7,500	(7,500)	-
<b>Time value</b>	160,000	(160,000)	-	-	-

For the purposes of this illustration it has been assumed that the result of the 'lower of' test is that the full fair value change of the derivative in relation to its intrinsic value is recognised in other comprehensive income. Since there has been no change in the economic relationship, the change in the intrinsic value of the cap is therefore entirely recognised in other comprehensive income (and then in the cash flow hedge reserve in equity) and the time value element in a separate component of OCI. The journal entry is as follows:

	DR	CR	
<b>Derivative instrument cap – Asset</b>		152,500	EUR
<b>OCI – Cash flow hedge reserve</b>		7,500	EUR
<b>OCI – Costs of hedging reserve</b>	160,000		EUR
<b>Cash flow hedge – Change in fair value of the option contract</b>			

### *Recognition of interest paid on the debt*

The two floating rate coupons for the first six months of 20x6 are paid (first applicable rate set at 1.98% including credit margin, second applicable rate set at 2.23% including credit margin)

	DR	CR	
<b>Finance costs – Interest expense 31/3/20x6</b>	495,000		EUR
<b>Cash</b>		495,000	EUR
<b>Finance costs – Interest expense 30/6/20x6</b>	557,500		EUR
<b>Cash</b>		557,500	EUR
<b>Interest on the debt for six months</b>			

### *Settlement of interest on the cap*

There is one cash settlement for the cap, as it is in the money once and out of the money once (i.e. in the period the cap is out of the money it is not exercised because the three-month EURIBOR fixings are below its strike price). The settlement of the derivative is posted through OCI to capture the release of the hedge adjustment for disclosure purposes. The Journal Entry posted is as follows:

	DR	CR	
<b>Cash</b>	7,500		EUR
<b>Derivative instrument</b>		7,500	EUR
<b>OCI – Cash flow hedge reserve (due to release)</b>	7,500		EUR
<b>Finance costs – Interest expense 30/9/20x5</b>		7,500	EUR
<b>Interests on the cap for 1 periods of three months: EUR 100m x (1.23%–1.20%) x 90/360 are received</b>			

The overall effect is that Company E pays 1 net coupon of EUR 550,000 for the period ended 30 June 20x6, representing a rate of 2.2% per annum (strike of cap of 1.20% + 100 bps).

At maturity of the hedging instrument, the carrying value of the derivative and the hedge reserves related to the hedging relationship are nil.

### *Amortisation of time value*

The time value of the option existing at the start of the hedge relationship is amortised over the period of the hedge to reflect the cost of hedging of the interest risk over the term of the loan. The amount amortised is  $250,000/4 = 62,500$  per half year.

The journal entry is as follows:

	DR	CR	
Finance costs – Interest expense	62,500		EUR
OCI – Costs of hedging		62,500	EUR
<b>Cash flow hedge – Amortisation time value over time</b>			

### *Debt repayment*

The debt is repaid at its nominal value at maturity date 30 June 20x6.

	DR	CR	
Other financial liabilities – Debt	100,000,000		EUR
Cash		100,000,000	EUR
<b>Repayment of a EUR 100m two-year variable rate debt</b>			

### *Results of hedge accounting*

The effect of hedge accounting can be summarised as follows:

- For each period where the spot rate was above the strike rate the interest paid was limited to 1.2% plus the margin on the debt of 100bp.
- The change in the fair value of the cap due to intrinsic value changes was deferred in the cash flow hedge reserve.
- The change in the fair value of the cap due to changes in time value was deferred in a separate component of Equity.
- No ineffectiveness was recorded.
- The premium paid for the cap was recorded as an expense over the life of the instrument on a straight line basis.

*Balance sheet and income statement*

	Balance sheet								Income statement			
	OCI – Hedge reserve		OCI – Time value		Derivative instrument		Debt		Cash EUR		Interest expense	
	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR
<b>30/6/20x4</b>												
Inception of IR cap (Premium)					250,000					250,000		
Recognition of debt								100,000,000	100,000,000			
<b>31/12/20x4</b>												
Interest on debt										845,000	845,000	
CFH fair value cap		14,756	39,996			25,240						
CFH amortisation time value				62,500								62,500
<b>30/6/20x5</b>												
Interest on debt										1,055,000	1,055,000	
CFH Accounting		267,818	97,520		365,338							
Settlement cap	22,500					22,500			22,500			22,500
CFH amortisation time value				62,500								62,500
<b>31/12/20x5</b>												
Interest on debt										1,105,000	1,105,000	
CFH Accounting	225,074		147,524			372,598						
Settlement cap	35,000					35,000			35,000			35,000
CFH amortisation time value				62,500								62,500
<b>31/3/20x6</b>												
Interest on debt										1,052,500	1,052,500	

	Balance sheet								Income statement			
	OCI – Hedge reserve		OCI – Time value		Derivative instrument		Debt		Cash EUR		Interest expense	
	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR
<b>CFH Accounting</b>		7,500	160,000			152,500						
<b>Settlement cap</b>	7,500					7,500			7,500			7,500
<b>CFH amortisation time value</b>				62,500								62,500
<b>Debt repayment</b>							100,000,000		100,000,000			
<b>Total</b>	-	-	-	-	-	-	-	-	-	4,242,500	4,242,500	-

### *Statement of changes in equity*

	OCI – Hedge reserve	OCI – Time value	Interest expense
<b>Interest expense</b>			907,500
<b>Fair value change on cash flow hedges</b>	(14,756)	39,996	
<b>Recycling</b>	0	(62,500)	
<b>Equity as at 31/12/20X4</b>	<b>(14,756)</b>	<b>(22,504)</b>	<b>907,500</b>
<b>Interest expense</b>			2,227,500
<b>Fair value change on cash flow hedges</b>	72,256	50,004	
<b>Recycling</b>	(57,500)	(125,000)	
<b>Equity as at 31/12/20X5</b>	<b>0</b>	<b>(97,500)</b>	<b>3,135,000</b>
<b>Interest expense</b>			1,107,500
<b>Fair value change on cash flow hedges</b>	(7,500)	160,000	
<b>Recycling</b>	7,500	(62,500)	
<b>Equity as at 31/12/20X5</b>	<b>0</b>	<b>0</b>	<b>4,242,500</b>

# ***Illustration 6: Hedge of a fixed rate borrowing to floating with subsequent hedge back to fixed***

## ***Background and assumptions***

Company F is a US company with a USD functional currency. Company F's reporting dates are 30 June and 31 December.

According to its business plan, Company F has liquidity requirements of USD 100 million during the next five-year period. In order to meet its funding requirement, Company F decides to issue a USD-denominated bond. On 31 December 20X5, Company F issued at par a USD 100m five-year bond with a coupon of 2.90%, paid semi-annually on 30 June and 31 December. No transaction costs are incurred relating to the debt issuance.

The future revenue of Company F is correlated with increase and decreases in interest rates. However, in November of each year Company F fixes its sale prices for the following calendar year. As such, while the risk management policy of A is to hedge 50-70% of its long term funding to floating, each budget period a certain proportion of funding for the coming year is hedged back to fixed.

On the date on which the fixed rate debt was issued (31 December 20x5), consistent with its risk management policies, Company F enters a five-year receive 1.97% and pay six-month USD LIBOR interest rate swap. The settlement dates are at 30 June and 31 December each year.

On the same date, Company F also enters into a 100m USD one-year swap to receive six-month USD LIBOR and pay fixed interest for the coming year for which sales prices are fixed. At 30 November on each of the following four years, Company F enters into a 100m USD one-year forward-starting swap to receive six-month USD LIBOR and pay fixed interest for the next year's 12 month budget period. The fixed interest rates are set at the prevailing market rate. On the forward-starting swaps, interest will accrue from 31 December of each year, which is the start date of the (yearly) budget period. The fair value of each interest rate swap and the forward-starting interest rate swaps are nil at inception, as they are issued at the prevailing market rate.

### ***Helpful hint***

*This illustration shows how to apply the ability in IFRS 9 to add an additional hedge (with a derivative) to a pre-existing hedge relationship, referred to in IFRS 9 as hedging an 'aggregated exposure'. In a hedge of an aggregated exposure, the hedged item is a combination of an exposure that could itself qualify as a hedged item and a derivative. Other examples of cases that involve hedging an aggregated exposure are:*

- *Hedging the interest rate risk on a future bond issue without knowing in which currency the bond will be issued. The hedged item would be the combination of a foreign currency bond and a cross currency swap used to hedge the bond to the entity's functional currency.*
- *Hedging the currency exposure on highly probable future commodity purchases in a foreign currency, where the commodity price risk has already been hedged using a commodity derivative. The hedged item for the currency hedge will consist of a combination of the highly probable purchase and the commodity derivative.*
- *Hedging the currency exposure on a fixed rate bond denominated in a foreign currency using a fixed to floating cross currency interest rate swap and subsequently hedging the aggregated variable interest rate risk using an interest rate swap.*

## *Extracts from interest rate and aggregate interest rate risk management policies*

### *Interest rate risk – Long term*

Company F is exposed to interest rate risk on interest bearing debt and investments. Company F manages its exposure to interest rate risk on its long term funding through the proportion of fixed and variable rate net debt in its total net debt portfolio. The proportion of floating rate debt is to be kept between 50% and 70% of total long term funding. The proportion is determined twice a year by Company F financial risk committee and approved by the board of directors.

To manage this proportion of fixed and variable net debt, Company F may enter into a variety of derivative financial instruments, such as interest rate swaps and forward-starting interest rate swaps.

### *Interest rate risk – short term (budget period)*

Company F is exposed to interest rate risk because future sales prices vary based on interest rates. Company F is exposed to changes in interest rates until November each year when it fixes its future sales prices for the following calendar year. Once future sales prices are fixed, Company F also fixes the variable interest rate arising on the aggregated exposure of its five year fixed rate bond and five year interest rate swap. This enables Company F to achieve their anticipated earnings before tax.

To manage the floating rate exposure, Company F may enter into a variety of derivative financial instruments, such as interest rate swaps, forward-starting interest rate swaps, and purchased interest rate caps.

## *Extracts from hedging policies*

### *Hedging instruments*

Company F uses only interest rate swaps and forward-starting interest rate swaps to hedge long term and short term interest rate risk. All derivatives must be entered into with counterparties with a credit rating of A or higher.

### *Hedge relationships*

Company F aims to qualify for hedge accounting for all material interest rate and aggregate interest rate risk hedges. For both short and long term hedges of interest rate risk, Company F designates the full fair value movements on the interest rate swaps as the hedging instrument.

### *Hedge documentation*

At the inception of a hedging relationship management should formally document the hedging relationship including:

- The risk management objective and strategy;
- Identification of the hedging instrument, the hedged item, the nature of the risk being hedged and potential sources of ineffectiveness; and
- Description of how management will assess whether the hedging relationship meets the hedge effectiveness requirements, including: (a) that there is an economic relationship between the hedged item and hedging instrument; (b) credit risk does not dominate the value changes that result from the economic relationship; and (c) the hedge ratio in the hedge relationship is the same as the quantity of the hedged item and of the hedging instrument that the entity actually uses for hedging purposes.

## *Hedge effectiveness*

Management assesses on an ongoing basis, whether the hedging relationships meet the hedge effectiveness requirements. At a minimum, Company F shall perform the ongoing assessment at each reporting date or upon a significant change in the circumstances affecting the hedge effectiveness requirements, whichever comes first. The assessment relates to expectations about hedge effectiveness and therefore is only forward-looking.

Consistent with Company F's risk management policy and nature of risk exposure, hedge effectiveness is assessed based on critical terms (amount, currency, reference rate, reset date, payments dates, day count convention and maturity date). Management is therefore required to align the characteristics of the hedging instrument to those of the hedged item.

In the documentation management will demonstrate on the basis of a qualitative assessment of the critical terms that the hedging instrument and hedged item have values that will generally move in opposite directions.

## *Accounting entries*

### *Fair value hedge*

If the criteria for applying fair value hedge accounting are met, the accounting entries during the lifetime of the hedge are as follows:

- Changes in fair value of the hedging instrument are recognised in profit or loss; and
- Changes in fair value due to changes in the hedged risk only of the hedged item are recognised in profit or loss and as an adjustment to the carrying value of the hedged item.

### *Cash flow hedge*

If the criteria for applying cash flow hedge accounting are met, the accounting entries during the duration of the hedge are as follows:

- Changes in fair value of the hedging instruments are recognised in other comprehensive income and equity (cash flow hedge reserve).
- As per IFRS9 para 6.5.11(d) (ii), the amount that has been accumulated in the cash flow hedge reserve shall be reclassified from the separate component of equity to profit or loss (in this case finance costs) as a reclassification adjustment over the life of the hedge relationship.

### *Helpful hint*

*In this example hedge accounting is applied to both the initial hedge and each subsequent hedge. IFRS 9 does not require hedge accounting to have been applied to the initial hedge in order for hedge accounting to be applied when the subsequent hedge is entered into (IFRS 9 para BC6.167). The aggregated exposure arising from the initial hedge could be the hedged item for the subsequent hedging transaction even if hedge accounting has not been applied to the initial hedge.*

## *Extracts from hedge documentation – long term interest rate risk*

As of 31 December 20x5 Company F's hedge documentation is as follows (hedge relationship 1):

### *Risk management objective and strategy*

For the five-year funding period, Company F's approved strategy in accordance with its risk management policies is to maintain a ratio of floating: fixed rate net debt of 70:50. In order to achieve this ratio in combination with existing funding, management has selected this debt to be swapped from fixed to floating.

### *Hedging relationship*

Fair value hedge: fixed rate debt hedged with receive fixed rate and pay variable interest rate swap.

## *Nature of risk being hedged*

Interest rate risk: change in fair value of the USD debt (issued in 20x5) attributable to 6 month USD LIBOR interest rate movements.

Credit risk on the debt is not designated as part of the hedge relationship.

## *Identification of hedged item*

The hedged item is issued debt with the following characteristics:

<b>USD bond issued</b>	
<b>TMS reference</b>	DS001 – Issued debt
<b>Type</b>	Bond with fixed coupon
<b>Notional amount</b>	USD 100,000,000
<b>Issue date</b>	31/12/20x5
<b>Maturity date</b>	31/12/20y0
<b>Coupon rate</b>	2.90%
<b>Settlement dates</b>	30 June and 31 December each year

## *Identification of hedging instrument*

The hedging instrument is an interest rate swap with the following characteristics:

<b>USD interest rate swap</b>	
<b>TMS reference</b>	IRS001
<b>Type</b>	Fixed to floating USD interest rate swap
<b>Notional amount</b>	USD 100,000,000
<b>Transaction date</b>	31/12/20x5
<b>Start date</b>	31/12/20x5
<b>Maturity date</b>	31/12/20y0
<b>Underlying</b>	Receive USD fixed 1.97%, pay six-month USD LIBOR rate
<b>Settlement dates</b>	30 June and 31 December each year

Hedge designation: the fair value movements on the full notional USD 100m of the swap IRS001 is designated as a hedge of fair value movements on the debt DS001 attributable to movements in the USD LIBOR zero coupon curve.

## *Hedge effectiveness*

In order to qualify for hedge accounting, the following effectiveness requirements have to be fulfilled.

### *Economic relationship*

The hedged item creates an exposure to fixed interest payments and the interest rate swap receives fixed interest payments and pays the six-month USD LIBOR rate. As such, there is an expectation that the value of the hedging instrument and the value of the hedged item move in the opposite direction as a result of movements in the USD LIBOR zero coupon curve.

### *Effect of credit risk*

As credit risk is not part of the hedged risk, the credit risk of Company F only impacts value changes of the hedging instrument.

Credit risk arises from the credit rating of Company F and the counterparty to the interest rate swap. Group Treasury monitors the company and the bank's credit risk for adverse changes. The risk associated with the counterparty to the interest rate swap and Company F is considered minimal at inception of the hedge and will be re-assessed in cases where there is a significant change in its circumstances.

### *Hedge ratio*

To comply with the risk management policy, the hedge ratio is based on a USD interest rate swap with a notional amount of USD 100m and a maturity date of 31 December 20X0 to offset a USD denominated bank loan of USD 100m with a maturity date of 31 December 20X0. This results in a hedge ratio of 1:1 or 100%.

### *Sources of ineffectiveness*

The following potential sources of ineffectiveness are identified:

- Reduction or modification in the hedged item (i.e. debt repayment); and
- A change in the credit risk of Company F or the counterparty to the swap.

### *Frequency of assessing hedge effectiveness*

Assessment of hedge effectiveness is done at inception of the hedge, at each reporting date (31 December and 30 June) and upon a significant change in the circumstances affecting the hedge effectiveness requirements.

### *Items excluded from the assessment of hedge effectiveness*

Credit risk on the bond is excluded from the assessment of hedge effectiveness.

## *Extracts from hedge documentation – short term interest rate risk*

As of 31 December 20x5 Company F's hedge documentation is as follows (hedge relationship 2 i.e. second level relationship):

### *Risk management objective and strategy*

In order to comply with Company F's interest rate risk management strategy, the interest rate risk arising from movements in the USD denominated floating rate aggregated exposure for the budget period (one year) is hedged.

### *Hedging relationship*

Cash flow hedge: interest rate risk arising from an aggregated interest rate exposure i.e. comprised of a fixed USD-denominated debt and corresponding USD fixed to floating interest rate swap for the next year using a one-year USD denominated floating to fixed interest rate swap.

### *Nature of risk being hedged*

Interest rate risk: change in cash flows on the floating rate exposure attributable to movements in the six-month USD LIBOR rate.

Credit risk on the debt is not designated as part of the hedge relationship.

### *Identification of hedged item*

<b>Hedged amount</b>	USD 100 m
<b>Nature of transaction</b>	The interest rate swap is designated as a hedge of changes in cash flows attributable to movements in the six-month USD LIBOR.

Rationale for transaction being highly probable to occur: the amount of USD interest payments within the specified time period is highly probable because it is derived from an existing USD debt obligation of USD 100m and an existing USD fixed to floating interest rate swap for the yearly budget period. Company F will

monitor the projected cash flows at each testing date to ensure that they continue to be highly probable. This review is done as part of the monthly treasury reporting process.

### *Identification of hedging instrument*

The hedging instrument is a one-year interest rate swap with the following characteristics:

<b>USD interest rate swap</b>	
<b>TMS references</b>	IRS002
<b>Type</b>	Floating to fixed USD interest rate swap
<b>Notional amount</b>	USD 100,000,000
<b>Transaction date</b>	31/12/20x5
<b>Start date(s)</b>	31/12/20x5
<b>Maturity date(s)</b>	31/12/20x6
<b>Underlying</b>	Receive six-month USD LIBOR, pay USD fixed 1.17%
<b>Settlement dates</b>	30 June and 31 December

### *Effectiveness testing*

#### *Economic relationship*

The hedged item creates an exposure to forecasted USD LIBOR interest payments and the interest rate swap receives the forecasted six-month USD LIBOR rate and pays a fixed rate. As such, there is an expectation that the value of the hedging instrument and the value of the hedged item move in opposite directions as a result of movements in the USD LIBOR zero coupon curve.

#### *Effect of credit risk*

Credit risk arises from the credit rating of Company F and the counterparty to the interest rate swap. Group Treasury monitors the company and the bank's credit risk for adverse changes. The risk associated with the counterparty to the interest rate swap and Company F is considered minimal at inception of the hedge and will be re-assessed in cases where there is a significant change in its circumstances.

#### *Hedge ratio*

To comply with the risk management policy, the hedge ratio is based on a one-year USD floating to fixed USD interest rate swap with a notional amount of USD 100m and a maturity date of 31 December 20X6 to offset a USD denominated bank loan of USD 100m with a maturity date of 31 December 20Y0 and a fixed to floating USD interest rate swap with a maturity date of 31 December 20y0. This results in a hedge ratio of 1:1 or 100%.

#### *Sources of ineffectiveness*

The following potential sources of ineffectiveness are identified:

- Reduction or modification in the hedged item (i.e. debt repayment); and
- A change in the credit risk of Company F or the counterparty to the interest rate swap.

In order to measure actual ineffectiveness which should be recorded in profit or loss, a hypothetical derivative which will represent the change in the fair value of the hedged item is constructed on designation date. This should be constructed without the inclusion of the credit risk on the bond as this is excluded from the designated hedged risk (that is interest rate risk only). The 'hypo' will therefore be constructed as a 'pay fixed USD, receive floating USD LIBOR' interest rate swap.

#### *Frequency of assessing the hedge effectiveness*

Assessment of hedge effectiveness is done at inception of the hedge, at each reporting date (31 December and 30 June) and upon a significant change in the circumstances affecting the hedge effectiveness requirements.

### Items excluded from the assessment of hedge effectiveness

Credit risk on the bond is excluded from the assessment of hedge effectiveness.

#### Helpful hint

To hedge the aggregated exposure of forecasted USD LIBOR payments in the second year and subsequent budget periods, Company F enters into a USD one-year 100m forward starting swap to receive six months USD LIBOR and pay the prevailing market interest rate on 30 November of each year (i.e. pay fixed). Interest will begin to accrue on the forward starting swap on 31 December of each year, which is the start date of the budget period. The fair value is nil at the inception of the hedge. For simplification purposes the hedge documentation is not repeated for each next layer. In practice such documentation would be required.

## Effectiveness tests and accounting entries

### 31 December 20x5

#### Hedge effectiveness assessment – long term interest rate risk

As described in the hedge documentation, the hedging instrument and the hedged transaction offset each other as their values move in the opposite direction as a result of movements in the USD LIBOR zero coupon curve. As such there is a clear economic hedge relationship.

The hedge ratio is set as described in the hedge documentation.

As the credit rating of the counterparty to the derivative is high and Company F's credit risk is considered to be good, the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

#### Inception valuation interest rate swap 1 (five year swap)

The swap entered into by Company F is recognised at fair value on the balance sheet. The fair value of the swap is nil at inception, as it is issued at the prevailing market rate.

#### Bond issuance

The bond is initially recognised at fair value which is equal to the proceeds received by Company F, on the issuance date. The debt is classified as a financial liability and will subsequently be measured at amortised cost.

	DR	CR	
Cash	100,000,000		USD
Bond		100,000,000	USD
Issuance at par of a USD 100m five-year bond with a fixed coupon of 2.90%			

#### Recognition of derivative 1

The swap entered into by Company F is recognised at fair value on the balance sheet. The fair value of the swap is nil at inception, as it is issued at the prevailing market rate. The floating rate for the first period is set to 1.0405%, which is the six-month USD LIBOR rate.

	DR	CR	
Derivative instruments – Interest rate swap 1	0		USD
Cash		0	USD
Recognition of interest rate swap 1 at fair value (Nil)			

### *Hedge effectiveness assessment – short term interest rate risk*

As described in the hedge documentation, the hedging instrument and the hedged transaction offset each other as their values move in the opposite direction as a result of movements in the USD LIBOR zero coupon curve. As such there is a clear economic hedge relationship.

The hedge ratio is set as described in the hedge documentation.

As the credit rating of the counterparty to the derivative is high and Company F's credit risk is considered to be good, the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

### *Inception valuation interest rate swap 2 (one year swap)*

The swap entered into by Company F is recognised at fair value on the balance sheet. The fair value of the swap is nil at inception, as it is issued at the prevailing market rate.

### *Recognition of derivative 2*

The swap entered into by Company F is recognised at fair value on the balance sheet. The fair value of the swap is nil at inception, as it is issued at the prevailing market rate. The floating rate for the first period is set to 1.0405%, which is the six-month USD LIBOR rate.

	DR	CR	
Derivative instruments – Interest rate swap 2	0		USD
Cash		0	USD
Recognition of interest rate swap 2 at fair value (Nil)			

## *30 June 20x6*

### *Hedge effectiveness assessment – long term interest rate risk*

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in payment dates, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** The hedge effectiveness requirements are met.

### *Cash settlement of swap 1*

	DR	CR	
Finance costs – Interest expense		464,750	USD
Cash	464,750		USD
Settlement of swap: Receive 1.97% and pay 1.0405% for six months			

### *Fair value of interest rate swap 1*

The fair value of interest rate swap 1 is USD -629,359. The entire change in the fair value of the swap is recognised in profit and loss for the six-month-period ended 30 June 20x6.

	DR	CR	
Finance costs – Interest expense (Hedge results)	629,359		USD
Derivative instruments – Interest rate swap 1		629,359	USD
Fair value hedge – Change in fair value of the swap			

**Helpful hint**

*There is limited guidance in the standards on the 'income statement geography' of derivative gains and losses. The results of derivatives that are designated and effective hedges are commonly included in the same line item as the impact of the related hedged item. The presentation of gains and losses related to any ineffective element should be consistent with the entity's policy on presenting the results of trading derivatives.*

**Recognition of interest on the debt**

	DR	CR	
Finance costs – Interest expense	1,450,000		USD
Cash		1,450,000	USD
<b>Interest on bond at 2.90% for six months</b>			

**Fair value adjustment to the hedged item**

All the criteria for hedge accounting are met for the period ended 30 June 20x6, and fair value hedge accounting can be applied. The carrying amount of the bond is adjusted for the full fair value change of the hedged risk. The entry is as follows:

	DR	CR	
Bond	629,359		USD
Finance costs – Hedge results		629,359	USD
<b>Fair value hedge – Change in fair value of the bond attributable to the hedged risk</b>			

As the hedge is fully effective, the changes in the fair value of the derivative and the basis adjustment of the bond are perfectly offsetting in the profit and loss.

These transactions result in a total charge of USD 985,250 to finance costs, which is equivalent to 1.9705% interest for the period (i.e. the market rate on the variable leg of the swap of 1.0405% + 0.93% credit spread). The variable rate on this swap for the next six-month period is set at the 6m USD LIBOR rate of 1.1705%.

**Helpful hint**

*Please note in this example we assumed the CVA-DVA adjustment on the derivative for credit risk is immaterial. In practice, if this is not the case, the hedge adjustment on the debt will not be exactly the same as the fair value change of the derivative.*

**Hedge effectiveness assessment – short term interest rate risk**

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in the date of the forecast transactions, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** The hedge effectiveness requirements are met.

**Fair value of interest rate swap 2**

The fair value of interest rate swap 2 is USD -167,787 (before cash settlement). The net change in the fair value of the swap amounts to a debit of USD 103,037 for the six-month-period ended 30 June 20x6. The entire change in the fair value of the swap is recognised in equity, as the critical terms remain unchanged during the six months period resulting in a fully effective hedge.

The lower of test is performed to determine whether there is any ineffectiveness that needs to be recorded in profit or loss as follows:

Lower of test		
Change in hedging derivative	(167,787)	USD
Change in hypo – interest cash flows	167,787	USD
Lower of	(167,787)	USD

	DR	CR
OCI – Cash flow hedge reserve	167,787	
Derivative instruments – Interest rate swap 2		167,787
Cash flow hedge – Change in fair value of the swap		

### *Settlement of swap 2*

	DR	CR
Derivative instruments – Interest rate swap 2	64,750	
Cash		64,750
Settlement of swap: Receive 1.0405% (585,000) and pay 1.17% (620,250) for six months		

### *Recycling to income statement*

Description	DR	CR
Income statement – Finance expense	64,750	
OCI – Cash flow hedge reserve (due to release)		64,750

Together with the net result of the 2 transactions in the fair value hedge (the aggregate exposure) this results in a total charge of USD 1,050,000 to finance costs, which is equivalent to 2.10% interest for the period (i.e. the rate on the fixed leg of the receive float pay fixed interest rate swap of 1.17% + 0.93% credit spread). The variable rate on this swap for the next six-month period is set at the 6m USD LIBOR rate of 1.1705%.

**Helpful hint**

The entries above follow the rules on hedge accounting under IFRS 9 but there are several ways the correct end position can be achieved. In particular, as an alternative to the entries shown above, a company could record the settlements on swap 2 to finance expense and make a separate posting to recycle this amount from the cash flow hedge reserve to profit or loss. IFRS does not prescribe posting schedules and actual posting schedules will depend on companies' system setup.

The alternative method discussed above would lead to the following journal entries with the same net result on the derivative balance, cash, OCI and finance costs:

**Record settlement of derivative interest**

Description	DR	CR
Income statement – Finance expense	64,750	
Cash		64,750

**Record recycling to income statement**

Description	DR	CR
OCI – Cash flow hedge reserve (due FV gains/losses)	64,750	
OCI – Cash flow hedge reserve (due to release)		64,750

**Fair value derivative**

Description	DR	CR
OCI – Cash flow hedge reserve	103,037	
Derivative		103,037

**30 November 20x6**

Interest rate 2 will expire at 31 December 20X6. In accordance with its risk management strategy, Company F needs to enter a further 1 year interest rate swap (interest rate swap 3) to fix interest rates for the next budget year once sales prices have been fixed in November 20x6.

**Hedge effectiveness assessment – Hedge 3 short term interest rate risk**

As described in the hedge documentation, the hedging instrument and the hedged transaction offset each other as their values move in the opposite direction as a result of movements in the USD LIBOR zero coupon curve. As such there is a clear economic hedge relationship.

The hedge ratio is set as described in the hedge documentation.

As the credit rating of the counterparty to the derivative is high and Company F's credit risk is considered to be good, the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

**Inception valuation interest rate swap 3**

The swap entered into by Company F is recognised at fair value on the balance sheet. The fair value of the swap is nil at inception, as it is issued at the prevailing market rate.

The fair value of the swap is nil at inception, as it is issued at the prevailing market rate.

	DR	CR
Derivative instruments – Interest rate swap 3	0	
Cash		0
Recognition of interest rate swap 3 at fair value (Nil)		

No further revaluation for the outstanding derivatives are performed as these are posted on 31 December 20x6.

### 31 December 20x6

#### *Hedge effectiveness assessment – long term interest rate risk*

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in payment dates, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** The hedge effectiveness requirements are met.

#### *Cash settlement of swap 1*

	DR	CR
Finance costs – Interest expense		399,750
Cash	399,750	
Settlement of swap: Receive 1.97% and pay 1.1705% for six months		

#### *Fair value of interest rate swap 1*

The total fair value of interest rate swap 1 at 31 December 20x6 is USD -1,209,024 (after cash settlement). The change in the fair value of the swap amounts to a credit of USD 579,665 for the six-month-period ended 31 December 20x6. The entire change in the fair value of the swap is recognised in profit and loss, as the critical terms remain unchanged during the six months period resulting in a fully effective hedge.

As the critical terms remain unchanged during the six months period the hedge relationship is assessed to be fully effective and all fair value movements on the derivative and bond will be posted through profit and loss.

	DR	CR
Finance cost – Hedge results	579,665	
Derivative instruments – Interest rate swap 1		579,665
Fair value hedge – Change in fair value of the swap		

#### *Recognition of interest of the bond*

	DR	CR
Finance costs – Interest expense	1,450,000	
Cash		1,450,000
Interest on bond at 2.90% for six months		

### *Fair value adjustment to the hedged item*

All the criteria for hedge accounting are met for the period ended 31 December 20x6, and fair value hedge accounting can be applied. The carrying amount of the bond is adjusted for the full fair value change of the hedged risk. The entry is as follows:

	DR	CR
Bond	579,665	
Finance costs – Hedge results		579,665
<b>Fair value hedge – Change in fair value of the bond attributable to the hedged risk</b>		

As the hedge is fully effective, there is no ineffectiveness recognised in profit and loss as the changes in the fair value of the derivative and the bond are perfectly offsetting.

These transactions result in a total charge of USD 1,050,250 to finance costs, which is equivalent to 2.105% interest for the period (i.e. the rate on the variable leg of the swap of 1.1705% + 0.93% credit spread). The variable rate on this swap for the next six-month period is set at the 6m USD LIBOR rate of 1.2905%.

The testing and accounting entries are carried out in the same manner throughout the remaining life of the hedge relationship 1.

### *Hedge effectiveness assessment – short term interest rate risk*

The hedge continues to meet the effectiveness requirements going forward as no change has occurred in the hedging relationship or hedge ratio (no change in forecast transaction dates, no change in notional amount, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** The hedge effectiveness requirements are met.

### *Fair value of interest rate swap 2*

Interest rate swap 2 matures at the end of the current period as such, once the final payment has been made, its fair value at that time is nil. The change in the fair value of the swap is 103,287, which amounts to a net credit of USD 103,037 (after cash settlement) for the six-month-period ended 31 December 20x6. The entire change in the fair value of the swap is recognised in other comprehensive income as the critical terms remain unchanged during the six months period resulting in a fully effective hedge.

The lower of test is performed to determine whether there is any ineffectiveness that needs to be recorded in profit or loss as follows:

<b>Lower off test</b>		
Change in hedging derivative	103,287	USD
Change in hypo – interest cash flows	(103,287)	USD
Lower of	103,287	USD

	DR	CR
Derivative instruments – Interest rate swap 2	103,287	
OCI – Cash flow hedge		103,287
<b>Cash flow hedge – Change in fair value of the swap</b>		

### Settlement of swap 2

	DR	CR
Cash	250	
Derivative instruments – Interest rate swap 2		250
<b>Settlement of swap: Receive 1.1705% (585,250) and pay 1.17% (585,000) for six months</b>		

### Recycling to income statement

Description	DR	CR
OCI – Cash flow hedge reserve (due to release)	250	
Income statement – Finance expense		250

Together with the net result of the 2 transactions in the fair value hedge (the aggregate exposure) this results in a total charge of USD 1,050,000 to finance costs, which is equivalent to 2.10% interest for the period (i.e. the rate on the fixed leg of the receive float pay fixed interest rate swap of 1.17% + 0.93% credit spread).

### Hedge effectiveness assessment – Hedge 3 short term interest rate risk

There has been no change in the hedged item or hedging instrument or the environment that may indicate that the economic relationship no longer exists.

The hedge ratio is unchanged since it has been set.

The effect of credit risk does not dominate the fair value of the instruments in the hedge relationship.

**Conclusion:** The hedge effectiveness requirements are met.

### Fair value of forward-starting interest rate swap 3

The fair value of the forward-starting interest rate swap 3 is USD 25,206. The change in the fair value of the swap amounts to a debit of USD 25,206 for the one-month-period ended 31 December 20x6. The entire change in the fair value of the swap is recognised in equity, as the critical terms remain unchanged during the one-month period resulting in a fully effective hedge.

### Recognition of fair value changes of the swap

As the critical terms remain unchanged during the six month period the hedge relationship is assessed to be fully effective and all fair value movements on the derivative will be posted through equity.

	DR	CR
OCI – Cash flow hedge reserve	25,206	
Derivative instruments – Interest rate swap 3		25,206
<b>Cash flow hedge – Change in fair value of the swap</b>		

NB: for simplicity the testing and accounting entries in 20x7, 20x8, 20x9 and 20x0 are not shown here, as these are carried out in the same manner throughout the remaining life of the hedge relationship.

### Result of hedge accounting

The effects of hedge accounting can be summarised as follows.

- Interest is fixed for each annual budget period at the market rate at the time the sales prices are set for the following calendar year.
- The overall result for the hedge of the aggregated exposure is that, for example, interest expense over first year was 2,035,500 instead of the 2,900,000 of the fixed interest expense of the debt.
- The loss on the forward starting interest rate swap entered into in November 20x6 is deferred until the next reporting period.

*Balance sheet and income statement (showing first two years of hedging relationship only)*

	Balance sheet						Income statement					
	Derivative instrument		OCI – Hedge reserve		Debt		Cash USD		Interest expense		Finance costs	
	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR
<b>31/12/20x5</b>												
Recognition of debt						100,000,000	100,000,000					
<b>30/06/20x6</b>												
Debt reval.					629,359							629,359
IRS 1 reval. (FV hedge accounting)		629,359										629,359
IRS 2 reval. (CF hedge accounting)		167,787	167,787									
Interest on debt								1,450,000	1,450,000			
Interest on IRS 1							464,750			464,750		
Interest on IRS 2	64,750			64,750				64,750	64,750			
<b>30/11/20x6</b>												
Inception of IRS 3 – No entry												
<b>31/12/20x6</b>												
Debt reval.					579,665							579,665
IRS 1 reval. (FV hedge accounting)		579,665										579,665
IRS 2 reval. (CF hedge accounting)	103,287			103,287								
IRS 3 reval. (CF hedge accounting)	25,206			25,206								
Interest on debt								1,450,000	1,450,000			
Interest on IRS 1							399,750			399,750		
Interest on IRS 2		250	250				250			250		
<b>Total</b>		<b>1,183,818</b>		<b>25,206</b>		<b>98,790,976</b>	<b>97,900,000</b>			<b>2,100,000</b>		<b>0</b>

*Statement of changes in equity*

	OCI hedge reserve	Retained earnings and other reserves
Profit for the year	-	1,050,000
Fair value on cash flow hedges	(167,787)	-
Reclassification cash flow hedges	64,750	-
<b>Equity as at 30/6/20x6</b>	<b>(103,037)</b>	<b>1,050,000</b>
Profit for the year	-	1,050,000
Fair value on cash flow hedges	128,493	-
Reclassification cash flow hedge	(250)	-
<b>Equity as at 31/12/20x6</b>	<b>25,206</b>	<b>2,100,000</b>

## ***Illustration 7: Hedge of forecast purchase of jet fuel – designation of risk components being crude oil price risk and refining margin or ‘crack spread’ price risk***

### ***Background and assumptions***

Company G is a US domestic logistics business with a USD functional currency. Its reporting dates are 30 June and 31 December.

Company G purchases jet fuel to operate a fleet of aircraft. Company G’s risk management objective and strategy is to hedge the commodity price risk arising from its highly probable forecast purchases of jet fuel up to 24 months in advance.

Company G has undertaken an analysis that demonstrates that in the local market in which it purchases jet fuel, the jet fuel price comprises the ICE Brent crude oil benchmark plus the spread between ICE Brent crude oil and jet fuel. The actual purchase price paid by Company G also includes taxes, transportation cost and other variable fuel costs (for example the cost associated with additives such as corrosion inhibitors) that are added onto the commodity indexed price.

Company G creates a schedule of its highly probable forecast purchases of jet fuel by monthly time bucket. Each monthly time bucket is first hedged by entering into a net cash settled crude oil forward contract of the same maturity. Six months before the purchase (from when that market is considered liquid), a net cash settled crack spread forward contract is then layered onto the hedge. Both purchases and derivatives are denominated in USD, therefore there is no FX exposure.

### ***Helpful hint***

*IFRS 9 para 6.3.7 allows the designation of a component as a hedged item as long as the component is less than the entire cash flows of the hedged item and the hedged risk component is separately identifiable and reliably measurable. In this example all components are incremental components of the final price, therefore all components (crude oil price, crack spread, taxes, transportation costs and variable fuel costs) will be less than the entire cash flows. Provided both the crude oil price and the crack spread are demonstrated to be separately identifiable and reliably measurable, either or both can be designated as the hedged item(s). This illustration assumes Company G has performed an analysis that demonstrates that, in the particular market in which it buys jet fuel, both the crude oil price and the crack spread meet these tests so can qualify as hedgeable risk components under IFRS 9.*

### ***Helpful hint***

*If the purchases were in a different currency to Company G’s functional currency then an alternative hedging strategy for which hedge accounting is now permitted by IFRS 9 would be to initially hedge only the crude oil price risk and subsequently add a hedge of the foreign currency risk, by using the ability to hedge an aggregated exposure as described in illustration 6.*

In line with its risk management objective and strategy, on 1 January 20x7 Company G enters into a net-cash settled forward crude oil contract with a third party commodity broker, with a nominal purchase volume of 5,500 barrels with a maturity of 30 September 20x8. On 1 March 20x8, Company G enters into a net-cash settled forward crack spread contract with the same broker for the same quantity and the same maturity. Both derivatives are priced on a forward rate for the month of maturity.

On 1 January 20x7, Company G's management designates the first derivative in a hedge relationship. The second derivative is then used in a second hedge relationship on 1 March 20x8.

On 30 September 20x8 Company G purchases jet fuel (750 tons – equivalent to 5,850 barrels) used evenly through the following month. The price of the jet fuel is due to be paid on 6 October 20x9.

The transactions are as follows:

<b>Physical purchase of jet fuel</b>	
<b>Hedged volume (barrel)</b>	5,500
<b>Purchase price</b>	Floating Jet Fuel price
<b>Other charges</b>	Transportation cost + applicable taxes + transportation costs + variable fuel costs
<b>Delivery date</b>	September 20x8 (evenly through the month)
<b>Settlement date</b>	6/10/20x8

<b>Forward purchase contract for crude oil</b>	
<b>Volume (barrel)</b>	5,500
<b>Forward price in USD/barrel</b>	53.93
<b>Net-cash-settled against ICE Brent Crude spot price on maturity date</b>	
<b>Start date</b>	1/1/20x7
<b>Maturity date</b>	30/9/20x8
<b>Settlement date</b>	2/10/20x8

<b>Forward purchase contract for the crack spread</b>	
<b>Volume (barrel)</b>	5,500
<b>Forward price in USD/barrel</b>	10.46
<b>Net-cash-settled against ICE Brent Crude spot price on maturity date</b>	
<b>Start date</b>	1/3/20x8
<b>Maturity date</b>	30/9/20x8
<b>Settlement date</b>	2/10/20x8

Annualised interest rates applicable for discounting a cash flow on 30 September 20x8 at various dates during the hedges are as follows:

	1/1/20x7	30/6/20x7	31/12/20x7	1/4/20x8	30/6/20x8
<b>USD interest rates p.a. (%)</b>	0.65%	0.38%	0.64%	0.62%	0.75%
<b>USD discount factor</b>	0.9886 <sup>23</sup>	0.9952	0.9952	0.9969	0.9981

Commodity forward prices at various dates during the hedge are as follows:

USD/barrel	1/1/20x7	30/6/20x7	31/12/20x7	1/4/20x8	30/6/20x8	30/9/20x8
<b>Crude<sup>24</sup></b>	53.93	70.88	73.59	89.73	90.33	92.13
<b>Crack spread<sup>17</sup></b>	8.00	8.88	9.85	10.46	10.78	10.28

## *Extracts from commodity price risk management policy*

### *Risk management strategy*

Company G is a US dollar functional currency airline which has an underlying business requirement to buy jet fuel. This is denominated in USD and the price paid includes transportation costs, taxes and other variable fuel costs.

Company G's risk management strategy is to hedge a portion of this exposure to jet fuel price risk based on an expected consumption up to 24 months before delivery. Company G then increases the coverage volume as delivery gets nearer. Company G has decided to hedge the underlying commodity price risk associated with jet fuel purchases, using the following derivatives as hedging instruments based on the liquidity of the derivatives markets and the time remaining until the forecast purchase:

- Six months to 24 months: crude oil derivatives; and
- Under six months: outright or synthetic jet fuel derivatives (synthetic jet fuel derivatives are created by combining a crack spread instrument with a new or existing crude oil based instrument).

## *Extract from hedging policies*

### *Hedging instruments*

Company G uses only commodity OTC forward contracts to hedge commodity risk. All derivatives must be entered into with counterparties with a credit rating of A or higher.

### *Hedge relationships*

Company G aims to qualify for hedge accounting for all material commodity risk hedges.

The entire change of the commodity forward contracts are designated as hedging instruments.

### *Hedge documentation*

At the inception of a hedging relationship management should formally document the hedging relationship including:

- The risk management objective and strategy;
- Identification of the hedging instrument, the hedged item, the nature of the risk being hedged and potential sources of ineffectiveness; and

<sup>23</sup> The discount factor has been derived from the annualised USD interest rate on 1 January 20x7 for cash flows on 30 September 20x8 and has been calculated as  $1/1.00065^{(\text{actual number of days}/360)}$ .

<sup>24</sup> For a forward contract maturing on 30 September 20x8 denominated in USD.

- Description of how management will assess whether the hedging relationship meets the hedge effectiveness requirements, including: (a) that there is an economic relationship between the hedged item and hedging instrument; (b) credit risk does not dominate the value changes that result from the economic relationship; and (c) the hedge ratio in the hedge relationship is the same as the quantity of the hedged item and of the hedging instrument that the entity actually uses for hedging purposes.

### *Hedge effectiveness*

Management assesses on an ongoing basis, whether the hedging relationships meet the hedge effectiveness requirements. At a minimum, Company G shall perform the ongoing assessment at each reporting date or upon a significant change in the circumstances affecting the hedge effectiveness requirements, whichever comes first. The assessment relates to expectations about hedge effectiveness and therefore is only forward-looking.

Consistent with Company G's risk management policy and nature of risk exposure, hedge effectiveness is assessed based on critical terms (amount, currency, maturity date). Management is therefore required to align the characteristics of the hedging instrument to those of the hedged item (nominal amount, commodity index and maturity).

In the documentation management will demonstrate on the basis of a qualitative assessment of the critical terms that the hedging instrument and the hedged item have values that will generally move in opposite directions.

### *Accounting entries*

If criteria for applying cash flow hedge accounting are met, the accounting entries during the duration of the hedge are as follows:

- Changes in the fair value of the hedging instruments are recognised in other comprehensive income (cash flow hedge reserve) and
- The amount will be removed from the cash flow hedge reserve and adjust and included in the initial cost of the jet fuel inventory (a basis adjustment).

### *Extracts from hedge documentation*

As of 1 January 20X7 Company G's hedge documentation is as follows:

#### *Risk management objective and strategy*

Company G's risk management objective is to initially utilise USD denominated crude oil derivatives to manage the underlying crude oil price risk component of the forecast jet fuel purchases. Subsequently, once the jet fuel market becomes sufficiently liquid Company G locks in the refining margin component of the jet fuel exposure by entering a 'crack spread' derivative (hedging the margin between crude oil and jet fuel); this instrument will be entered into a maximum of six months before the forecast jet fuel purchase date.

Through participation in the jet fuel markets, dialogue with market makers, quantitative correlation observations over medium term historical pricing data and an understanding of the market pricing mechanism Company G demonstrates that:

- ICE Brent is the most appropriate crude oil benchmark and is a separately identifiable and reliably measurable risk component of jet fuel pricing, and
- The crack spread is a separately identifiable and reliably measurable risk component of jet fuel pricing in its market.
- In accordance with IFRS 9 para 6.3.7 and to demonstrate an economic relationship between the hedging instrument and the hedged item, Company G has been able to demonstrate that the hedged items (the Brent crude oil and crack spread (Brent crude to jet fuel) risk components) are separately identifiable and reliably measurable in the context of the market structure to which those risk relate.

## *Hedging relationship*

Cash flow hedge: hedge of commodity price risk arising from highly probable jet fuel purchases denominated in USD.

Company G designates the crude oil forwards as a cash flow hedge of the crude oil commodity price risk embedded in the exposure to jet fuel prices.

Over time, as the forecasted jet fuel purchase moves closer (within six months), Company G locks in the refining margin component of the jet fuel exposure as the market for crack spread forwards becomes acceptably liquid. Thus, in accordance with its risk management strategy and executed under the risk management objective, Company G designates the crack spread forward in a separate hedging relationship.

## *Nature of risk being hedged*

The risk being hedged is the variability in USD cash flows attributable to movement in the crude oil component and refining margin in the purchase price of jet fuel denominated in USD. The other risk components affecting the variability of the purchase price are not hedged (transportation costs, taxes and variable fuel costs).

## *Identification of hedged items*

Hedged risk components:

1. From 1/1/20x7, the Brent crude oil risk component of the first 5,500 barrels of highly probable jet fuel purchases denominated in USD on 30 September 20X8 (based on September month end market prices).
- From 1/4/20x8, the crack spread (Brent crude to jet fuel) risk component of the first 5,500 barrels of highly probable jet fuel purchases denominated in USD on 30 September 20X8 (based on September month end market prices)

Expected timescale for the forecasted transactions to take place:

<b>Delivery of jet fuel</b>	30/9/20x8
<b>Settlement</b>	6/10/20x8.

Rationale for forecast transaction being highly probable to occur:

- Historically there has been a close match between forecast and actual fuel upload. A material change in routes flown and operating performance of aircraft, including type of aircraft used to operate various sectors would need to occur before the realisation of the forecast usage becomes less than highly probable.

## Identification of hedging instruments

### 1. Crude oil forward: transaction number JF\_CO\_5192

The hedging instrument has the following characteristics:

Forward purchase contract for crude oil	
Volume (barrel) <sup>25</sup>	5,500
Forward price in USD/barrel	53.93
Net-cash-settled against ICE Brent Crude spot price on maturity date	
Start date	1/1/20x7
Maturity date	30 September 20x8
Settlement date	2/10/20x8

The entire change of the forward contract is designated as a hedge of the forecast jet fuel purchase (see above) i.e. including forward points.

### 1. Crack spread forward: transaction number JF\_CO\_5193

Forward purchase contract for the crack spread	
Volume (barrel)	5,500
Forward price in USD/barrel	10.46
Net-cash-settled against ICE Brent Crude spot price on maturity date	
Start date	1/4/20x8
Maturity date	30 September 20x8
Settlement date	2/10/20x8

This instrument is designated in a second separate hedging relationship of the crack spread. The first hedge is not de-designated and the hypothetical derivative for the first derivative is not reset.

## Hedge effectiveness

In order to qualify for hedge accounting, the following effectiveness requirements have to be fulfilled.

### Economic relationship

Through participation in the jet fuel markets, dialogue with market makers, quantitative correlation observations over medium term historical pricing data and an understanding of the market pricing mechanism Company G demonstrates that:

- ICE Brent is the most appropriate crude oil benchmark and is a separately identifiable and reliably measurable risk component of jet fuel pricing, and
- The crack spread is a separately identifiable and reliably measurable risk component of jet fuel pricing in its market.

The forecast transaction to buy 5,500 barrels of jet fuel in USD with a delivery date of 30 September 20X8 (priced on the commodity prices relevant for 30 September 20X8) creates a commodity exposure to crude oil price risk. The net cash settled crude oil forward contract for 5,500 barrels creates an exact offset for this exposure.

<sup>25</sup> For the purposes of this illustration it has been assumed that the appropriate hedge ratio is 1:1. If this relationship changes there will be some ineffectiveness.

The forecast transaction to buy 5,500 barrels of jet fuel in USD with a delivery date of 30 September 20x8 (priced on the commodity prices relevant for 30 September 20x8) creates an exposure to jet fuel refining margin (crack spread). The net cash settled crack spread forward contract for 5,500 barrels creates an exact offset for this exposure.

### *Effect of credit risk*

As credit risk is not part of the hedged risk, the credit risk of Company G only impacts value changes of the hedging instruments.

Credit risk arises from the credit rating of Company G and the other counterparties to the forward contracts. Group Treasury monitors the company and the bank's credit risk for adverse changes. The risk associated with Company G and the bank is considered minimal and will be re-assessed in cases where there is a significant change in either party's circumstances.

### *Hedge ratio*

To comply with the risk management policy, the hedge ratio is based on a crude oil forward contract and a crack spread forward with notional volumes of 5,500 barrels with a maturity date of September 20X8 to offset a purchase of 5,500 barrels of jet fuel with a delivery date of 30 September 20X8, priced on the commodity indices for 30 September 20X8.<sup>26</sup>

This results in a hedge ratio of 1:1 or 100% for both hedge relationships

### *Sources of ineffectiveness*

Potential sources of ineffectiveness are:

- Change in the delivery date for the hedged items;
- Change in the volume of the hedged items if the amount falls below 5,500 barrels; and
- A change in the credit risk of Company G or the counterparty to the forward contract.

### *Frequency of assessing hedge effectiveness:*

Assessment of hedge effectiveness is done at inception of the hedge, at each reporting date (30 June and 31 December) and upon a significant change in the circumstances affecting the hedge effectiveness requirements.

### *Items excluded from the assessment of hedge effectiveness:*

No items are excluded from the assessment of hedge effectiveness.

## *Effectiveness tests and accounting entries*

The fair value of the derivatives throughout the hedge relationship:

	1/1/20x7	30/6/20x7	31/12/20x7	1/4/20x8	30/6/20x8	30/9/20x8	
<b>Crude forward</b>	-	92,754	107,628	196,304	199,811	210,100	USD
<b>Crack spread forward</b>	-	-	-	-	1,761	(985)	USD
<b>Total</b>	-	92,754	107,628	196,304	201,572	209,115	USD

<sup>26</sup> For simplicity it has been assumed that 5,500 barrels of crude oil is needed to produce 5,500 barrels of jet fuel. In practice the conversion ratio may be different, resulting in a hedge ratio of other than 1:1.

## Hedge accounting inception on 1 January 20x7

### Hedge effectiveness

As described in the hedge documentation, the hedging instrument and the hedged transactions offset each other in pricing terms and in amounts, meaning there is a clear economic relationship between hedging instrument and hedged item as required under IFRS 9. Thereby, management qualitatively demonstrates that the hedging instrument and the hedged items will move in the opposite direction.

The hedge ratio is set as described in the hedge documentation.

As the credit rating of the counterparty to the Brent crude forward is high and Company G's credit risk is considered to be good, the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

### Accounting entries

No entry, as the fair value of the forward contract is nil.

## Hedge accounting 30 June 20x7

### Hedge effectiveness

There has been no change in the hedged item or instrument or the environment that may indicate that the economic relationship no longer exists.

The hedge ratio is unchanged since it was set.

Because of the continued high credit quality of the counterparty to the Brent crude forward and Company G the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

### Accounting entries

Post the fair value movement on the derivative to other comprehensive income as follows:

	DR	CR	
Other comprehensive income – Cash flow hedge reserve		92,754	USD
Derivative	92,754		USD
<b>Recognition of change in fair value</b>			

Change in fair value (USD):  $92,754 - 0 = 92,754$ .

## Hedge accounting 31 December 20x7

### Hedge effectiveness

There has been no change in the hedged item or instrument or the environment that may indicate that the economic relationship no longer exists.

The hedge ratio is unchanged since it was set.

Because of the continued high credit quality of the counterparty to the Brent crude forward and Company G the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

### Accounting entries

Post the fair value movement on the derivative to other comprehensive income as follows:

	DR	CR	
Other comprehensive income – Cash flow hedge reserve		14,874	USD
Derivative	14,874		USD
<b>Recognition of change in fair value</b>			

*Change in fair value (USD): 107,638 – 92,754 = 14,874.*

### Hedge accounting 1 April 20x8

From this date forward the crack spread derivative is entered into and designated in a second hedge relationship.

### Hedge effectiveness

There has been no change in the first hedged item or hedging instrument or the environment that may indicate that the economic relationship no longer exists.

In relation to the new hedge of the crack spread, as described in the hedge documentation (and provided there have been no relevant changes since the economic relationship was demonstrated), the hedging instrument and the hedged transactions offset each other in pricing terms and in amounts, meaning there is a clear economic relationship between the hedging instrument and the hedged item as required under IFRS 9. Thereby, management qualitatively demonstrates that the hedging instrument and the hedged items will move in the opposite direction.

The hedge ratio on the first hedge is unchanged since it has been set and the hedge ratio on the second hedge is similarly 1:1.

Because of the continued high credit quality of the counterparty to the Brent crude forward, the high credit quality of the counterparty to the crack spread forward and Company G the effect of credit risk is considered as neither material nor dominant in the economic relationship.

### Accounting entries

Post the fair value movement on the derivative to other comprehensive income as follows:

	DR	CR	
Other comprehensive income – Cash flow hedge reserve		88,676	USD
Derivative	88,676		USD
<b>Recognition of change in fair value</b>			

*Change in fair value (USD): 196,304 – 107,638 = 88,676.*

### Hedge accounting 30 June 20x8

### Hedge effectiveness

There has been no such change in the hedged item or instrument or the environment that may indicate that the economic relationships no longer exist.

The hedge ratio is unchanged since it has been set.

Because of the continued high credit quality of the counterparty to the Brent crude forward, the high credit quality of the counterparty to the crack spread forward and Company G the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

### Accounting entries

Post the fair value movement on the derivatives to other comprehensive income as follows:

	DR	CR	
Other comprehensive income – Cash flow hedge reserve		5,268	USD
Derivative (Crude)	3,507		USD
Derivative (Crack spread)	1,761		USD
Recognition of change in fair value			

*Change in fair value (USD):*  $201,572 - 196,304 = 5,268$ .

### Hedge accounting 30 September 20x8

The derivative matures.

### Hedge effectiveness

There has been no such change in the hedged item or instruments or the environment that may indicate that the economic relationships no longer exist.

The hedge ratio is unchanged since it has been set.

Because of the continued high credit quality of the counterparty to the Brent crude forward, the high credit quality of the counterparty to the crack spread forward and Company G the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

### Accounting entries

Post the fair value movement on the derivatives to other comprehensive income as follows:

	DR	CR	
Other comprehensive income – Cash flow hedge reserve		7,543	USD
Derivative (Crude)	10,289		USD
Derivative (Crack spread)		2,746	USD
Recognition of change in fair value			

*Change in fair value (USD):*  $209,115 - 201,572 = 7,543$ .

## Hedge accounting 2 October 20X8

### Accounting entry Settlement of crude oil and crack spread forwards

	DR	CR	
USD cash	210,100		USD
Derivative		210,100	USD
USD cash		985	USD
Derivative	985		USD
<b>Settlement of crude oil and crack spread forwards</b>			

### Recognition of inventory

The trade payable is not recorded for simplification purposes. As such it is assumed the purchase is paid directly. In practice trade payables would be recognised. The inventory is recognised for the market price paid with a basis adjustment applied:

	DR	CR	
Inventory	575,000 <sup>27</sup>		USD
Cash		575,000	USD
Other comprehensive income – Cash flow hedge reserve	209,115		USD
Inventory – basis adjustment		209,115	USD
<b>Recognition of usage of purchased fuel. The fuel is purchased at actual spot price</b>			

### Summary of hedge accounting

To summarise the result that was achieved through application of hedge accounting:

- The jet fuel purchases have been recorded at the hedged rates from the Brent crude forward purchase contract plus the crack spread forward (plus unhedged components of the price) rather than at the market price for jet fuel on 30 September 20x8

The detailed entries are reflected in the table on the next page.

<sup>27</sup> Calculated based on 5,500 barrels at spot prices of \$92.13 per barrel for crude and \$10.28 for the crack spread and other costs of \$11,745 - ((10.28+92.13)\*5,500)+11,745

*Balance sheet and income statement*

	Balance sheet								Other comprehensive income	
	Derivative instrument (Crude oil forward)		Derivative instrument (Crack spread forward)		Inventory		Cash			
	DR	CR	DR	DR	DR	CR	DR	CR	DR	CR
<b>1/1/20x7</b>										
Inception of Crude oil forward -No entry										
<b>30/6/20x7</b>										
Fair value of derivative	92,754									92,754
<b>31/12/20x7</b>										
Fair value of derivative	14,874									14,874
<b>1/4/20x8</b>										
Fair value of derivative	88,676									88,676
<b>30/6/20x8</b>										
Fair value of derivatives	3,507		1,761							5,268
<b>30/9/20x8</b>										
Fair value of derivatives	10,289			2,746						7,543
<b>2/10/20x8</b>										
Settlement of derivatives		210,100	985					209,115		
Inventory recognition					575,000			575,000		
Release cash flow hedge reserve						209,115			209,115	
<b>Total/net effect</b>	-	-	-	-	<b>365,885</b>	-	<b>365,885</b>	-	-	-

*Statement of changes in equity*

	OCI – Hedge reserve	Retained earnings and other reserves
Profit for the year		0
Fair value on cash flow hedges	(107,628)	
Equity as at 31/12/20x7	107,628	0
Profit for the year		0
Fair value on cash flow hedges	(101,487)	
Reclassification of cash flow hedge reserve (to inventory)	209,115	
Equity as at 31/12/20x8	0	0

## ***Illustration 8: Hedge of forecast aluminium purchases denominated in a foreign currency***

### ***Background and assumptions***

Company H is a Swiss-based entity with a CHF (Swiss Franc) functional currency. Its reporting dates are 30 June and 31 December.

Company H produces and sells aluminium cans for the brewing industry (size 33cl). Based on Company H's sales plan the procurement department derived an estimated monthly minimum aluminium consumption of 1,850 metric tonnes (mt) for July 20x6 (to be delivered at the end of June 20x6). Company H has negotiated minimum volumes within its fixed price sales contracts meaning that the planned procurement volume is highly probable to occur. On 19 January 20x5, Company H's management decides to hedge the commodity price risk arising from the highly probable forecast purchase. The purchase price of aluminium varies based on the London Metal Exchange (LME) spot price plus charges to deliver to Company H's facility. The delivery charge per tonne is fixed for two years under a master agreement that includes the hedging period and the physical delivery date. Company H wants to hedge its highly probable forecast aluminium purchase which is expected to occur at the end of June 20x6.

Company H enters into a net-cash settled forward aluminium contract with a third party commodity broker on 19 January 20x5, with a nominal purchase volume of 1,850 metric tonnes of high-grade primary aluminium (per LME specifications; which is the same quality as the aluminium planned to be purchased) with a termination date on 30 June 20x6.

During March 20x6 Company H orders the physical aluminium (1,850 mt) for delivery on 30 June 20x6. The price of the physical aluminium is based on the LME spot price on delivery date (30 June 20x6) and is to be immediately settled. Additionally, the agreed fixed transportation fee is charged. The quality of the aluminium purchased is identical to that specified as the underlying of the net cash settled forward contract.

#### ***Helpful hint***

*For simplification in this example, the quality of the aluminium purchased is identical to that specified as the underlying of the hedging instrument, meaning ineffectiveness does not arise from differences in quality/grade of the commodity being hedged. If there were a difference in quality/grade this would be a source of ineffectiveness (unless the hedged quality/grade can be designated as a component. In such a case the entity will need to consider if the hedge meets the requirements in IFRS 9 para 6.4.1 for there to be an economic relationship between the hedged item and the hedging instrument. Also the hedge documentation will need to state how the entity will assess whether the hedging relationship meets the hedge effectiveness requirements.*

Due to the fact that the hedged item and the hedging instrument require settlement in USD, at the end of June 20x5, Company H enters into a foreign currency forward contract with an external bank to hedge the cash flows into its CHF functional currency. (This is consistent with Company H's foreign currency hedging policy, under which forecasted transactions can be hedged for a maximum time horizon of 12 months).

On 19 January 20x5, Company H's management designates the aluminium forward as a hedge of commodity price risk in USD (the first hedge relationship). Subsequently, on 30 June 20x5 in a second hedge relationship, Company H's management designates the foreign currency forward as a hedge of FX risk of the net-settlement amount of the aluminium forward in USD and the physical purchase of aluminium in USD (the total contractual amount plus the derivative cash flows). This second hedge is classed as a hedge of an aggregated exposure under IFRS 9.

**Helpful hint**

*This illustration shows how in practice to apply the ability in IFRS 9 to add an additional hedge (with a derivative) to a pre-existing hedge relationship, referred to in IFRS 9 as hedging an 'aggregated exposure'. In a hedge of an aggregated exposure, the hedged item is a combination of an exposure that could itself qualify as a hedged item and a derivative. Other examples of cases that involve hedging an aggregated exposure are:*

- Hedging the interest rate risk on a future bond issue without knowing in which currency the bond will be issued. The hedged item could be the combination of a foreign currency bond and a cross currency swap used to hedge the bond to the entity's functional currency.*
- Hedging a long term bond from fixed to floating rates for its entire life, then hedging the aggregated variable rate exposure to a fixed rate in selected periods.*
- Hedging the currency exposure on a fixed rate bond denominated in a foreign currency using a fixed to floating cross currency interest rate swap and subsequently hedging the aggregated variable interest rate risk using an interest rate swap.*

The transactions are as follows:

Physical purchase of aluminium	
<b>Hedged volume</b>	1,850 mt
<b>Contract price</b>	LME spot price on maturity date
<b>Transportation cost</b>	USD 17,112.50
<b>Delivery date</b>	30/6/20x6
<b>Settlement date</b>	30/6/20x6

Net settled forward purchase contract for aluminium	
<b>Volume in metric tonne(s) [mt]</b>	1,850 mt
<b>Forward price in USD/mt</b>	USD 2,049.00
<b>Net-cash-settled against LME aluminium spot price on maturity date</b>	
<b>Start date</b>	19/1/20x5
<b>Maturity date</b>	30/6/20x6
<b>Settlement date</b>	30/6/20x6

Foreign currency forward contract	
<b>Amount sold (CHF)</b>	3,169,962.28
<b>Amount purchased (USD)</b>	3,807,762.50 <sup>28</sup>
<b>Forward rate</b>	1 USD = 0.8325 CHF
<b>Start date</b>	30/6/20x5
<b>Maturity date</b>	30/6/20x6

<sup>28</sup> This amount is determined based on the forward price of aluminium per tonne plus the transport costs. i.e. (2,049 x 1,850) + 17,112.50 = 3,807,762.50

Exchange rates on various dates during the hedges are as follows:

	19/1/20x5	30/6/20x5	31/12/20x5	30/6/20x6
CHF/USD spot rate	0.9599	0.8352	0.9395	0.9555
CHF/USD forward rate <sup>29</sup>		0.8325	0.9369	
Forward points		(0.0027)	(0.0026)	

Annualised interest rates applicable for discounting a cash flow on 30 June 20x6 at various dates during the hedges are as follows:

	19/1/20x5	30/6/20x5	31/12/20x5
CHF interest rates (%)	0.1330%	0.0652%	0.0937%
USD interest rates (%)	0.6516%	0.3803%	0.6428%
CHF discount factor	0.9981 <sup>30</sup>	0.9993	0.9995
USD discount factor	0.9905	0.9961	0.9968

Aluminium forward prices at various dates during the hedge are as following:

	19/1/20x5	30/6/20x5	31/12/20x5	30/6/20x6
Aluminium forward price <sup>31</sup>	2,049.00	2,028.00	2,192.50	2,302.50

## *Extracts from commodity price and foreign currency risk management policies*

### *Commodity price risk – Aluminium*

Company H is exposed to commodity price risk because the prices of some of its purchases vary as a result of fluctuations of the spot price of aluminium in USD. Company H uses commodity forward contracts denominated in USD to hedge its aluminium purchases before delivery. All purchases are standardised: the quality and grade of the aluminium purchased do not differ. The aluminium price that Company H pays for its purchases differs only by the location (i.e. transportation costs).

### *Foreign currency risk*

Company H's functional currency is CHF. Company H is exposed to foreign exchange risk because some of its purchases and sales are denominated in currencies other than CHF. It is therefore exposed to the risk that movements in exchange rates will affect its cash flows, net income and financial position, as expressed in CHF.

Company H's foreign currency exposure arises from:

1. Highly probable forecast transactions (sales/purchases) denominated in foreign currencies;
2. Firm commitments denominated in foreign currencies; and
3. Monetary items (mainly trade receivables, trade payables and borrowings) denominated in foreign currencies.

<sup>29</sup> For a forward maturing on 30 June 20X6.

<sup>30</sup> 1 The discount factor has been derived from the annualised CHF interest rate on 30 June 20X5 for cash flows on 30 June 20x6 and has been calculated as  $1/1.000652^{(366 \text{ days}/360)}$ .

Forward points calculation 30/6/20x5:  $(0.0027) = 0.8352 * ((0.9961/0.9993) - 1)$ .

<sup>31</sup> For a forward contract maturing on 30 June 20x6 denominated in USD.

Company H is mainly exposed to EUR/CHF and USD/CHF risks. Transactions denominated in foreign currencies other than EUR and USD are not material.

Company H's policy is to hedge all material foreign exchange risk associated with highly probable forecast transactions, up to a maximum horizon of 12 months, firm commitments and monetary items denominated in foreign currencies.

## *Extract from hedging policies*

### *Hedging instruments*

Company H uses only forward contracts to hedge commodity price and foreign exchange risks. All derivatives must be entered into with counterparties with a credit rating of A or higher.

### *Hedge relationships*

Company H aims to qualify for hedge accounting for all material commodity price and foreign currency hedges.

The entire change of the commodity and foreign currency forward contracts (i.e. including forward points) are designated as hedging instruments.

### *Hedge documentation*

At the inception of a hedging relationship management should formally document the hedging relationship including:

- The risk management objective and strategy;
- Identification of the hedging instrument, the hedged item, the nature of the risk being hedged and potential sources of ineffectiveness; and
- Description of how management will assess whether the hedging relationship meets the hedge effectiveness requirements, including: (a) that there is an economic relationship between the hedged item and hedging instrument; (b) credit risk does not dominate the value changes that result from the economic relationship; and (c) the hedge ratio in the hedge relationship is the same as the quantity of the hedged item and of the hedging instrument that the entity actually uses for hedging purposes.

### *Hedge effectiveness*

Management assesses on an ongoing basis, whether the hedging relationships meet the hedge effectiveness requirements. At a minimum, Company H shall perform the ongoing assessment at each reporting date or upon a significant change in the circumstances affecting the hedge effectiveness requirements, whichever comes first. The assessment relates to expectations about hedge effectiveness and therefore is only forward-looking.

Consistent with Company H's risk management policy and nature of risk exposure, hedge effectiveness is assessed based on critical terms (amount, currency, maturity date). Management is therefore required to align the characteristics of the hedging instrument to those of the hedged item (nominal amount, currency and maturity).

In the documentation management will demonstrate on the basis of a qualitative assessment of the critical terms that the hedging instrument and the hedged item have values that will generally move in opposite directions.

## Accounting entries

If criteria for applying cash flow hedge accounting are met, the accounting entries during the hedge are as follows:

- Changes in the fair value of the hedging instruments are recognised in other comprehensive income (cash flow hedge reserve), and
- When the hedged forecast transaction subsequently results in the recognition of a non-financial asset (aluminium inventory), Company H removes the amount previously deferred in the cash flow hedge reserve and includes it directly in the initial cost or other carrying amount of the asset (i.e. basis adjustment).

## Extracts from hedge documentation – Aluminium

As of 19 January 20x5 Company H's hedge documentation is as follows (hedge relationship 1):

### Risk management objective and strategy

In order to comply with Company H's commodity price risk management strategy, the commodity price risk arising from the highly probable forecast aluminium purchase detailed below is hedged.

### Hedging relationship

Cash flow hedge: hedge of commodity price risk arising from highly probable aluminium inventory purchases denominated in USD.

### Nature of risk being hedged

Aluminium price risk in USD from a highly probable forecast purchase of aluminium denominated in USD that is expected to occur on 30 June 20x6.

### Identification of hedged item

Hedged amount: first 1,850 mt of aluminium denominated in USD purchased on 1 June 20X6. Expected timescale for the forecasted transactions to take place:

<b>Delivery of physical aluminium</b>	30/6/20x6
<b>Settlement</b>	30/6/20x6

Rationale for forecast transaction being highly probable to occur:

- Only hedging the minimum purchase requirements supported by minimum take clauses in sales contracts; and
- High quality of forecasts of the sales and related purchases due to clearly structured procurement and sales agreements, as demonstrated by consistently meeting past forecasts.

### Identification of hedging instruments

Aluminium forward: transaction number AJ\_AL\_4711 and

The hedging instrument has the following characteristics:

<b>Forward purchase contract for aluminium</b>	
<b>Volume in metric tonne(s) [mt]</b>	1,850 mt
<b>Forward price in USD/mt</b>	USD 2,049.00
<b>Net-cash-settled against LME aluminium spot price on maturity date</b>	
<b>Start date</b>	19/1/20x5
<b>Maturity date</b>	30/6/20x6
<b>Settlement date</b>	30/6/20x6

The entire change of the forward contract is designated as a hedge of the forecast aluminium purchase (see above) i.e. including forward points.

### *Hedge effectiveness*

In order to qualify for hedge accounting, the following effectiveness requirements have to be fulfilled.

#### *Economic relationship*

The hedged item creates an exposure to buy 1,850mt of Aluminium in USD with a delivery date of 30 June 20x6. The net cash settled aluminium forward contract for 1,850mt creates an exact offset for this transaction.

#### *Effect of credit risk*

As credit risk is not part of the hedged risk, the credit risk of Company A only impacts value changes of the hedging instrument.

Credit risk arises from the credit rating of Company A and the counterparty to the forward contract. Group Treasury monitors the company and the bank's credit risk for significant changes. The risk associated with Company A and the bank is considered minimal and will be re-assessed in cases where there is a significant change in either party's circumstances.

#### *Hedge ratio*

To comply with the risk management policy, the hedge ratio is based on an Aluminium forward contract with a notional volume of 1,850 mt with a maturity date of 30 June 20X6 to offset a purchase of 1,850 mt Aluminium with a delivery date of 30 June 20X6. This results in a hedge ratio of 1:1 or 100%.

#### *Sources of ineffectiveness*

Potential sources of ineffectiveness are:

- Change in the delivery date for the hedged items;
- Change in the volume of the hedged items if the amount falls below 1850mt; and
- A change in the credit risk of Company A or the counterparty to the forward contract.

#### *Frequency of assessing hedge effectiveness:*

Assessment of hedge effectiveness is done at inception of the hedge, at each reporting date (30 June and 31 December) and upon a significant change in the circumstances affecting the hedge effectiveness requirements.

#### *Items excluded from the assessment of hedge effectiveness:*

No items are excluded from the assessment of hedge effectiveness.

## Extracts from hedge documentation – Foreign currency risk

As of 30 June 20x5 Company H's hedge documentation is as follows (hedge relationship 2 i.e. aggregated exposure related to USD price risk on the aluminium purchase and the forward contract):

### Risk management objective and strategy

In order to comply with Company H's foreign exchange risk management strategy, the foreign exchange risk resulting from the aggregated FX exposure (i.e. FX exposure arising from the aluminium forward contract denominated in USD and the forecasted highly probable physical aluminium purchase detailed below) is hedged.

### Hedging relationship

Cash flow hedge: foreign currency risk arising from an aggregated foreign currency exposure i.e. composed of the FX currency exposures (i) gain or loss on the aluminium forward contract in USD and (ii) a highly probable physical, variable aluminium purchase in USD (see hedge relationship 1 above).

### Nature of risk being hedged

Aggregated USD/CHF exchange rate risk arising from the combination of a highly probable forecast purchase of aluminium denominated in USD that is expected to occur in June 20x6 and the related forward purchase of aluminium as designated in Hedge Relationship 1.

### Identification of hedged item

This aggregated exposure is calculated as follows:

$(1,850 \text{ mt} * 2,028 \text{ USD/mt}^{32}) + 17,112.50^{33}$	=	USD 3,768,912.50
$(2,049 \text{ USD/mt} - 2,028 \text{ USD/mt}) * 1,850 \text{ mt}$	=	USD 38,850.00 <sup>34</sup>
Aggregated FX exposure	=	USD 3,807,762.50
<b>Hedged amount</b>		USD 3,807,762.50

Expected timescale for the forecasted transactions to take place:

<b>Delivery of physical aluminium</b>	<b>30/6/20x6</b>
<b>Settlement</b>	a) Aluminium forward (30/6/20x6) and b) Physical aluminium purchase (30/6/20x6).

Rationale for forecast transaction being highly probable to occur:

- Only hedging the minimum purchase requirements supported by minimum take clauses in sales contracts; and
- High quality of forecasts of the sales and related purchases due to clearly structured procurement and sales agreements, as demonstrated by consistently meeting past forecasts.

<sup>32</sup> Commodity forward price as of 30/6/20X5 for a delivery on 30 June 20X6.

<sup>33</sup> Transportation cost

<sup>34</sup> fair value of the aluminium forward contract on 30/6/20X5

**Helpful hint**

*In this example hedge accounting is applied to both the initial hedge of aluminium and the subsequent foreign currency hedge of the aggregated exposure. IFRS 9 does not require hedge accounting to be applied to the initial hedge of the aluminium in order for the subsequent foreign currency hedge to qualify for hedge accounting (IFRS 9 para BC6.167). The aggregated exposure could be the hedged item for the subsequent hedging transaction even without applying hedge accounting for the initial hedge of aluminium price risk.*

**Identification of hedging instruments**

FX forward: transaction number AA\_FX\_USD\_0815.

The hedging instrument has the following characteristics:

Foreign currency forward contract	
Amount sold (CHF)	3,169,962.28
Amount purchased (USD)	3,807,762.50
Forward rate	1 USD = 0.8325 CHF
Start date	30/6/20x5
Maturity date	30/6/20x6

The entire change of the forward contracts is designated as the hedging instrument of the forecast aluminium purchase (see above) i.e. including forward points.

**Hedge effectiveness**

In order to qualify for hedge accounting, the following effectiveness requirements have to be fulfilled.

**Economic relationship**

The aggregated hedged item creates a USD/CHF exposure for USD 3,807,762. The USD/CHF forward to sell CHF 3,129,980.78 for USD 3,807,762.50 on 30 June 20x6 creates a near perfect offset for this transaction.

**Effect of credit risk**

Credit risk arises from the credit rating of Company A and the counterparties to the two forward contracts (both banks). Group Treasury monitors the company and the banks' credit risk for significant changes. The risk associated with Company A and the banks is considered minimal and will be re-assessed in cases where there is a significant change in any party's circumstances.

**Hedge ratio**

To comply with the risk management policy, the hedge ratio is based on a USD/CHF exposure of 3,807,762.50 hedged with a USD/CHF forward contract with a notional amount of USD 3,807,762.50. This results in a hedge ratio of 1:1 or 100%.

**Sources of ineffectiveness**

Potential sources of ineffectiveness are:

- Change in the delivery date for the hedged items;
- Change in the volume of the hedged items if the amount falls below 1850mt; and
- Change in the credit risk of any counterparty to the hedging instruments.

### *Frequency of assessing the hedge effectiveness*

Assessment of hedge effectiveness is done at inception of the hedge, at each reporting date (30 June and 31 December) and upon a significant change in the circumstances affecting the hedge effectiveness requirements.

### *Items excluded from the assessment of hedge effectiveness:*

No items are excluded from the assessment of hedge effectiveness.

## *Effectiveness tests and accounting entries*

### *19 January 20x5*

#### *Hedge effectiveness assessment – aluminium price risk (Hedge 1)*

As described in the hedge documentation, the critical terms of the hedging instrument and the hedged transactions (i.e. quality/grade, amount of aluminium, currency and delivery/settlement dates) are the same, meaning there is a clear economic relationship between hedging instrument and hedged item as required under IFRS 9. Thereby, management qualitatively demonstrates that the hedging instrument and the hedged items will move in the opposite direction.

The hedge ratio is set as described in the hedge documentation.

Because of the high credit quality of the counterparty to the forward contract and Company H the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

#### *Inception aluminium forward*

No entry, as the fair value of the forward contract is nil, as shown below:

Fair value (FV) of the aluminium forward:

Aluminium forward (derivative)		
Contract volume	1,850	mt
Contract price	2,049	USD
FV of fixed leg in USD (A)	<b>3,790,650</b>	<b>USD</b>
Contract volume	1,850	mt
Forward price	2,049	USD
FV of market leg in USD (B)	<b>3,790,650</b>	<b>USD</b>
Undiscounted FV (B-A)	-	USD
Discount factor USD	0.9905	
FV of the forward	-	<b>USD</b>
Spot rate	0.9599	
FV of the forward	-	<b>CHF</b>

### *30 June 20x5*

#### *Hedge effectiveness assessment – aluminium price risk (Hedge 1)*

There has been no change in the hedged item or hedging instrument that may indicate that the economic relationship no longer exists.

The hedge ratio is unchanged since it was set.

Because of the continued high credit quality of the counterparty to the forward contract and Company H the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

### *Fair value of forward – aluminium price risk (Hedge 1)*

Fair value (FV) of the aluminium forward is as follows

Aluminium forward (derivative)		
Contract volume	1,850	mt
Contract price	2,049	USD
FV of fixed leg in USD (A)	3,790,650	USD
Contract volume	1,850	mt
Forward price	2,028.00	USD
FV of market leg in USD (B)	3,751,800	USD
Undiscounted FV (B-A)	(38,850)	USD
Discount factor USD	0.9961	
FV of the forward	(38,698)	USD
Spot rate	0.8352	
FV of the forward	(32,321)	CHF

The lower of test is performed as follows:

Lower of test		
Change in hedging derivative	(32,321)	CHF
Change in hypo – purchase of aluminium	32,321	CHF
Lower of	32,321	CHF

The entry is as follows:

	DR	CR	
Other comprehensive income – Cash flow hedge reserve (equity)	32,321		CHF
Derivative		32,321	CHF
Recognition of change in fair value			

Change in fair value (CHF):  $(32,322) - 0 = (32,322)$ .

### *Hedge effectiveness assessment – foreign currency risk (Hedge 2)*

As described in the hedge documentation, the critical terms of the hedging instrument and the hedged transactions (i.e. quality/grade, amount of aluminium, currency and delivery/settlement dates), meaning there is a clear economic relationship between hedging instrument and hedged item as required under IFRS 9. Thereby, management qualitatively demonstrates that the hedging instrument and the hedged items will generally move in the opposite direction.

The hedged aggregated exposure is as follows

(1) $(1,850 \text{ mt} \times 2,028 \text{ USD/mt}^1) + 17,112.50^2$	=	USD 3,768,912.50
(2) $(2,049 \text{ USD/mt} - 2,028 \text{ USD/mt}) \times 1,850 \text{ mt}^3$	=	USD 38,850.00
Aggregated FX exposure	=	USD 3,807,762.50

Where (1) represents the exposure from the forecast physical aluminium purchase and (2) represents the exposure from fair value of the aluminium forward. There has been no change in the total aggregated FX exposure since inception of the original hedge (hedge I).

The hedge ratio for hedge 2 is set on this date at 1:1 as explained above.

Because of the continued high credit quality of the counterparty to the forward contract and Company H the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

### *Fair value forward – foreign currency risk (Hedge 2)*<sup>35</sup>

Fair value (FV) of the foreign currency forward

No entry, as the fair value of the forward contracts is nil, as shown below:

FX Forward (derivative)		
Notional amount in USD	3,807,763	USD
Forward rate	0.8325	
Notional amount in CHF	3,169,962	CHF
Discount factor CHF	0.9993	
FV of the USD leg in CHF (A)	3,167,743	CHF
Notional amount in CHF	(3,169,962)	CHF
Discount factor CHF	0.9993	
FV of the CHF leg (B)	(3,167,743)	CHF
(A+B) FV of the derivative	0	CHF

### *31 December 20x5*

#### *Hedge effectiveness assessment – aluminium price risk (Hedge 1)*

There has been no change in the hedged item or instrument or the environment that may indicate that the economic relationship no longer exists.

The hedge ratio is unchanged since it was set.

Because of the continued high credit quality of the counterparty to the forward contract and Company H the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

<sup>35</sup> For the purposes of this illustration to demonstrate the principles of hedging an aggregated exposure, currency basis has been ignored. In practice, if material, currency basis would need to be included.

*Fair value forward – aluminium price risk (Hedge 1)*

Fair value (FV) of the aluminium forward

Aluminium forward (derivative)		
Contract volume	1,850	mt
Contract price	2,049	USD
FV of fixed leg in USD (A)	3,790,650	USD
Contract volume	1,850	mt
Forward price	2,192.50	USD
FV of market leg in USD (B)	4,056,125	USD
Undiscounted FV (B-A)	265,475	USD
Discount factor USD	0.9968	
FV of the forward	264,625	USD
Spot rate	0.9395	
FV of the forward	248,616	CHF

The lower of test is performed as follows:

Lower of test		
Change in hedging derivative	280,937	CHF
Change in hypo – purchase of aluminium	(280,937)	CHF
Lower of	280,937	CHF

The entry is as follows:

	DR	CR	
Derivative	280,937		CHF
Cash flow hedge reserve (equity)		280,937	CHF
Recognition of change in fair value			

Change in fair value (CHF):  $248,616 - (32,321) = 280,937$ .*Hedge effectiveness assessment – foreign currency risk (Hedge 2)*

There has been no change in the hedged item or instrument or the environment that may indicate that the economic relationship no longer exists. The aggregated exposure is unchanged.

The hedge ratio is unchanged since it has been set.

Because of the continued high credit quality of the counterparty to the forward contract and Company H the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

*Fair value forward – foreign currency risk (Hedge 2)*

Fair value (FV) of the foreign currency forward

FX Forward (derivative)		
Notional amount in USD	3,807,762.50	USD
Forward rate	0.9369	
Notional amount in CHF	3,567,493	CHF
Discount factor CHF	0.9995	
<b>FV of the USD leg in CHF (A)</b>	<b>3,565,709</b>	<b>CHF</b>
Notional amount in CHF	(3,169,962)	CHF
Discount factor CHF	0.9995	
<b>FV of the CHF leg (B)</b>	<b>(3,168,377)</b>	<b>CHF</b>
<b>(A+B) FV of the derivative</b>	<b>397,332</b>	<b>CHF</b>

The hedged aggregated exposure is unchanged as is calculated as follows:

(1) $(1,850 \text{ mt} \times 2,192.5 \text{ USD/mt}^1) + 17,112.50$	=	USD 4,073,237.50
(2) $(2,192.5 \text{ USD/mt} - 2,049 \text{ USD/mt}) \times 1,850 \text{ mt}$	=	USD 265,475.00
Aggregated FX exposure (1)-(2)	=	USD 3,807,762.50

Where (1) represents the exposure from the forecast physical aluminium purchase and (2) represents the exposure from fair value of the aluminium forward. There has been no change in the total aggregated FX exposure since inception of the original hedge (hedge I).

The lower of test is performed as follows:

Lower of test		
Change in hedging derivative	397,332	CHF
Change in hedged aggregated FX exposure	$(397,332)^{36}$	CHF
Lower of	397,332	CHF

The entry is as follows:

	DR	CR	
Derivative	397,332		CHF
Cash flow hedge reserve (equity)		397,332	CHF
Recognition of change in fair value			

*30 June 20x6**Hedge effectiveness assessment – aluminium price risk (Hedge 1)*

There has been no change in the hedged item or instrument or the environment that may indicate that the economic relationship no longer exists.

<sup>36</sup>  $(0.9369 - 0.8325) \times 3,807,762.5$

The hedge ratio is unchanged since it has been set.

Because of the continued high credit quality of the counterparty to the forward contract and Company H the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

### *Fair value forward – aluminium price risk (Hedge 1)*

Fair value (FV) of the aluminium forward

Aluminium forward (derivative)		
Contract volume	1,850	mt
Contract price	2,049	USD
FV of fixed leg in USD (A)	3,790,650	USD
Contract volume	1,850	mt
Forward price	2,302.50	USD
FV of market leg in USD (B)	4,259,625	USD
Undiscounted FV (B-A)	468,975	USD
Discount factor USD	1.00000	
FV of the forward	468,975	USD
Spot rate	0.9555	
FV of the forward	448,106	CHF

The lower of test is performed as follows:

Lower of test		
Change in hedging derivative	448,106	CHF
Change in hypo – purchase of aluminium	(448,106)	CHF
Lower of	448,106	CHF

The entry is as follows:

	DR	CR	
Derivative	199,490		CHF
Cash flow hedge reserve (equity)		199,490	CHF
Recognition of change in fair value			

Change in fair value (CHF):  $448,106 - 248,616 = 199,490$

### *Settlement of forward – aluminium price risk (Hedge 1)*

	DR	CR	
USD cash	448,106		CHF
Derivative		448,106	CHF
Settlement of aluminium forward			

**Hedge effectiveness assessment – foreign currency risk (Hedge 2)**

There has been no change in the hedged item or instrument or the environment that may indicate that the economic relationship no longer exists. The aggregated exposure is unchanged.

The hedge ratio is unchanged since it has been set.

Because of the continued high credit quality of the counterparty to the forward contract and Company H the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met.

**Fair value forward – foreign currency risk (Hedge 2)**

Fair value (FV) of the foreign currency forward

FX Forward (derivative)		
Notional amount in USD	3,807,763	USD
Forward rate	0.9555	
Notional amount in CHF	3,638,317	CHF
Discount factor CHF	1.0000	
FV of the USD leg in CHF (A)	3,638,317	CHF
Notional amount in CHF	(3,169,962)	CHF
Discount factor CHF	1.0000	
FV of the CHF leg (B)	(3,169,962)	CHF
(A+B) FV of the derivative	468,355	CHF

The hedged aggregated exposure is unchanged as is calculated as follows:

(1) (1,850 mt* 2,302.5 USD/mt) + 17,112.50	=	USD	4,276,737.50
(2) (2,302.5USD/mt – 2,049USD/mt)* 1,850 mt)	=	USD	468,975.00
Aggregated FX exposure (1)-(2)	=	USD	3,807,762.50

Where (1) represents the exposure from the forecast physical aluminium purchase and (2) represents the exposure from fair value of the aluminium forward. There has been no change in the total aggregated FX exposure since inception of the original hedge (hedge I).

The lower of test is performed as follows:

Lower of test		
Change in hedging derivative	468,355	CHF
Change in hedged aggregated FX exposure	(468,355) <sup>37</sup>	CHF
Lower of	468,355	CHF

<sup>37</sup> (0.9555 - 0.8325)\*3,807,762.5

The entries are as follows:

	DR	CR	
Derivative	71,023		CHF
Cash flow hedge reserve (equity)		71,023	CHF
<b>Recognition of change in fair value</b>			

Change in fair value (CHF):  $468,355 - 397,332 = 71,023$

### *Settlement of forward – foreign currency risk (Hedge 2)*

	DR	CR	
USD cash receipt (measured in CHF) <sup>38</sup>	3,638,317		CHF
CHF Cash payment		3,169,962	CHF
Derivative		468,355	CHF
<b>Recognition of foreign currency forward settlement</b>			

### *Recognition of aluminium inventory*

Recognition of the physical aluminium purchase at spot rate plus transportation cost as direct costs

	DR	CR	
Inventory (raw material)	4,086,423		CHF
Cash <sup>39</sup>		4,086,423	CHF
<b>Recognition of aluminium purchase</b>			

Inventory is recognised at USD  $(1,850 \times 2,302.50 + 17,112.50) \times 0.9555$  CHF/USD = CHF 4,086,423

### *Reclassification adjustment – Hedge 1 & 2*

	DR	CR	
Cash flow hedge reserve (equity)	916,461		CHF
Inventory (raw material) <sup>40</sup>		916,461	CHF
<b>Recognition of change in fair value</b>			

Note: For simplicity it was assumed that the inventory was purchased and paid for on the same day.

### *Result of hedge accounting*

To summarise the results from the application of hedge accounting:

- The aluminium purchases are recorded at the commodity price in the forward contract (not the current market price) and at the exchange rate specified in the additional foreign exchange forward contract.
- There is no requirement to reset the original commodity price hedge when the foreign currency hedge is added.

<sup>38</sup> USD  $3,807,762.50 \times 0.9555$

<sup>39</sup>  $((1,850 \text{ mt} \times 2,302.5 \text{ USD}) + 17,112.50 \text{ USD}) \times 0.9555$

<sup>40</sup> Total cost of inventory  $4,086,423 + (916,461) = 3,169,962$ . Which reflects the hedged rates of the aluminium forward and the FX forward  $((1,850 \text{ mt} \times 2,049.00 \text{ USD}) + 17,112.50 \text{ USD}) \times 0.8325$ .

*Balance sheet and income statement*

	Balance sheet											
	Derivative instrument (Aluminium forward)		Derivative instrument (FX forward)		OCI – Hedge reserve		Payable		Inventory		Cash (USD and CHF)	
	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR
<b>19/1/20x5</b>												
Inception of AI forward -No entry												
<b>30/6/20x5</b>												
Inception of FX forward – No entry												
CFH accounting		32,321			32,321							
<b>31/12/20x5</b>												
CFH accounting – AI	280,937					280,937						
CFH accounting – FX			397,332			397,332						
<b>30/6/20x6</b>												
CFH accounting – AI	199,490					199,490						
Settlement AI forward		448,106										448,106
CFH accounting – FX			71,023			71,023						
Settlement FX forward				468,355								468,355
Recognition AI inventory								4,086,423	4,086,423			
Reclassification					916,461					916,461		
<b>Total</b>	-	-	-	-	-	-		<b>4,086,423</b>	<b>3,169,962</b>			<b>916,461</b>

*Statement of changes in equity*

	OCI – Hedge reserve	Retained earnings and other reserves
	DR/(CR)	DR/(CR)
Equity as at 31/12/20x4		
Profit for the year		0
Fair value on cash flow hedges	(678,269)	
Equity as at 31/12/20x5	(678,269)	0
Profit for the year		0
Fair value on cash flow hedges	(270,513)	
Recycling of cash flow hedge reserve	916,461	
Equity as at 31/12/20x6	0	0

# Illustration 9: Hedge of a net investment in a foreign operation

## Background and assumptions

Company I, a UK company with a GBP functional currency, has an Italian subsidiary, Company D, whose functional currency is EUR. Company I's reporting dates for its consolidated financial statements are 30 June and 31 December. The group's presentation currency is GBP.

On 30 June 20x6, Company I issues a two-year floating rate debt in euros. No transaction costs are incurred relating to the debt issuance.

Company I's management has chosen to issue euro-denominated debt to fund the net investment in Company D. It wishes to reduce volatility in the consolidated balance sheet arising from GBP/EUR fluctuations by designating the debt as a hedge of the net investment. On 30/6/20x6, the net investment in Company D is EUR 100m. It is not expected to fall below EUR 100m, as company D is an established business that has been profitable for many years and its forecasts for the next two years, as approved by Company I's board of directors, show it continuing to make material profits in excess of forecast dividends.

### Helpful hint

*A net investment in a foreign operation is the amount of the reporting entity's interest in the net assets of the operation, including goodwill. If the entity is financed through an inter-company loan that will not be repaid in the foreseeable future (often referred to as a 'quasi-equity' loan), this loan is included in the net investment.*

Exchange rates on various dates during the hedge relationship are as follows:

	30/6/20x6	31/12/20x6	30/6/20x7	31/12/20x7
GBP/EUR spot rate	1.2693	1.2530	1.2732	1.2750

## Extract from foreign currency risk management strategy

A foreign currency exposure arises from net investments in group entities whose functional currency differs from the parent's functional currency (GBP). The risk is defined as the risk of fluctuation in spot exchange rates between the functional currency of the net investments and the parent's functional currency. This will cause the amount of the net investment to vary. Such a risk may have a significant impact on the group's financial statements.

The group is an international retailer operating around the world, particularly in Western Europe (the Netherlands, Italy and the UK) and the US. The biggest subsidiary is based in Italy. The group's presentation currency is GBP. Foreign currency risk arises from transactions denominated in foreign currencies and net investments in foreign operations.

Company I's policy is to hedge all material foreign exchange risk associated with net investments in foreign operations. Company I's policy is to hedge the risk of changes in the relevant spot exchange rate and use non-derivative financial instruments to hedge the currency risk.

## Extracts from foreign currency risk management Policy

### Hedging instruments

The group uses non-derivative financial instruments such as foreign currency borrowings to hedge foreign currency risk on net investments in foreign operations.

**Helpful hint**

*Non-derivative financial instruments can be designated as hedging instruments of foreign currency risk, provided that such non-derivative financial instruments are not investments in equity instruments for which the entity has elected to present the changes in fair value in other comprehensive income or financial liabilities designated at fair value through profit or loss for which changes in credit risk are presented in other comprehensive income. (IFRS 9 para 6.2.2)*

**Hedge relationship**

Only changes in the foreign currency risk are designated as the hedging instrument. This foreign currency risk component of a non-derivative instrument is determined in accordance with IAS 21 in line with para B6.2.3 of IFRS 9.

**Hedge documentation**

At the inception of a hedging relationship management should formally document the hedging relationship including:

- The risk management objective and strategy;
- Identification of the hedging instrument, the hedged item, the nature of the risk being hedged (GBP/EUR spot exposure) and potential sources of ineffectiveness; and
- Description of how management will assess whether the hedging relationship meets the hedge effectiveness requirements, including: (a) that there is an economic relationship between the hedged item and hedging instrument; (b) credit risk does not dominate the value changes that result from the economic relationship; and (c) the hedge ratio in the hedge relationship is the same as the quantity of the hedged item and of the hedging instrument that the entity actually uses for hedging purposes.

**Hedge effectiveness**

Company I shall assess on an ongoing basis, whether the hedging relationship meets the hedge effectiveness requirements. At a minimum, an entity shall perform the ongoing assessment at each reporting date or upon a significant change in the circumstances affecting the hedge effectiveness requirements, whichever comes first. The assessment relates to expectations about hedge effectiveness and therefore is only forward-looking.

Consistent with risk management policy and nature of risk exposure, hedge effectiveness is demonstrated based on critical terms (amount, currency). Management is therefore required to align the characteristics of the hedging instrument to those of the hedged item (carrying amount, currency).

In the documentation management will demonstrate on the basis of a qualitative assessment of those critical terms that the hedging instrument and the hedged item have values that will generally move in opposite directions because of the same risk, which is the hedged risk.

**Accounting entries**

If the criteria for applying net investment hedge accounting are met, the accounting entries during the duration of the hedge are as follows:

- Foreign currency revaluation determined in line with IAS 21 on the net investment are recorded in other comprehensive income and deferred in the foreign currency translation reserve.
- Foreign currency revaluation determined in line with IAS 21 on the borrowing are recorded in other comprehensive income and deferred in the foreign currency translation reserve as long as they are effective in offsetting the changes in the carrying value of the net investment due to spot changes. Any ineffectiveness is recorded in profit and loss in the period it occurs.

If the criteria for applying net investment hedge accounting cease to be met including if the borrowing has matured, the accounting entries are the following:

- The hedge adjustment recorded during the life of the hedge remains in equity until the disposal or partial disposal of the hedged foreign operation.
- On the disposal of a foreign operation that was hedged, the related amount of the hedge adjustment is reclassified or 'recycled' to profit or loss from the foreign currency translation reserve [IFRS 9 para 6.5.14]. The amount reclassified to profit or loss is the amount included in the foreign currency translation reserve in respect of that foreign operation.
- Except for those partial disposals that result in the parent losing control of the net investment, on the partial disposal of a subsidiary that includes a foreign operation, a proportionate share of the cumulative exchange differences recognised in other comprehensive income is re-attributed to the non-controlling interest.

### **Helpful hint**

*IFRS 9 para B6.5.4 requires the time value of money to be considered when measuring hedge ineffectiveness. Where the designated hedging instrument is the foreign currency risk component of a non-derivative instrument (such as a borrowing), this component is measured using IAS 21 (IFRS 9 para B6.2.3) without any further discounting. This is because the amortised cost of the non-derivative instrument already reflects the time-value of money*

*Similarly, the revaluation of the hedged net investment is determined using IAS 21 and is not adjusted for the time value of money.*

## **Extracts from hedge documentation**

Company I's hedge documentation is as follows:

### ***Risk management objective and strategy***

In order to comply with Company I's foreign exchange risk management strategy, the net investment in Company D is hedged as set out below.

### ***Hedging relationship***

Net Investment Hedge

### ***Nature of risk being hedged***

In accordance with the group's risk management policies, the hedged risk is the risk of changes in the EUR/GBP spot exchange rate that will result in changes in the value of the group's net investment in Company D when translated into GBP.

### ***Identification of hedged item***

The group's net investment in EUR in Company D on 30 June 20x6 is EUR 100m. The first EUR 100m of the net investment is designated as the hedged item.

## *Identification of hedging instrument*

Transaction number: Reference number G0901Z in the treasury management system.

The hedging instrument is a two-year floating rate debt with the following characteristics:

<b>Type</b>	Issued debt
Principal amount	EUR 100m
Start date	30/6/20x6
Maturity date	30/6/20x8
Interest rate	Six-month EURIBOR
Settlement dates	31/12/20x6, 30/6/20x7, 31/12/20x7, 30/6/20x8

Hedge designation: the foreign currency exposure of debt G0901Z is designated as a hedge of the change in the value of the net investment identified above that is attributable to movements in the GBP/EUR spot rate.

## *Hedge effectiveness*

### *Economic relationship*

The net investment creates a translation risk to the GBP/EUR spot rate.

A foreign currency exposure arises from net investments in group entities whose functional currency differs from the parent's functional currency. The risk is defined as the risk of fluctuation in spot exchange rates between the functional currency of the net investments and the parent's functional currency. This will cause the amount of the net investment to vary. Such a risk may have a significant impact on the group's financial statements.

### *Effect of credit risk*

As hedge adjustments are calculated on an IAS 21 basis, credit risk does not impact the hedge relationship and does not dominate the hedge relationship.

### *Hedge ratio*

To comply with the risk management policy, the borrowing is designated as a hedge of the first EUR 100 million of the Italian net investment. This results in a hedge ratio of 1:1 or 100%.

### *Sources of ineffectiveness*

The following potential sources are identified:

- Decline in carrying value of the net investment in EUR below 100m.

### *Frequency of assessing hedge effectiveness*

Hedge effectiveness is assessed at inception of the hedge, at each reporting date (30 June and 31 December), and on a significant change in the circumstances affecting the hedge effectiveness requirements.

### *Items excluded from the assessment of hedge effectiveness*

Only the IAS 21 revaluation is included in the hedge effectiveness assessment.

## Assessing economic relationship and journal entries

30 June 20x6

### Assess economic relationship

As described in the hedge documentation, the critical terms of the hedging instrument and the hedged items perfectly match. Therefore, management can qualitatively assess that there is an economic relationship between the hedging instrument and the hedged item and that they will generally move in the opposite direction.

**Conclusion:** The hedge effectiveness requirements are met.

### Recognition of debt

The debt is recognised at the proceeds received by Company I, which represents its fair value on the issuance date. The debt is classified as other financial liabilities and will subsequently be measured at amortised cost.

	DR	CR	
Cash	78,783,582		GBP
Debt		78,783,582	GBP
Recognition of new borrowing			

31 December 20x6

### Assess economic relationship

The net investment in Company D has increased due to retained profits in the period. Hence the designated hedged item of the first EUR 100,000,000 continues to exist in full.

As described in the hedge documentation, critical terms of the hedging instrument and the hedged items perfectly match. Therefore, management can qualitatively assess that there is an economic relationship between the hedging instrument and the hedged item and that they will generally move in the opposite direction.

**Conclusion:** The hedge effectiveness requirements are currently met.

### Revaluation borrowing

As the hedge has been fully effective for the period, the entire foreign currency loss on the debt is recognised in other comprehensive income, and there is no ineffectiveness to recognise in profit or loss.

	DR	CR	
OCI – Currency translation reserve	1,024,878		GBP
Debt		1,024,878	GBP
Revaluation of borrowing			

This is calculated as follows:

Borrowing			
Opening borrowing in EUR	(100,000,000)		
EUR/GBP spot exchange rate at 30/6/20x6	1.2693		
Opening borrowing in GBP at inception		(78,783,582)	
Closing borrowing in EUR	(100,000,000)		
EUR/GBP spot exchange rate at 31/12/20x6	1.2530		
Closing borrowing in GBP		(79,808,460)	
Change		(1,024,878)	

### Revaluation net investment

A gain of GBP 1,024,878 will also be recognised in the translation reserve from the translation of the hedged net investment in the Italian subsidiary. As a result, the net change in the translation reserve for the six months ended 31/12/20x6 is nil.

	DR	CR	
Net investment	1,024,878		GBP
Other comprehensive income – Currency translation reserve		1,024,878	GBP
Revaluation of net investment			

This is calculated as follows:

Net investment			
Opening net investment in EUR	100,000,000		
EUR/GBP spot exchange rate at 30/6/20x6	1.2693		
Opening net investment in GBP		78,783,582	
Closing net investment in EUR	100,000,000		
EUR/GBP spot exchange rate at 31/12/20x6	1.2530		
Closing net investment in GBP		79,808,460	
Change		1,024,878	

### 30 June 20x7

#### Assess economic relationship

During the period, Company I's net investment decreased to EUR 98.5m because Company D made unexpected losses.

Although Company D made a loss in the period, the risk being hedged is the change in spot foreign exchange rates. The hedging instrument, the borrowing, is denominated in EUR and so Company I's assessment is that gains and losses on the borrowing attributable to foreign exchange continue to move in the opposite direction to the hedged item, the net investment, because the currencies match. Company D is also expected to return to profitability in the next period in line with its long running historic performance so the amount of the net investment is not expected to decrease further.

**Conclusion:** An economic relationship still exists and the hedge effectiveness requirements are met.

#### Revaluation of the net investment

A loss of GBP 1,244,535 will be recognised in the translation reserve from the translation of the hedged net investment in the Italian subsidiary.

	DR	CR	
Other comprehensive income – Currency translation reserve	1,244,535		
Net investment		1,244,535	
Revaluation net investment			

This is calculated as follows:

Net investment		
Opening net investment in EUR	100,000,000	
EUR/GBP spot exchange rate at 31/12/20x6	1.2530	
Opening net investment in GBP (A)		79,808,460
Loss for the period in EUR	(1,500,000)	
Average exchange rate for the period	1.2630	
Loss for the period in GBP (B)		(1,187,554)
Closing net investment in EUR	98,500,000	
EUR/GBP spot exchange rate at 30/6/20x7	1.2732	
Closing net investment in GBP (C)		77,376,122
Change attributable to FX (C-B-A)		(1,256,783)

### Revaluation of the borrowing

As the hedge has not been fully effective for the period, ineffectiveness must be recognised in profit or loss.

	DR	CR
Debt	1,266,204	
Other comprehensive income – Currency translation reserve		1,256,783
Income statement – Foreign exchange difference		9,421
Revaluation borrowing		

This is calculated as follows:

Borrowing		
Opening borrowing in EUR	(100,000,000)	
EUR/GBP spot exchange rate at 31/12/20x6	1.2530	
Opening borrowing in GBP at inception		(79,808,460)
Closing borrowing in EUR	(100,000,000)	
EUR/GBP spot exchange rate at 30/6/20x7	1.2732	
Closing borrowing in GBP		(78,542,256)
Change		1,266,204

As the change in the hedging instrument (the debt) is greater than the change in the hedged item (the net investment), it is not fully offset by the hedged item. The difference must therefore be recognised in profit or loss as ineffectiveness.

### Helpful hint

*Even though the net investment balance is now below that previously hedged there is no release of the hedge adjustment previously recognised in the foreign currency translation reserve. This is because the decline in net investment is not due to a disposal or partial disposal. As such there is no recycling of the foreign currency translation reserve related to the hedged item and therefore also no recycling of the related hedge adjustment.*

## 31 December 20x7

### Assess economic relationship

During the period, Company I's net investment increased back above EUR 100m because Company D made sufficient profits in the six months ended 31 December 20x7.

The hedging instrument, the borrowing, is denominated in EUR and so Company I's assessment is that gains and losses on the borrowing attributable to foreign exchange continue to move in the opposite direction to the hedged item, the net investment, because the currencies match. Company D is also expected to continue to be profitable for the foreseeable future.

The critical terms of the hedging instrument and the hedged items perfectly match. Therefore, management can qualitatively assess that there is an economic relationship between the hedging instrument and the hedged item and that they will generally move in the opposite direction.

**Conclusion:** The hedge effectiveness requirements are met.

### Revaluation of the net investment

A loss of GBP 110,051 will be recognised in the translation reserve from the translation of the hedged net investment in the Italian subsidiary.

	DR	CR
Other comprehensive income – Currency translation reserve	110,051	
Net investment		110,051
Revaluation net investment		

This is calculated as follows:

Net investment		
Opening net investment in EUR	98,500,000	
EUR/GBP spot exchange rate at 30/6/20x7	1.2732	
Opening net investment in GBP (A)		77,364,122
Profit for the period in EUR	1,500,000	
Average exchange rate for the period	1.2741	
Profit for the period in GBP (B)		1,177,302
Closing net investment in EUR	100,000,000	
EUR/GBP spot exchange rate at 31/12/20x7	1.2750	
Closing net investment in GBP (C)		78,431,373
Change attributable to FX (C-B-A)		(110,051)

### *Revaluation of the borrowing and settlement*

As the hedge has not been fully effective for the period, ineffectiveness must be recognised in profit or loss.

	DR	CR
Debt	110,883	
Debt	78,431,373	
Other comprehensive income – Currency translation reserve		110,051
Income statement – Foreign exchange difference		832
Cash		78,431,373
<b>Revaluation and settlement of borrowing</b>		

This is calculated as follows:

<b>Borrowing</b>		
Opening borrowing in EUR	(100,000,000)	
EUR/GBP spot exchange rate at 31/12/20x6	1.2732	
Opening borrowing in GBP at inception		(78,542,256)
Closing borrowing in EUR	(100,000,000)	
EUR/GBP spot exchange rate at 31/12/20x7	1.2750	
Closing borrowing in GBP		(78,431,373)
Change		110,883

As the change in the hedging instrument (the debt) is greater than the change in the hedged item (the net investment), it is not fully offset by the hedged item. The difference must therefore be recognised in profit or loss as ineffectiveness.

### *Result of hedge accounting*

The result that was achieved from the application of hedge accounting is as follows:

- Over the period when the hedge has been fully effective a 100% offset in cumulative translation reserve is achieved, leading to a net booking of zero in the currency translation reserve in equity.
- Ineffectiveness is recorded in profit and loss in the periods it arises.

The detailed entries are reflected in the table on the next page.

*Balance sheet and income statement*

	Balance sheet						Income Statement <sup>41</sup>			
	OCI – Currency revaluation reserve		Borrowing		Net Investment		Cash GBP		Foreign exchange differences	
	DR	CR	DR	CR	DR	CR	DR	CR	DR	CR
<b>30/06/20x6</b>										
Recognition borrowing				78,783,582				78,783,582		
<b>31/12/20x6</b>										
NIH – Revaluation borrowing	1,024,878			1,024,878						
Revaluation NI		1,024,878			1,024,878					
<b>30/6/20x7</b>										
NIH – Revaluation borrowing		1,244,535	1,266,204							9,421
Revaluation NI	1,244,535				1,244,535					
<b>30/12/20x7</b>										
NIH – Revaluation borrowing		110,051	110,883							832
Revaluation NI	110,051				110,051					
Settlement of debt			78,431,373					78,431,373		
<b>Net total</b>	-	-	-	-	-	<b>329,708</b>	<b>352,209</b>	-	-	<b>10,253</b>

<sup>41</sup> For simplicity the profits/losses of Company D have not been included

*Statement of changes in equity*

	OCI currency revaluation reserve Dr/(Cr)	Retained earnings and other reserves Dr/(Cr)
<b>Profit for the year</b>	-	-
<b>FX gains losses net investment hedges</b>	1,024,878	-
<b>FX gains losses in net investments</b>	(1,024,878)	-
<b>Equity as at 31/12/20x6</b>	-	-
<b>Profit for the year</b>	-	10,253
<b>FX gains losses net investment hedges</b>	(1,354,586)	-
<b>FX gains losses in net investments</b>	1,354,586	-
<b>Equity as at 31/12/20x7</b>	-	10,253

## ***Illustration 10: Hedge of foreign currency denominated borrowing with a cross-currency interest rate swap (CCIRS)***

*This example illustrates one possible method of applying the requirements of IFRS 9 to separate currency basis spreads when applying hedge accounting to cross-currency interest rate swaps. Other acceptable methodologies might also be available. It is recommended to consult with a financial instrument specialist if a different methodology is proposed.*

*NB: in this example the fair values of the swap and the basis free swap are indicative only and are based on an assumed currency basis spread of 1%.*

### ***Background and assumptions***

Company J, with a NZD functional currency, issued fixed rate GBP denominated debt on 1 July 20x1. Interest on the loan is payable every six months and the principal amount is payable on 31 December 20x2. The company economically hedges the foreign currency risk arising from the debt with a 'receive fixed pay fixed' cross-currency interest rate swap ('swap') on 1 July 20x1, and decides to designate the instruments in a cash flow hedge accounting relationship on the same date. In addition, Company J decides that it wants to exclude the currency basis spread from the hedge relationship and only designate the remainder of the swap as the hedging instrument.

Its reporting dates are 30 June and 31 December each year.

### ***Helpful hint***

*In the valuation of cross-currency interest rate swaps and long-term currency forwards, spreads are applied to cash flows in currencies with a perceived higher credit risk or lower liquidity. These spreads – commonly referred to as 'currency basis spreads' – are typically quoted in the market against a USD LIBOR benchmark. In assessing hedge effectiveness, IFRS 9 does not allow the inclusion of currency basis spreads into the hedged item as they only exist in the hedging instrument. Any changes in these currency basis spreads could therefore lead to hedge ineffectiveness and volatility in profit or loss due to the measurement mismatch between the hedging instrument and the hedged item.*

*However, the IASB recognised the risk of ineffectiveness, and so it permits entities to separate the foreign currency basis spreads from the hedging instrument and account for the changes in spread in the same manner as forward points (i.e. recognise movements in OCI and defer them in a separate component of equity to the extent that they are aligned to the hedged item).*

*This treatment is optional, but if adopted, will help to increase the effectiveness of the hedging relationship and mitigate volatility in profit or loss.*

The NZD leg of the swap contract entered into to hedge the foreign currency risk arising from the loan liability perfectly matches the terms of the loan liability. The terms of the swap contract are as follows:

<b>Type</b>	Cross-currency interest rate swap
<b>Receive leg notional amount</b>	GBP 1,000,000
<b>Receive leg interest rate</b>	4%
<b>Pay leg notional amount</b>	NZD 2,000,000
<b>Pay leg interest rate</b>	6%
<b>Fixed exchange rate</b>	2
<b>Start date</b>	1/7/20x1
<b>Maturity date</b>	31/12/20x2
<b>Settlement dates</b>	Every six months
<b>Fair value on designation date</b>	NZD 0 (the value is assumed zero as the swap was entered into at market-related terms).

The fair values of the underlying instruments and spot exchange rates on key dates during the hedge are as follows:

Reporting date	Swap (A)	Basis-free swap (B)	Change in currency basis (C) (A–B)	Basis-free Hypo (D) <sup>42</sup>	Spot exchange rate
	Fair value	Fair value	Cumulative	Fair value	GBP/NZD
1/7/20x1	0	0			2.0000
31/12/20x1	25,000	35,000	(10,000)	(35,000)	2.0200
30/6/20x2	30,000	33,000	(3,000)	(33,000)	2.0280
31/12/20x2	40,000	40,000	0	(40,000)	2.0400

### *Explanation of valuations required to determine the required accounting entries*

Swap (A) represents the full fair value of the actual hedging instrument.

In order to assess the movements in currency basis spreads, a 'Basis-free swap (B)' is required. This could be a swap with the same terms (i.e. GBP leg notional and interest rate, as well as NZD leg notional amount) and fair value as the actual swap on designation date, but with a recalculated 'basis free' NZD interest rate based on a valuation technique which excludes any currency basis spreads on designation date (i.e. rather than discounting the NZD leg with interest rates derived from the NZD basis curve, it is discounted at the NZD swap/OIS curve (whichever is most appropriate)). The difference between the fixed rate on the actual swap and the fixed rate on the basis-free swap should approximate the currency basis spread on the designation date. This amount should be amortised to profit or loss over the life of the hedging relationship.

On subsequent valuation dates, the fair values of the actual swap A (based on normal swap valuation principles) and the basis-free swap B (valued without any basis spread adjustments) will be calculated. The difference between the two values should approximate the cumulative change in the currency basis spreads (C) to be recognised in OCI (i.e.  $A - B = C$ ) to the extent aligned to the hedged item (see 'aligned' currency basis spreads below). These changes would result from movements in the currency basis curve as well as the erosion of

<sup>42</sup> The basis-free hypo is equal and opposite to the basis-free s

interest cash flows over time. On the maturity date of the swap, the fair value of the actual swap (A) would be equal to the fair value of Basis-free swap (B), resulting in no residual currency basis difference on maturity.

A hypothetical derivative which will represent the change in the fair value of the hedged item needs to be constructed on designation date. This should also be constructed without the inclusion of currency basis spreads. The 'hypo' will therefore be constructed as a 'pay fixed GBP, receive fixed NZD' cross-currency swap, with the GBP leg being equal to the terms of the hedged item. The terms of the local currency leg will be determined by solving for a fair value of zero on designation date, based on market related data at that date.

The hypothetical derivative (which is basis-free as well as based on the terms of the actual exposure) will determine the extent to which ineffectiveness (if any) will be recorded in profit or loss.

### **Helpful hint**

*In this instance, the terms of the hypothetical derivative (D) will be the same as that for Basis-free swap (B) since the terms of loan and the swap are exactly the same, and the swap's fair value is assumed to be zero at inception.*

*In instances where the hedging instrument's fair value is not zero on designation date, or where the terms of the hedging instrument do not exactly match those of the hedged item, aligned currency basis spreads and ineffectiveness should be calculated.*

*In order to calculate the 'aligned' currency basis spreads (C1), an 'aligned swap (A1)' should be created with a profile that mirrors the hedged item, but based purely on market prices (including basis spreads) on the designation date (i.e. it would have a fair value of zero on designation date). The aligned basis spreads can then be determined as the difference between the subsequent changes in fair value of the hypo (D) and the aligned swap (A1) (i.e.  $C1 = A1 - D$ ).*

*On subsequent measurement dates, all the swaps above will be revalued, i.e.:*

1. Actual swap A;
2. Basis-free swap B;
3. Aligned swap A1; and
4. The hypothetical derivative D.

*Company J will need to identify whether the aligned or actual currency basis spread is larger in absolute terms at inception. If the actual currency basis was lower than the aligned basis spread, the lesser of the amount of the 'aligned basis movement (C1)' ( $A1 - D$ ), or the 'actual basis movement (C)' ( $A - B$ ), will be deferred in equity at each reporting date, and any residual movement will be recorded in profit or loss (where C1 is smaller than C). If the actual currency basis is higher in absolute terms than the aligned basis spread, then the amount to defer in equity is always determined with reference to the aligned basis spread, with the difference between the two recorded in profit or loss. [See IFRS 9 para B6.5.38-39 for further details.]*

## **Extracts from foreign currency risk management policies**

Company J's functional currency is the NZD. Company J is exposed to foreign exchange risk when some of its funding activities, purchases and sales are denominated in currencies other than NZD. It is therefore exposed to the risk that movements in exchange rates will affect both its net income and financial position, as expressed in NZD.

Company J's foreign currency exposure arises from:

- Highly probable forecast transactions (sales/purchases) denominated in foreign currencies;
- Firm commitments denominated in foreign currencies; and
- Monetary items (loans, trade payables and receivables) denominated in foreign currencies.

Company J's policy is to hedge all material foreign exchange risk associated with highly probable forecast transactions, firm commitments and monetary items denominated in foreign currencies.

## *Extracts from hedging policies*

### *Hedging instruments*

Only cross-currency swap contracts are used to hedge long-dated foreign exchange risk. All derivatives must be entered into with counterparties with a credit rating of A or higher.

### *Hedging relationship*

Changes in the forward exchange rates (i.e. spot plus interest rate differentials) are designated as the hedged risk. In order to eliminate potential volatility arising from movements in currency basis spreads, currency basis spreads are excluded from the hedge relationship designation.

### *Hedge documentation*

At the inception of a hedging relationship management should formally document the hedging relationship including:

- The risk management objective and strategy;
- Identification of the hedging instrument, the hedged item, the nature of the risk being hedged and potential sources of ineffectiveness; and
- Description of how management will assess whether the hedging relationship meets the hedge effectiveness requirements, including: (a) that there is an economic relationship between the hedged item and hedging instrument; (b) credit risk does not dominate the value changes that result from the economic relationship; and (c) the hedge ratio in the hedge relationship is the same as the quantity of the hedged item and of the hedging instrument that the entity actually uses for hedging purposes.

### *Hedge effectiveness*

Entity A shall assess on an ongoing basis, whether the hedging relationship meets the hedge effectiveness requirements. At a minimum, Entity A shall perform the ongoing assessment at each reporting date or upon a significant change in the circumstances affecting the hedge effectiveness requirements, whichever comes first. The assessment relates to expectations about hedge effectiveness and is therefore only forward-looking.

Consistent with its risk management policy and the nature of risk exposure, hedge effectiveness requirements are demonstrated based on critical terms (amount, interest rate, currency, settlement and maturity dates). Management is therefore required to align the characteristics of the hedging instrument to those of the hedged item (nominal amount, interest rate, currency, settlement and maturity dates).

In the documentation management will demonstrate on the basis of a qualitative assessment of those critical terms that the hedging instrument and the hedged item have values that will generally move in opposite directions.

### *Accounting entries*

If the criteria for cash flow hedge accounting are met, the accounting entries during the duration of the hedge are as follows:

- The change in fair value of the hedging instrument excluding the impact of basis spread movements is recognised in other comprehensive income (and deferred in equity), with any ineffectiveness recorded in profit or loss.
- The above-mentioned amount deferred in equity is recycled to profit or loss to the extent that the hedged item impacts profit or loss (e.g. through the accrual of interest and the translation of the loan balance to spot on reporting date).

- The change in fair value of the hedging instrument related to the basis spread movements is recognised in a separate component of equity to the extent that it relates to the hedged item. The basis spreads priced into the terms of the hedging instrument, to the extent that it relates to the hedged item, are expensed on a systematic and rational basis over the period of the hedging relationship.

### *Extracts from hedge documentation*

Company J's hedge documentation is as follows:

#### *Risk management objective and strategy*

In order to comply with Company J's foreign exchange risk management strategy, the changes in the cash flows relating to the hedged item detailed below arising from foreign exchange risk is hedged.

#### *Hedging relationship*

Cash flow hedge: hedge of the changes in cash flows in local currency terms arising from changes in foreign exchange rates.

#### *Nature of risk being hedged*

GBP/NZD forward exchange rate risk arising from interest and loan principal settlements required in GBP on the dates as detailed below.

#### *Identification of hedged item*

<b>Hedged amount</b>	GBP 1,000,000
<b>Nature of transaction</b>	Recognised foreign currency denominated loan liability

Expected cash flow dates:

<b>Interest</b>	30 June and 31 December of each year up to maturity
<b>Principal</b>	31/12/20x2

#### *Identification of hedging instrument*

Transaction number: reference number K1129 in the treasury management system.

The hedging instrument is a cross-currency interest rates swap with the following characteristics:

<b>Type</b>	Cross-currency interest rate swap
<b>Receive leg notional amount</b>	GBP 1,000,000
<b>Receive leg interest rate</b>	4%
<b>Pay leg notional amount</b>	NZD 2,000,000
<b>Pay leg interest rate</b>	6%
<b>Fixed exchange rate</b>	2
<b>Start date</b>	1/7/20x1
<b>Maturity date</b>	31/12/20x2
<b>Settlement dates</b>	Every six months
<b>Fair value on designation date</b>	NZD 0

The currency basis spreads are excluded from the hedge designation. Only the changes in the aligned currency basis spreads will be recognised in OCI.

### *Hedge effectiveness*

In order to qualify for hedge accounting, the following effectiveness requirements have to be fulfilled.

#### *Economic relationship*

As per 'the cash flow hedge on foreign currency exposure policy', critical terms shall be applied to assess qualitatively the economic relationship between the hedging instrument and the hedged item.

The hedged item creates an exposure to settle foreign currency denominated interest and principal amounts in local currency terms. As the hedged exposure is exactly matched by the GBP leg of the swap (that is, they both have the same GBP amounts and the same payment dates), an economic relationship exists.

#### *Effect of credit risk*

As credit risk is not part of the hedged risk, the credit risk of Company J only impacts value changes of the hedging instrument.

Credit risk arises from the credit rating of Company J and the counterparty bank to the cross currency interest rate swap. Group Treasury monitors the company and the bank's credit risk for adverse changes. The risk associated with Company J and the bank is considered minimal, and at inception, does not dominate the value changes that result from the economic relationship (that is, the effect of changes in GBP/NZD). This will be re-assessed in cases where there is a significant change in either party's circumstances.

#### *Hedge ratio*

To comply with the risk management policy, the hedge ratio is based on a hedging instrument with the same notional amount in GBP terms as the underlying exposure. This results in a hedge ratio of 1:1 or 100%. This is the ratio that the entity uses for risk management purposes, and such ratio is appropriate for purposes of hedge accounting as it does not result in an imbalance that would create hedge ineffectiveness.

#### *Sources of ineffectiveness*

The following potential sources are identified:

- The fair value of the hedging instrument on the hedge relationship designation date (if not zero);
- Changes in the contractual terms or timing of the payments on the hedged item; and
- A change in the credit risk of Company J or the counterparty to the cross currency interest rate swap.

In order to measure actual ineffectiveness which should be recorded in profit or loss, a hypothetical derivative is constructed on designation date to model the change in the fair value of the hedged item. This should be constructed without the inclusion of credit risk. The 'hypo' will therefore be constructed as a 'pay fixed GBP, receive fixed NZD' cross currency interest rate swap. For the purposes of this illustration it has been assumed that the result of the 'lower of<sup>43</sup>' test is that the full fair value change of the derivative is recognised in other comprehensive income if the effectiveness requirements of IFRS 9 are met.

#### *Frequency of assessing hedge effectiveness*

Hedge effectiveness is assessed at inception of the hedge, at each reporting date (30 June and 31 December), and upon a significant change in the circumstances affecting the hedge effectiveness requirements.

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<sup>43</sup> IFRS 9 para 6.5.11 requires that the lower of the cumulative gain or loss on the hedging instrument and the cumulative change in fair value of the hedged item is recognised through other comprehensive income in a separate component of equity.

### Calculation of ineffectiveness

The change in the fair value of the hedged item will be calculated using the hypothetical derivative method. The hypothetical derivative will be based on a cross-currency swap with the same terms as the GBP leg of the hedged item, solved for a fair value of zero on designation date. The hypothetical derivative will exclude the impact of any currency basis spreads.

The calculation of the ineffectiveness to be recorded in profit or loss will be based on the difference between the change in the fair value of the hedging instrument (excluding basis spreads) and the hypothetical derivative, but only to the extent that the change in the fair value of the hedging instrument exceeds that of the hypothetical derivative.

### Items excluded from the assessment of hedge effectiveness:

All changes in fair value of the derivative instrument attributable to changes in the basis spreads between the GBP and NZD will be excluded from assessment of hedge effectiveness. Such amounts will be recognised in OCI and deferred in a separate component of equity to the extent that they are aligned to the hedged item.

## Effectiveness tests and accounting entries

### 1 July 20x1

#### Hedge effectiveness assessment

As described in the hedge documentation, the GBP denominated leg (i.e. critical terms) of the hedged item and the hedging instrument perfectly match, and the swap is 'at the market' on designation date. Therefore, management can qualitatively assess that the hedging instrument and the hedged item will move in the opposite direction and will be perfectly offset.

The hedge ratio is set as described in the hedge documentation.

Because of the high credit quality of the counterparty to the forward contract and Company J, the effect of credit risk is considered as neither material nor dominant in the economic relationship.

**Conclusion:** The hedge effectiveness requirements are met, and hedge accounting will be applied prospectively.

#### Hedge designation

The hedge accounting relationship is designated on this date. The 'basis-free swap' used to calculate the change in the fair value of the swap excluding the basis risk is therefore set-up to have a fair value of NZD zero (i.e. matching the fair value of the hedging instrument on designation date). The hypothetical derivative used to assess the hedge effectiveness (which excludes the impact of any currency basis spreads) is also set up to have a fair value of zero.

Assume that the fixed interest rate on the NZD leg of the basis-free swap was calculated as 5% on designation date. This would imply that the current market currency basis spread for the relevant term amounts to 1% when compared to the 6% fixed rate on the NZD leg of the swap. In this instance, the aligned basis spread is the same as the actual basis spread priced into the NZD leg of the swap. The basis spread should be amortised to profit or loss over the period to which the spread relates (i.e. the term of the hedge relationship in this instance). Any changes in the spread may be recognised in OCI.

No journal is processed for the swap as it had a fair value of zero at inception.

### Initial recognition of the foreign currency denominated loan at spot rate:

The entry is as follows	DR	CR
Loan liability		2,000,000
Cash	2,000,000	

## 31 December 20x1

### Assessment of qualification for hedge accounting on 31 December 20x1

The hedge relationship still qualifies for hedge accounting as there has been no change in the hedging relationship or hedge ratio (no change in the date or amount of the loan cash flows, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** The hedge accounting requirements are met.

### Fair value derivative

For the purposes of this illustration it has been assumed that the result of the 'lower of' test is that the full fair value change of the derivative is recognised in other comprehensive income as there has been no change in credit risk and the CCIRS had a fair value of zero at inception. All the criteria for hedge accounting are met for the period ended 31 December 20x1. Cash flow hedge accounting can therefore be applied.

Separation of currency basis spreads

	Full fair value	Basis-free fair value	Movement in currency basis spreads
Fair value on designation date	0	0	
Fair value on reporting date	25,000	35,000	
Change in fair value (FV)	25,000	35,000	(10,000)

The entry is as follows	DR	CR
Derivative	25,000	
Other comprehensive income – Hedging reserve		35,000
Other comprehensive income – Basis spread element	10,000	
Cash Flow Hedge – Change in fair value of the swap		

### Calculation of ineffectiveness (excluding currency basis spreads)

	Basis-free swap	Basis-free hypo	Ineffectiveness
Fair value on designation date	0	0	
Fair value on reporting date	35,000	(35,000)	
Change in fair value (FV)	35,000	(35,000)	0

No ineffectiveness is recognised.

### Recording of the swap cash flows for the six-month period

The entry is as follows	DR	CR
Income statement – finance expense	19,600	
Cash		19,600
Recording the interest cash flows on the derivative		

**Helpful hint**

As previously mentioned, the 6% fixed rate on the NZD leg of the swap is considered to comprise an interest rate component of 5% and a 1% currency basis spread on designation date. Since the 1% basis spread as calculated on designation date has been recognised in profit or loss through the recording of the cash flows incurred, the separate amortisation of the actual/aligned basis spreads would not be necessary in this instance.

The separate amortisation of the basis spreads to profit or loss would however be required in instances where regular cash flows are not recorded in profit or loss during the life of the hedging instrument, such as when hedging only a foreign currency principal payment with a long-dated forward contract.

**Record recycling to income statement**

Description	DR	CR
OCI – Cash flow hedge reserve (due to FV gains/losses)	19,600	
OCI – Cash flow hedge reserve (due to release)		19,600

**Helpful hint**

In many cases companies will record the gross fair value movements on the derivative through other comprehensive income, then record cash settlements on the derivative against the derivative carrying value on the balance sheet and record a reclassification release from the hedging reserve through OCI and into profit or loss. That helps the company to demonstrate the fair value movements related to the hedge going into and out of the hedge reserve in accordance with IFRS 7. In this example we have shown the cash payments directly through profit or loss with an additional journal to show the notional gross movements through OCI. Both methods enable the correct end position to be achieved. IFRS does not prescribe posting schedules and actual posting schedules will depend on companies' system setup.

The alternative method discussed above would lead to the following indicative journal entries with the same net result on the derivative balance, cash, OCI and finance expense:

**Fair value derivative**

Description	DR	CR
Derivative	5,400	
OCI – Hedging reserve		15,400
OCI – Basis spread element	10,000	

**Record settlement of derivative interest**

Description	DR	CR
Derivative	19,600	
Cash		19,600

**Record recycling to income statement**

Description	DR	CR
Income statement – interest expense	19,600	
OCI – Cash flow hedge reserve (due to release)		19,600

### Calculation and recording of aligned currency basis spreads

Since the terms of the swap exactly match those of the hedged item and the swap was designated at a fair value of zero, the actual currency basis spreads priced into the swap are perfectly aligned to the hedged item. No additional calculation of aligned currency basis spreads is therefore required.

### Translating the foreign loan balance on reporting date

The entry is as follows	DR	CR
Loan liability		20,000
Foreign currency gains/losses	20,000	
Record the translation difference on the loan balance as at reporting date		

### The interest on the loan is accrued for and settled at spot.

The entry is as follows	DR	CR
Finance cost	40,400	
Cash (GBP)		40,400
Record the interest accrual and settlement on the loan for the six-month period		

### Reclassification from hedge reserve

Since the hedged item has affected profit or loss through the recording of the translation difference, a portion of the amount deferred in the hedge reserve should be recycled to profit or loss:

The entry is as follows	DR	CR
Other comprehensive income – Hedging reserve	20,000	
Foreign currency gains/losses		20,000
Recycling a portion of the amount deferred in the hedge reserve to profit or loss <sup>44</sup>		

## 30 June 20x2

### Assessment of qualification for hedge accounting on 30 June 20x2

The hedge relationship still qualifies for hedge accounting as there has been no change in the hedging relationship or hedge ratio (no change in the date or amount of the loan cash flows, no change in the credit risk of the counterparties, no change in sources of ineffectiveness).

**Conclusion:** The hedge accounting requirements are met.

### Fair value derivative

For the purposes of this illustration it has been assumed that the result of the 'lower of' test is that the full fair value change of the derivative is recognised in other comprehensive income. All the criteria for hedge accounting are met for the period ended 31 December 20x1. Cash flow hedge accounting can therefore be applied.

### Separation of currency basis spreads

	Full fair value	Basis-free fair value	Movement in currency basis spreads
Fair value on previous reporting date	25,000	35,000	

<sup>44</sup> Since the interest payments on the loan and the swap all occur on the reporting date, it is not necessary to release an additional portion relating to accrued interest from the hedge reserve. This would however be different if the interest payments did not occur on reporting date.

	Full fair value	Basis-free fair value	Movement in currency basis spreads
Fair value on reporting date	30,000	33,000	
Change in fair value (FV)	5,000	(2,000)	7,000

The entry is as follows	DR	CR
Derivative	5,000	
Other comprehensive income – Hedging reserve	2,000	
Other comprehensive income – Basis spread element		7,000
Cash Flow Hedge – Change in fair value of the swap		

### Calculation and recording of ineffectiveness

Calculation of ineffectiveness (excluding currency basis spreads)

	Basis-free swap	Basis-free hypo	Ineffectiveness
Fair value on designation date	0	0	
Fair value on reporting date	33,000	(33,000)	
Cumulative change in fair value (FV)	33,000	(33,000)	0
Previous ineffectiveness recorded			0
Additional ineffectiveness			0

No additional ineffectiveness is recognised.

### Calculation and recording of aligned currency basis spreads

As previously mentioned, no calculation of aligned currency basis spreads is required in this instance.

### Recording of the swap cash flows for the six-month period

The entry is as follows	DR	CR
Finance cost	19,440	
Cash		19,440
Recording the interest cash flows on the derivative <sup>45</sup>		

### Record recycling to income statement

Description	DR	CR
OCI – Cash flow hedge reserve (due to FV gain/loss)	19,440	
OCI – Cash flow hedge reserve (due to release)		19,440

### Translating the foreign loan balance on reporting date

The entry is as follows	DR	CR
Loan liability		8,000
Foreign currency gains/losses	8,000	
Record the translation difference on the loan balance as at reporting date		

<sup>45</sup> As previously mentioned, the basis spread for the period is recognised in profit or loss through the recording of the cash flows incurred. Separate amortisation of the actual/aligned basis spread is therefore not necessary in this instance.

### *The interest on the loan*

The interest on the loan is accrued for and settled at spot.

The entry is as follows	DR	CR
Finance cost	40,560	
Cash (GBP)		40,560
<b>Record the interest accrual and settlement on the loan for the six-month period</b>		

### *Reclassification from hedge reserve*

Since the hedged item has affected profit or loss through the recording of the translation difference, a portion of the amount deferred in the hedge reserve should be recycled to profit or loss:

The entry is as follows	DR	CR
Other comprehensive income – Hedging reserve	8,000	
Foreign currency gains/losses		8,000
<b>Recycling a portion of the amount deferred in the hedge reserve to profit or loss<sup>46</sup></b>		

## *31 December 20x2*

### *Assessment of qualification for hedge accounting on 31 December 20x2*

The hedge relationship is coming to an end and therefore no forward looking assessment is required.

### *Fair value of the derivative*

For the purposes of this illustration it has been assumed that the result of the 'lower of' test is that the full fair value change of the derivative is recognised in other comprehensive income. All the criteria for hedge accounting are met for the period ended 31 December 20x1. Cash flow hedge accounting can therefore be applied.

Recording the maturity value of the swap before settlement

Separation of currency basis spreads

	Full fair value	Basis-free fair value	Movement in currency basis spreads
Fair value on previous reporting date	30,000	33,000	
Fair value on reporting date	40,000	40,000	
Change in fair value (FV)	10,000	7,000	3,000

The entry is as follows	DR	CR
Derivative	10,000	
Other comprehensive income – Hedging reserve		7,000
Other comprehensive income – Basis spread element		3,000
<b>Cash Flow Hedge – Change in fair value of the swap</b>		

<sup>46</sup> Since the interest payments on the loan and the swap all occur on the reporting date, it is not necessary to release an additional portion relating to accrued interest from the hedge reserve. This would however be different if the interest payments did not occur on reporting date.

### Calculation and recording of ineffectiveness

Calculation of ineffectiveness (excluding currency basis spreads)

	Basis-free swap	Basis-free hypo	Ineffectiveness
Fair value on designation date	0	0	
Fair value on reporting date	40,000	(40,000)	
Cumulative change in fair value (FV)	40,000	(40,000)	0
Previous ineffectiveness recorded			0
Additional ineffectiveness			0

No additional ineffectiveness is recorded.

### Recording of the swap cash flows for the six-month period

The entry is as follows	DR	CR
Finance cost	19,200	
Cash		19,200
Recording the interest cash flows on the derivative <sup>47</sup>		

### Record recycling to income statement

Description	DR	CR
OCI – Cash flow hedge reserve (due to FV gain/loss)	19,200	
OCI – Cash flow hedge reserve (due to release)		19,200

### Translating the foreign loan balance before settlement date

The entry is as follows	DR	CR
Loan liability		12,000
Foreign currency gains/losses	12,000	
Record the translation difference on the loan balance as at reporting date		

### Interest on the loan

The interest on the loan is accrued for and settled at spot

The entry is as follows	DR	CR
Finance cost	40,800	
Cash (GBP)		40,800
Record the interest accrual and settlement on the loan for the six-month period		

<sup>47</sup> As previously mentioned, the basis spread for the period is recognised in profit or loss through the recording of the cash flows incurred. Separate amortisation of the actual/aligned basis spread is therefore not necessary in this instance.

### *Reclassification from hedge reserve*

Since the hedged item has affected profit or loss through the recording of the translation difference, a portion of the amount deferred in the hedge reserve should be recycled to profit or loss:

The entry is as follows	DR	CR
Other comprehensive income – Hedging reserve	12,000	
Foreign currency gains/losses		12,000
Recycling a portion of the amount deferred in the hedge reserve to profit or loss <sup>48</sup>		

### *Settlement of the loan and swap balances*

The entry is as follows	DR	CR
Loan liability	2,040,000	
Derivative		40,000
Cash		2,000,000
Settlement of the loan and swap balances		

### *Result of hedge accounting*

To summarise the result that was achieved with the hedge accounting:

- Any changes in the fair value of the hedging instrument, which include the forward points/interest element were recognised in OCI, whilst the actual forward points/interest incurred were expensed on a smooth basis (in line with the swap cash flows);
- Any changes in the currency basis spreads inherent in the swap were recognised in OCI, whilst the actual basis spreads included in the pricing of the swap were recognised in profit or loss on a smooth basis (in line with the swap cash flows);
- Any movements in profit or loss resulting from the foreign currency translation of the loan principal and interest were offset by the changes in the related components from the hedging instrument.

The detailed entries are reflected in the table on the next page.

<sup>48</sup> Since the interest payments on the loan and the swap all occur on the reporting date, it is not necessary to release an additional portion relating to accrued interest from the hedge reserve. This would however be different if the interest payments did not occur on reporting date. The hedge reserve balance should now be zero as the hedge relationship has been concluded.

*Balance sheet and income statement*

	Balance sheet										Income statement						
	OCI – Hedge reserve		OCI – Basis spreads		Derivative instrument		Loan liability		Cash		FV gain/loss on derivatives		Foreign exchange differences		Finance cost		
	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	
<b>1/7/20x1</b>																	
Recognition of loan balance								2,000,000	2,000,000								
<b>31/12/20x1</b>																	
CFH accounting – Fair value movement		35,000	10,000		25,000												
Translation of loan balance								20,000						20,000			
Interest settlement on loan										40,400						40,400	
Release of spot movement from OCI	20,000														20,000		
Interest settlement on derivative										19,600						19,600	
<b>30/6/20x2</b>																	
CFH accounting – Fair value movement	2,000			7,000	5,000												
Translation of loan balance								8,000						8,000			
Interest settlement on loan										40,560						40,560	
Release of spot movement from OCI	8,000														8,000		
Interest settlement on derivative										19,440						19,440	
<b>31/12/20x2</b>																	
CFH accounting – Fair value movement		7,000		3,000	10,000												
Translation of loan balance								12,000						12,000			
Interest settlement on loan										40,800						40,800	
Release of spot movement from OCI	12,000														12,000		
Interest settlement on derivative										19,200						19,200	
Settlement of loan and swap						40,000	2,040,000			2,000,000							
Net balance over the hedging period										180,000		–			–		180,000

*Statement of changes in equity*

	OCI – hedge reserve Dr/(Cr)	OCI – basis spread element Dr/(Cr)	Retained earnings and other reserves Dr/(Cr)
<b>Profit for the year</b>			60,000
<b>Hedging gains/losses recognised in OCI</b>	(35,000)	10,000	
<b>Amounts reclassified into profit or loss</b>	(20,000)	–	
<b>Closing balance relating to cash flow hedge relationships</b>	(15,000)	10,000	
<b>Equity as at 31/12/20x1</b>	(15,000)	10,000	60,000
<b>Profit for the year</b>			120,000
<b>Hedging gains/losses recognised in OCI</b>	(5,000)	(10,000)	
<b>Amounts reclassified into profit or loss</b>	20,000	–	
<b>Closing balance relating to cash flow hedge relationships</b>	0	0	
<b>Equity as at 31/12/20x2</b>	0	0	180,000

# Appendix: Hedge documentation template

This template can be used as the basis for the formal documentation required by IFRS 9.

## **1. Risk management objective and strategy (This section may make reference to central documents)**

*If not clear from the overall risk management strategy, include why the proposed hedging objective is consistent with the entity's risk management strategy for undertaking hedges.*

## **2. Type of hedging relationship**

- Fair value hedge
- Cash flow hedge
- Hedge of net investment in a foreign operation

Date of designation \_\_\_\_\_

**Note:** A hedge of the foreign currency risk of an unrecognised firm commitment may be accounted for as a fair value hedge or a cash flow hedge

## **3. Nature of risk being hedged**

- Interest rate risk
- Foreign exchange currency risk
- Other risk (for example, equity risk, commodity risk, please specify)

## **4. Identification of hedged item**

- Is the hedged item a layer component? If yes specify the defined part of the nominal amount or the population (e.g. first X or last X).
- Is the hedged item a risk component? If yes, provide details and explain how the component is separately identifiable and reliably measurable
- Is the hedged item a group of items? If yes, provide details and explain how the group consists of individual eligible hedged items which share the same risk, are managed on a group basis for risk management purposes.

## **Is the hedged item a forecasted transaction?**

- Yes, please complete section 5 below
- No, please continue to section 6

## 5. **Forecasted transactions**

(Only required to be completed if the hedged item is a highly probable forecasted transaction)

Nature of forecasted transaction:

Expected timescale for forecast transaction to take place

Rationale for forecast transaction being highly probable to occur

Is there a replacement strategy under which the hedged item described above will/may be replaced by another transaction with the replacement considered part of the same hedge relationship? If yes, provide details of which transactions will/may replace the above described hedged item and explain why it has similar risk characteristics

### **Helpful hint**

*In order to deal with any potential issues from replacement of the hedged item the hedge designation should be clear whether such a replacement is covered or not. For example when hedging future interest cash flows it should be clear whether only the interest cash flows on this specific debt instruments are hedged (specific designation) or whether the interest cash flows on first amount of floating rate debt would be the hedged item (generic designation). In the case of refinancing the specific designation would lead to release of the hedge reserve as the hedged item no longer exists. If generic designation is used the hedge relationship will remain upon a refinancing if the risk is the same as the previous designated risk.*

## 6. Identification of hedging instrument

Transaction number:

Designation of forward element of forward contracts:

- Included in hedge designation
- Excluded from hedge designation and recognised in P&L
- Excluded from hedge designation and deferred in OCI
- NA

Foreign currency basis spreads:

- Included in hedge designation
- Excluded from hedge designation and recognised in P&L
- Excluded from hedge designation and deferred in OCI
- NA

Time value of an option:

- Included in hedge designation
- Excluded from hedge designation and deferred in OCI
- NA

Proportion

- Proportion used for hedging – Provide detail (e.g. 50% of nominal amount)
- 100% of notional used for hedging

Rollover strategy (provide details of circumstances where the entity may be able to rollover or replace the hedging instrument as part of the entity's documented hedging objective)

### **Helpful hint**

*In order to deal with any potential issues from novation of derivatives or roll-over in new hedging instruments, a company could include reference to potential rollover of the derivative within the hedge documentation. IFRS 9 para 6.5.6 notes that a replacement or rollover of a hedging instrument is not an expiration or termination if such replacement or rollover is part of the documented risk management objective.*

## 7. **Hedge effectiveness**

### Economic relationship

*An economic relationship between a hedged item and hedging instrument exists when an entity expects that the values of the hedged item and hedging instrument will typically move in opposite directions in response to movements in the same risk (hedged risk).*

### Description of analysis performed to confirm economic relationship exists

### Credit risk does not dominate

*A condition for applying hedge accounting is that the effect of credit risk (of either the hedging instrument or the hedged item) does not dominate the value changes that result from the economic relationship that is the subject of the hedge.*

### Description of analysis performed to confirm credit risk does not dominate

### Hedge ratio

*The designated hedge ratio should be the same as that actually used in to hedge, subject to it not creating ineffectiveness that would be inconsistent with the purpose of hedge accounting*

### Description of hedge ratio and how it is determined

## 8. **Expected causes of hedge ineffectiveness**

### Frequency of assessing the hedge effectiveness and any rebalancing required as a result of ineffectiveness

## **9. Other information**

*Add (attach if necessary) any other information that may be used to assist with understanding the hedging relationship, for example a diagram of the transaction structure.*

# Contacts

(For a full list of UK contacts, please see page 230.)

**Ashley B Rockman**

Australia

E: ashley.b.rockman@pwc.com

**Scott Bandura**

Canada

E: scott.bandura@pwc.com

**Olga Cileckova**

Czech Republic

E: olga.cileckova@pwc.com

**Christelle Lecouturier**

France

E: christelle.lecouterier@fr.pwc.com

**Folker Trepte**

Germany

E: folker.trepte@pwc.com

**Ian P Farrar**

Hong Kong

E: ian.p.farrar@hk.pwc.com

**Ciaran Corbally**

Ireland

E: ciaran.corbally@ie.pwc.com

**Riccardo Bua Odetti**

Italy

E: riccardo.bua.odetti@pwc.com

**Philippe Foerster**

Luxembourg

E: philippe.foerster@lu.pwc.com

**Kees-Jan de Vries**

Netherlands

E: kees-jan.de.vries@pwc.com

**Didrik Thrane-Nielsen**

Norway

E: didrik.thrane-nielsen@pwc.com

**Voon Hoe Chen**

Singapore

E: voon.hoe.chen@sg.pwc.com

**Johann Breedt**

South Africa

E: johann.breedt@pwc.com

**Jose Arostegui**

Spain

E: jose.arostegui@es.pwc.com

**Per-Ove Zetterlund**

Sweden

E: per-ove.zetterlund@se.pwc.com

**Sebastian di Paola**

Switzerland

E: sebastian.di.paola@ch.pwc.com

**Yann Umbricht**

UK

E: yann.umbricht@pwc.com

**David Lukach**

US

E: david.m.lukach@pwc.com

## ***UK Contacts***

***Yann Umbricht***

E: [yann.umbricht@pwc.com](mailto:yann.umbricht@pwc.com)

***Jessica Taurae***

E: [jessica.taurae@pwc.com](mailto:jessica.taurae@pwc.com)

***David Coulon***

E: [david.coulon@pwc.com](mailto:david.coulon@pwc.com)

***Chris Raftopoulos***

E: [christopher.raftopoulos@pwc.com](mailto:christopher.raftopoulos@pwc.com)

***Claire Howells***

E: [claire.l.howells@pwc.com](mailto:claire.l.howells@pwc.com)

***Frances Coldham***

E: [frances.coldham@pwc.com](mailto:frances.coldham@pwc.com)

***Robert Waddington***

E: [robert.waddington@pwc.com](mailto:robert.waddington@pwc.com)

***Sally Nicholson***

E: [sally.nicholson@pwc.com](mailto:sally.nicholson@pwc.com)

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