STATUTORY BOARD FINANCIAL REPORTING STANDARD

SB-FRS 109

Financial Instruments
Illustrative Examples

This Guidance is applicable for annual reporting period beginning on 1 January 2026.

Contents

Illustrative Examples

These examples accompany, but are not part of, SB-FRS 109.

Financial liabilities at fair value through profit or loss

IE1　The following example illustrates the calculation that an entity might perform in accordance with paragraph B5.7.18 of SB-FRS 109.

IE2　On 1 January 20X1 an entity issues a 10-year bond with a par value of CU150,000[1] and an annual fixed coupon rate of 8 per cent, which is consistent with market rates for bonds with similar characteristics.

IE3　The entity uses LIBOR as its observable (benchmark) interest rate. At the date of inception of the bond, LIBOR is 5 per cent. At the end of the first year:

(a)　　LIBOR has decreased to 4.75 per cent.

(b)　　the fair value for the bond is CU153,811, consistent with an interest rate of 7.6 per cent.[2]

IE4　The entity assumes a flat yield curve, all changes in interest rates result from a parallel shift in the yield curve, and the changes in LIBOR are the only relevant changes in market conditions.

IE5　The entity estimates the amount of change in the fair value of the bond that is not attributable to changes in market conditions that give rise to market risk as follows:

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[1]　In this guidance monetary amounts are denominated in 'currency units' (CU).

[2]　This reflects a shift in LIBOR from 5 per cent to 4.75 per cent and a movement of 0.15 per cent which, in the absence of other relevant changes in market conditions, is assumed to reflect changes in credit risk of the instrument.

[paragraph B5.7.18(a)] First, the entity computes the liability's internal rate of return at the start of the period using the observed market price of the liability and the liability's contractual cash flows at the start of the period. It deducts from this rate of return the observed (benchmark) interest rate at the start of the period, to arrive at an instrument-specific component of the internal rate of return.	At the start of the period of a 10-year bond with a coupon of 8 per cent, the bond's internal rate of return is 8 per cent. Because the observed (benchmark) interest rate (LIBOR) is 5 per cent, the instrument-specific component of the internal rate of return is 3 per cent.
[paragraph B5.7.18(b)] Next, the entity calculates the present value of the cash flows associated with the liability using the liability's contractual cash flows at the end of the period and a discount rate equal to the sum of (i) the observed (benchmark) interest rate at the end of the period and (ii) the instrument-specific component of the internal rate of return as determined in accordance with paragraph B5.7.18(a).	The contractual cash flows of the instrument at the end of the period are: • interest: CU12,000[a] per year for each of years 2–10. • principal: CU150,000 in year 10. The discount rate to be used to calculate the present value of the bond is thus 7.75 per cent, which is the end of period LIBOR rate of 4.75 per cent, plus the 3 per cent instrument-specific component. This gives a present value of CU152,367.[b]
[paragraph B5.7.18(c)] The difference between the observed market price of the liability at the end of the period and the amount determined in accordance with paragraph B5.7.18(b) is the change in fair value that is not attributable to changes in the observed (benchmark) interest rate. This is the amount to be presented in other comprehensive income in accordance with paragraph 5.7.7(a).	The market price of the liability at the end of the period is CU153,811.[c] Thus, the entity presents CU1,444 in other comprehensive income, which is CU153,811 – CU152,367, as the increase in fair value of the bond that is not attributable to changes in market conditions that give rise to market risk.

(a)   CU150,000 × 8% = CU12,000.
(b)   PV = [CU12,000 × (1 − (1 + 0.0775)$^{-9}$)/0.0775] + CU150,000 × (1 + 0.0775)$^{-9}$.
(c)   market price = [CU12,000 × (1 − (1 + 0.076)$^{-9}$)/0.076] + CU150,000 × (1 + 0.076)$^{-9}$.

Impairment (Section 5.5)

Assessing significant increases in credit risk since initial recognition

IE6   The following examples illustrate possible ways to assess whether there have been significant increases in credit risk since initial recognition. For simplicity of illustration, the following examples only show one aspect of the credit risk analysis. However, the assessment of whether lifetime expected credit losses should be recognised is a multifactor and holistic analysis that considers reasonable and supportable information that is available without undue cost or effort and that is relevant for the particular financial instrument being assessed.

Example 1—significant increase in credit risk

IE7 Company Y has a funding structure that includes a senior secured loan facility with different tranches[3] . Bank X provides a tranche of that loan facility to Company Y. At the time of origination of the loan by Bank X, although Company Y's leverage was relatively high compared with other issuers with similar credit risk, it was expected that Company Y would be able to meet the covenants for the life of the instrument. In addition, the generation of revenue and cash flow was expected to be stable in Company Y's industry over the term of the senior facility. However, there was some business risk related to the ability to grow gross margins within its existing businesses.

IE8 At initial recognition, because of the considerations outlined in paragraph IE7, Bank X considers that despite the level of credit risk at initial recognition, the loan is not an originated credit-impaired loan because it does not meet the definition of a credit-impaired financial asset in Appendix A of SB-FRS 109.

IE9 Subsequent to initial recognition, macroeconomic changes have had a negative effect on total sales volume and Company Y has underperformed on its business plan for revenue generation and net cash flow generation. Although spending on inventory has increased, anticipated sales have not materialised. To increase liquidity, Company Y has drawn down more on a separate revolving credit facility, thereby increasing its leverage ratio. Consequently, Company Y is now close to breaching its covenants on the senior secured loan facility with Bank X.

IE10 Bank X makes an overall assessment of the credit risk on the loan to Company Y at the reporting date by taking into consideration all reasonable and supportable information that is available without undue cost or effort and that is relevant for assessing the extent of the increase in credit risk since initial recognition. This may include factors such as:

(a) Bank X's expectation that the deterioration in the macroeconomic environment may continue in the near future, which is expected to have a further negative impact on Company Y's ability to generate cash flows and to deleverage.

(b) Company Y is closer to breaching its covenants, which may result in a need to restructure the loan or reset the covenants.

(c) Bank X's assessment that the trading prices for Company Y's bonds have decreased and that the credit margin on newly originated loans have increased reflecting the increase in credit risk, and that these changes are not explained by changes in the market environment (for example, benchmark interest rates have remained unchanged). A further comparison with the pricing of Company Y's peers shows that reductions in the price of Company Y's bonds and increases in credit margin on its loans have probably been caused by company-specific factors.

(d) Bank X has reassessed its internal risk grading of the loan on the basis of the information that it has available to reflect the increase in credit risk.

IE11 Bank X determines that there has been a significant increase in credit risk since initial recognition of the loan in accordance with paragraph 5.5.3 of SB-FRS 109. Consequently, Bank X recognises lifetime expected credit losses on its senior secured loan to Company Y. Even if Bank X has not yet changed the internal risk grading of the loan it could still reach this conclusion—the absence or presence of a change in risk grading in itself is not determinative of whether credit risk has increased significantly since initial recognition.

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[3] The security on the loan affects the loss that would be realised if a default occurs, but does not affect the risk of a default occurring, so it is not considered when determining whether there has been a significant increase in credit risk since initial recognition as required by paragraph 5.5.3 of SB-FRS 109.

Example 2—no significant increase in credit risk

IE12 Company C, is the holding company of a group that operates in a cyclical production industry. Bank B provided a loan to Company C. At that time, the prospects for the industry were positive, because of expectations of further increases in global demand. However, input prices were volatile and given the point in the cycle, a potential decrease in sales was anticipated.

IE13 In addition, in the past Company C has been focused on external growth, acquiring majority stakes in companies in related sectors. As a result, the group structure is complex and has been subject to change, making it difficult for investors to analyse the expected performance of the group and to forecast the cash that will be available at the holding company level. Even though leverage is at a level that is considered acceptable by Company C's creditors at the time that Bank B originates the loan, its creditors are concerned about Company C's ability to refinance its debt because of the short remaining life until the maturity of the current financing. There is also concern about Company C's ability to continue to service interest using the dividends it receives from its operating subsidiaries.

IE14 At the time of the origination of the loan by Bank B, Company C's leverage was in line with that of other customers with similar credit risk and based on projections over the expected life of the loan, the available capacity (ie headroom) on its coverage ratios before triggering a default event, was high. Bank B applies its own internal rating methods to determine credit risk and allocates a specific internal rating score to its loans. Bank B's internal rating categories are based on historical, current and forward-looking information and reflect the credit risk for the tenor of the loans. On initial recognition, Bank B determines that the loan is subject to considerable credit risk, has speculative elements and that the uncertainties affecting Company C, including the group's uncertain prospects for cash generation, could lead to default. However, Bank B does not consider the loan to be originated credit-impaired because it does not meet the definition of a purchased or originated credit-impaired financial asset in Appendix A of SB-FRS 109.

IE15 Subsequent to initial recognition, Company C has announced that three of its five key subsidiaries had a significant reduction in sales volume because of deteriorated market conditions but sales volumes are expected to improve in line with the anticipated cycle for the industry in the following months. The sales of the other two subsidiaries were stable. Company C has also announced a corporate restructure to streamline its operating subsidiaries. This restructuring will increase the flexibility to refinance existing debt and the ability of the operating subsidiaries to pay dividends to Company C.

IE16 Despite the expected continuing deterioration in market conditions, Bank B determines, in accordance with paragraph 5.5.3 of SB-FRS 109, that there has not been a significant increase in the credit risk on the loan to Company C since initial recognition. This is demonstrated by factors that include:

(a) Although current sale volumes have fallen, this was as anticipated by Bank B at initial recognition. Furthermore, sales volumes are expected to improve, in the following months.

(b) Given the increased flexibility to refinance the existing debt at the operating subsidiary level and the increased availability of dividends to Company C, Bank B views the corporate restructure as being credit enhancing. This is despite some continued concern about the ability to refinance the existing debt at the holding company level.

(c) Bank B's credit risk department, which monitors Company C, has determined that the latest developments are not significant enough to justify a change in its internal credit risk rating.

IE17 As a consequence, Bank B does not recognise a loss allowance at an amount equal to lifetime expected credit losses on the loan. However, it updates its measurement of the 12-month expected credit losses for the increased risk of a default occurring in the next 12

months and for current expectations of the credit losses that would arise if a default were to occur.

Example 3—highly collateralised financial asset

IE18   Company H owns real estate assets which are financed by a five-year loan from Bank Z with a loan-to-value (LTV) ratio of 50 per cent. The loan is secured by a first-ranking security over the real estate assets. At initial recognition of the loan, Bank Z does not consider the loan to be originated credit-impaired as defined in Appendix A of SB-FRS 109.

IE19   Subsequent to initial recognition, the revenues and operating profits of Company H have decreased because of an economic recession. Furthermore, expected increases in regulations have the potential to further negatively affect revenue and operating profit. These negative effects on Company H's operations could be significant and ongoing.

IE20   As a result of these recent events and expected adverse economic conditions, Company H's free cash flow is expected to be reduced to the point that the coverage of scheduled loan payments could become tight. Bank Z estimates that a further deterioration in cash flows may result in Company H missing a contractual payment on the loan and becoming past due.

IE21   Recent third party appraisals have indicated a decrease in the value of the real estate properties, resulting in a current LTV ratio of 70 per cent.

IE22   At the reporting date, the loan to Company H is not considered to have low credit risk in accordance with paragraph 5.5.10 of SB-FRS 109. Bank Z therefore needs to assess whether there has been a significant increase in credit risk since initial recognition in accordance with paragraph 5.5.3 of SB-FRS 109, irrespective of the value of the collateral it holds. It notes that the loan is subject to considerable credit risk at the reporting date because even a slight deterioration in cash flows could result in Company H missing a contractual payment on the loan. As a result, Bank Z determines that the credit risk (ie the risk of a default occurring) has increased significantly since initial recognition. Consequently, Bank Z recognises lifetime expected credit losses on the loan to Company H.

IE23   Although lifetime expected credit losses should be recognised, the measurement of the expected credit losses will reflect the recovery expected from the collateral (adjusting for the costs of obtaining and selling the collateral) on the property as required by paragraph B5.5.55 of SB-FRS 109 and may result in the expected credit losses on the loan being very small.

Example 4—public investment-grade bond

IE24   Company A is a large listed national logistics company. The only debt in the capital structure is a five-year public bond with a restriction on further borrowing as the only bond covenant. Company A reports quarterly to its shareholders. Entity B is one of many investors in the bond. Entity B considers the bond to have low credit risk at initial recognition in accordance with paragraph 5.5.10 of SB-FRS 109. This is because the bond has a low risk of default and Company A is considered to have a strong capacity to meet its obligations in the near term. Entity B's expectations for the longer term are that adverse changes in economic and business conditions may, but will not necessarily, reduce Company A's ability to fulfil its obligations on the bond. In addition, at initial recognition the bond had an internal credit rating that is correlated to a global external credit rating of investment grade.

IE25   At the reporting date, Entity B's main credit risk concern is the continuing pressure on the total volume of sales that has caused Company A's operating cash flows to decrease.

IE26   Because Entity B relies only on quarterly public information and does not have access to private credit risk information (because it is a bond investor), its assessment of changes in credit risk is tied to public announcements and information, including updates on credit perspectives in press releases from rating agencies.

IE27   Entity B applies the low credit risk simplification in paragraph 5.5.10 of SB-FRS 109. Accordingly, at the reporting date, Entity B evaluates whether the bond is considered to have low credit risk using all reasonable and supportable information that is available without undue cost or effort. In making that evaluation, Entity B reassesses the internal credit rating of the bond and concludes that the bond is no longer equivalent to an investment grade rating because:

(a)   The latest quarterly report of Company A revealed a quarter-on-quarter decline in revenues of 20 per cent and in operating profit by 12 per cent.

(b)   Rating agencies have reacted negatively to a profit warning by Company A and put the credit rating under review for possible downgrade from investment grade to non-investment grade. However, at the reporting date the external credit risk rating was unchanged.

(c)   The bond price has also declined significantly, which has resulted in a higher yield to maturity. Entity B assesses that the bond prices have been declining as a result of increases in Company A's credit risk. This is because the market environment has not changed (for example, benchmark interest rates, liquidity etc are unchanged) and comparison with the bond prices of peers shows that the reductions are probably company specific (instead of being, for example, changes in benchmark interest rates that are not indicative of company-specific credit risk).

IE28   While Company A currently has the capacity to meet its commitments, the large uncertainties arising from its exposure to adverse business and economic conditions have increased the risk of a default occurring on the bond. As a result of the factors described in paragraph IE27, Entity B determines that the bond does not have low credit risk at the reporting date. As a result, Entity B needs to determine whether the increase in credit risk since initial recognition has been significant. On the basis of its assessment, Company B determines that the credit risk has increased significantly since initial recognition and that a loss allowance at an amount equal to lifetime expected credit losses should be recognised in accordance with paragraph 5.5.3 of SB-FRS 109.

Example 5—responsiveness to changes in credit risk

IE29   Bank ABC provides mortgages to finance residential real estate in three different regions. The mortgage loans are originated across a wide range of LTV criteria and a wide range of income groups. As part of the mortgage application process, customers are required to provide information such as the industry within which the customer is employed and the post code of the property that serves as collateral on the mortgage.

IE30   Bank ABC sets its acceptance criteria based on credit scores. Loans with a credit score above the 'acceptance level' are approved because these borrowers are considered to be able to meet contractual payment obligations. When new mortgage loans are originated, Bank ABC uses the credit score to determine the risk of a default occurring as at initial recognition.

IE31   At the reporting date Bank ABC determines that economic conditions are expected to deteriorate significantly in all regions. Unemployment levels are expected to increase while the value of residential property is expected to decrease, causing the LTV ratios to increase. As a result of the expected deterioration in economic conditions, Bank ABC expects default rates on the mortgage portfolio to increase.

Individual assessment

IE32   In Region One, Bank ABC assesses each of its mortgage loans on a monthly basis by means of an automated behavioural scoring process. Its scoring models are based on current and historical past due statuses, levels of customer indebtedness, LTV measures, customer behaviour on other financial instruments with Bank ABC, the loan size and the time

since the origination of the loan. Bank ABC updates the LTV measures on a regular basis through an automated process that re-estimates property values using recent sales in each post code area and reasonable and supportable forward-looking information that is available without undue cost or effort.

IE33   Bank ABC has historical data that indicates a strong correlation between the value of residential property and the default rates for mortgages. That is, when the value of residential property declines, a customer has less economic incentive to make scheduled mortgage repayments, increasing the risk of a default occurring.

IE34   Through the impact of the LTV measure in the behavioural scoring model, an increased risk of a default occurring due to an expected decline in residential property value adjusts the behavioural scores. The behavioural score can be adjusted as a result of expected declines in property value even when the mortgage loan is a bullet loan with the most significant payment obligations at maturity (and beyond the next 12 months). Mortgages with a high LTV ratio are more sensitive to changes in the value of the residential property and Bank ABC is able to identify significant increases in credit risk since initial recognition on individual customers before a mortgage becomes past due if there has been a deterioration in the behavioural score.

IE35   When the increase in credit risk has been significant, a loss allowance at an amount equal to lifetime expected credit losses is recognised. Bank ABC measures the loss allowance by using the LTV measures to estimate the severity of the loss, ie the loss given default (LGD). The higher the LTV measure, the higher the expected credit losses all else being equal.

IE36   If Bank ABC was unable to update behavioural scores to reflect the expected declines in property prices, it would use reasonable and supportable information that is available without undue cost or effort to undertake a collective assessment to determine the loans on which there has been a significant increase in credit risk since initial recognition and recognise lifetime expected credit losses for those loans.

Collective assessment

IE37   In Regions Two and Three, Bank ABC does not have an automated scoring capability. Instead, for credit risk management purposes, Bank ABC tracks the risk of a default occurring by means of past due statuses. It recognises a loss allowance at an amount equal to lifetime expected credit losses for all loans that have a past due status of more than 30 days past due. Although Bank ABC uses past due status information as the only borrower-specific information, it also considers other reasonable and supportable forward-looking information that is available without undue cost or effort to assess whether lifetime expected credit losses should be recognised on loans that are not more than 30 days past due. This is necessary in order to meet the objective in paragraph 5.5.4 of SB-FRS 109 of recognising lifetime expected credit losses for all significant increases in credit risk.

Region Two

IE38   Region Two includes a mining community that is largely dependent on the export of coal and related products. Bank ABC becomes aware of a significant decline in coal exports and anticipates the closure of several coal mines. Because of the expected increase in the unemployment rate, the risk of a default occurring on mortgage loans to borrowers who are employed by the coal mines is determined to have increased significantly, even if those customers are not past due at the reporting date. Bank ABC therefore segments its mortgage portfolio by the industry within which customers are employed (using the information recorded as part of the mortgage application process) to identify customers that rely on coal mining as the dominant source of employment (ie a 'bottom up' approach in which loans are identified based on a common risk characteristic). For those mortgages, Bank ABC recognises a loss allowance at an amount equal to lifetime expected credit losses while it continues to recognise a loss allowance at an amount equal to 12-month expected credit

losses for all other mortgages in Region Two.[4] Newly originated mortgages to borrowers who rely on the coal mines for employment in this community would, however, have a loss allowance at an amount equal to 12-month expected credit losses because they would not have experienced significant increases in credit risk since initial recognition. However, some of these mortgages may experience significant increases in credit risk soon after initial recognition because of the expected closure of the coal mines.

Region Three

IE39   In Region Three, Bank ABC anticipates the risk of a default occurring and thus an increase in credit risk, as a result of an expected increase in interest rates during the expected life of the mortgages. Historically, an increase in interest rates has been a lead indicator of future defaults on mortgages in Region Three—especially when customers do not have a fixed interest rate mortgage. Bank ABC determines that the variable interest-rate portfolio of mortgages in Region Three is homogenous and that unlike for Region Two, it is not possible to identify particular sub portfolios on the basis of shared risk characteristics that represent customers who are expected to have increased significantly in credit risk. However, as a result of the homogenous nature of the mortgages in Region Three, Bank ABC determines that an assessment can be made of a proportion of the overall portfolio that has significantly increased in credit risk since initial recognition (ie a 'top down' approach can be used). Based on historical information, Bank ABC estimates that an increase in interest rates of 200 basis points will cause a significant increase in credit risk on 20 per cent of the variable interest-rate portfolio. Therefore, as a result of the anticipated increase in interest rates, Bank ABC determines that the credit risk on 20 per cent of mortgages in Region Three has increased significantly since initial recognition. Accordingly Bank ABC recognises lifetime expected credit losses on 20 per cent of the variable rate mortgage portfolio and a loss allowance at an amount equal to 12-month expected credit losses for the remainder of the portfolio.[5]

Example 6—comparison to maximum initial credit risk

IE40   Bank A has two portfolios of automobile loans with similar terms and conditions in Region W. Bank A's policy on financing decisions for each loan is based on an internal credit rating system that considers a customer's credit history, payment behaviour on other products with Bank A and other factors, and assigns an internal credit risk rating from 1 (lowest credit risk) to 10 (highest credit risk) to each loan on origination. The risk of a default occurring increases exponentially as the credit risk rating deteriorates so, for example, the difference between credit risk rating grades 1 and 2 is smaller than the difference between credit risk rating grades 2 and 3. Loans in Portfolio 1 were only offered to existing customers with a similar internal credit risk rating and at initial recognition all loans were rated 3 or 4 on the internal rating scale. Bank A determines that the maximum initial credit risk rating at initial recognition it would accept for Portfolio 1 is an internal rating of 4. Loans in Portfolio 2 were offered to customers that responded to an advertisement for automobile loans and the internal credit risk ratings of these customers range between 4 and 7 on the internal rating scale. Bank A never originates an automobile loan with an internal credit risk rating worse than 7 (ie with an internal rating of 8–10).

IE41   For the purposes of assessing whether there have been significant increases in credit risk, Bank A determines that all loans in Portfolio 1 had a similar initial credit risk. It determines that given the risk of default reflected in its internal risk rating grades, a change in internal rating from 3 to 4 would not represent a significant increase in credit risk but that there has been a significant increase in credit risk on any loan in this portfolio that has an internal rating worse than 5. This means that Bank A does not have to know the initial credit rating of each loan in the portfolio to assess the change in credit risk since initial recognition. It only has to

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[4]   Except for those mortgages that are determined to have significantly increased in credit risk based on an individual assessment, such as those that are more than 30 days past due. Lifetime expected credit losses would also be recognised on those mortgages.

[5]   Except for those mortgages that are determined to have significantly increased in credit risk based on an individual assessment, such as those that are more than 30 days past due. Lifetime expected credit losses would also be recognised on those mortgages.

determine whether the credit risk is worse than 5 at the reporting date to determine whether lifetime expected credit losses should be recognised in accordance with paragraph 5.5.3 of SB-FRS 109.

IE42 However, determining the maximum initial credit risk accepted at initial recognition for Portfolio 2 at an internal credit risk rating of 7, would not meet the objective of the requirements as stated in paragraph 5.5.4 of SB-FRS 109. This is because Bank A determines that significant increases in credit risk arise not only when credit risk increases above the level at which an entity would originate new financial assets (ie when the internal rating is worse than 7). Although Bank A never originates an automobile loan with an internal credit rating worse than 7, the initial credit risk on loans in Portfolio 2 is not of sufficiently similar credit risk at initial recognition to apply the approach used for Portfolio 1. This means that Bank A cannot simply compare the credit risk at the reporting date with the lowest credit quality at initial recognition (for example, by comparing the internal credit risk rating of loans in Portfolio 2 with an internal credit risk rating of 7) to determine whether credit risk has increased significantly because the initial credit quality of loans in the portfolio is too diverse. For example, if a loan initially had a credit risk rating of 4 the credit risk on the loan may have increased significantly if its internal credit risk rating changes to 6.

Example 7—counterparty assessment of credit risk

Scenario 1

IE43 In 20X0 Bank A granted a loan of CU10,000 with a contractual term of 15 years to Company Q when the company had an internal credit risk rating of 4 on a scale of 1 (lowest credit risk) to 10 (highest credit risk). The risk of a default occurring increases exponentially as the credit risk rating deteriorates so, for example, the difference between credit risk rating grades 1 and 2 is smaller than the difference between credit risk rating grades 2 and 3. In 20X5, when Company Q had an internal credit risk rating of 6, Bank A issued another loan to Company Q for CU5,000 with a contractual term of 10 years. In 20X7 Company Q fails to retain its contract with a major customer and correspondingly experiences a large decline in its revenue. Bank A considers that as a result of losing the contract, Company Q will have a significantly reduced ability to meet its loan obligations and changes its internal credit risk rating to 8.

IE44 Bank A assesses credit risk on a counterparty level for credit risk management purposes and determines that the increase in Company Q's credit risk is significant. Although Bank A did not perform an individual assessment of changes in the credit risk on each loan since its initial recognition, assessing the credit risk on a counterparty level and recognising lifetime expected credit losses on all loans granted to Company Q, meets the objective of the impairment requirements as stated in paragraph 5.5.4 of SB-FRS 109. This is because, even since the most recent loan was originated (in 20X7) when Company Q had the highest credit risk at loan origination, its credit risk has increased significantly. The counterparty assessment would therefore achieve the same result as assessing the change in credit risk for each loan individually.

Scenario 2

IE45 Bank A granted a loan of CU150,000 with a contractual term of 20 years to Company X in 20X0 when the company had an internal credit risk rating of 4. During 20X5 economic conditions deteriorate and demand for Company X's products has declined significantly. As a result of the reduced cash flows from lower sales, Company X could not make full payment of its loan instalment to Bank A. Bank A re-assesses Company X's internal credit risk rating, and determines it to be 7 at the reporting date. Bank A considered the change in credit risk on the loan, including considering the change in the internal credit risk rating, and determines that there has been a significant increase in credit risk and recognises lifetime expected credit losses on the loan of CU150,000.

IE46   Despite the recent downgrade of the internal credit risk rating, Bank A grants another loan of CU50,000 to Company X in 20X6 with a contractual term of 5 years, taking into consideration the higher credit risk at that date.

IE47   The fact that Company X's credit risk (assessed on a counterparty basis) has previously been assessed to have increased significantly, does not result in lifetime expected credit losses being recognised on the new loan. This is because the credit risk on the new loan has not increased significantly since the loan was initially recognised. If Bank A only assessed credit risk on a counterparty level, without considering whether the conclusion about changes in credit risk applies to all individual financial instruments provided to the same customer, the objective in paragraph 5.5.4 of SB-FRS 109 would not be met.

Recognition and measurement of expected credit losses

IE48   The following examples illustrate the application of the recognition and measurement requirements in accordance with Section 5.5 of SB-FRS 109, as well as the interaction with the hedge accounting requirements.

Example 8—12-month expected credit loss measurement using an explicit 'probability of default' approach

Scenario 1

IE49   Entity A originates a single 10 year amortising loan for CU1 million. Taking into consideration the expectations for instruments with similar credit risk (using reasonable and supportable information that is available without undue cost or effort), the credit risk of the borrower, and the economic outlook for the next 12 months, Entity A estimates that the loan at initial recognition has a probability of default (PD) of 0.5 per cent over the next 12 months. Entity A also determines that changes in the 12-month PD are a reasonable approximation of the changes in the lifetime PD for determining whether there has been a significant increase in credit risk since initial recognition.

IE50   At the reporting date (which is before payment on the loan is due[6]), there has been no change in the 12-month PD and Entity A determines that there was no significant increase in credit risk since initial recognition. Entity A determines that 25 per cent of the gross carrying amount will be lost if the loan defaults (ie the LGD is 25 per cent).[7] Entity A measures the loss allowance at an amount equal to 12-month expected credit losses using the 12-month PD of 0.5 per cent. Implicit in that calculation is the 99.5 per cent probability that there is no default. At the reporting date the loss allowance for the 12 month expected credit losses is CU1,250 (0.5% × 25% × CU1,000,000).

Scenario 2

IE51   Entity B acquires a portfolio of 1,000 five year bullet loans for CU1,000 each (ie CU1million in total) with an average 12-month PD of 0.5 per cent for the portfolio. Entity B determines that because the loans only have significant payment obligations beyond the next 12 months, it would not be appropriate to consider changes in the 12-month PD when determining whether there have been significant increases in credit risk since initial recognition. At the reporting date Entity B therefore uses changes in the lifetime PD to determine whether the credit risk of the portfolio has increased significantly since initial recognition.

IE52   Entity B determines that there has not been a significant increase in credit risk since initial recognition and estimates that the portfolio has an average LGD of 25 per cent. Entity B determines that it is appropriate to measure the loss allowance on a collective basis in

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[6]   Thus for simplicity of illustration it is assumed there is no amortisation of the loan.
[7]   Because the LGD represents a percentage of the present value of the gross carrying amount, this example does not illustrate the time value of money.

accordance with SB-FRS 109. The 12-month PD remains at 0.5 per cent at the reporting date. Entity B therefore measures the loss allowance on a collective basis at an amount equal to 12-month expected credit losses based on the average 0.5 per cent 12-month PD. Implicit in the calculation is the 99.5 per cent probability that there is no default. At the reporting date the loss allowance for the 12-month expected credit losses is CU1,250 (0.5% × 25% × CU1,000,000).

Example 9—12-month expected credit loss measurement based on a loss rate approach

IE53   Bank A originates 2,000 bullet loans with a total gross carrying amount of CU500,000. Bank A segments its portfolio into borrower groups (Groups X and Y) on the basis of shared credit risk characteristics at initial recognition. Group X comprises 1,000 loans with a gross carrying amount per client of CU200, for a total gross carrying amount of CU200,000. Group Y comprises 1,000 loans with a gross carrying amount per client of CU300, for a total gross carrying amount of CU300,000. There are no transaction costs and the loan contracts include no options (for example, prepayment or call options), premiums or discounts, points paid, or other fees.

IE54   Bank A measures expected credit losses on the basis of a loss rate approach for Groups X and Y. In order to develop its loss rates, Bank A considers samples of its own historical default and loss experience for those types of loans. In addition, Bank A considers forward-looking information, and updates its historical information for current economic conditions as well as reasonable and supportable forecasts of future economic conditions. Historically, for a population of 1,000 loans in each group, Group X's loss rates are 0.3 per cent, based on four defaults, and historical loss rates for Group Y are 0.15 per cent, based on two defaults.

	Number of clients in sample	Estimated per client gross carrying amount at default	Total estimated gross carrying amount at default	Historic per annum average defaults	Estimated total gross carrying amount at default	Present value of observed loss[a]	Loss rate
Group	A	B	C = A × B	D	E = B × D	F	G = F ÷ C
X	1,000	CU200	CU200,000	4	CU800	CU600	0.3%
Y	1,000	CU300	CU300,000	2	CU600	CU450	0.15%

(a)   In accordance with paragraph 5.5.17(b) expected credit losses should be discounted using the effective interest rate. However, for purposes of this example, the present value of the observed loss is assumed.

IE55   At the reporting date, Bank A expects an increase in defaults over the next 12 months compared to the historical rate. As a result, Bank A estimates five defaults in the next 12 months for loans in Group X and three for loans in Group Y. It estimates that the present value of the observed credit loss per client will remain consistent with the historical loss per client.

IE56   On the basis of the expected life of the loans, Bank A determines that the expected increase in defaults does not represent a significant increase in credit risk since initial recognition for the portfolios. On the basis of its forecasts, Bank A measures the loss allowance at an amount equal to 12-month expected credit losses on the 1,000 loans in each group amounting to CU750 and CU675 respectively. This equates to a loss rate in the first year of 0.375 per cent for Group X and 0.225 per cent for Group Y.

	Number of clients in sample	Estimated per client gross carrying amount at default	Total estimated gross carrying amount at default	Expected defaults	Estimated total gross carrying amount at default	Present value of observed loss	Loss rate
Group	A	B	C = A × B	D	E = B × D	F	G = F ÷ C
X	1,000	CU200	CU200,000	5	CU1,000	CU750	0.375%
Y	1,000	CU300	CU300,000	3	CU900	CU675	0.225%

IE57   Bank A uses the loss rates of 0.375 per cent and 0.225 per cent respectively to estimate 12-month expected credit losses on new loans in Group X and Group Y originated during the year and for which credit risk has not increased significantly since initial recognition.

Example 10—revolving credit facilities

IE58   Bank A provides co-branded credit cards to customers in conjunction with a local department store. The credit cards have a one-day notice period after which Bank A has the contractual right to cancel the credit card (both the drawn and undrawn components). However, Bank A does not enforce its contractual right to cancel the credit cards in the normal day-to-day management of the instruments and only cancels facilities when it becomes aware of an increase in credit risk and starts to monitor customers on an individual basis. Bank A therefore does not consider the contractual right to cancel the credit cards to limit its exposure to credit losses to the contractual notice period.

IE59   For credit risk management purposes Bank A considers that there is only one set of contractual cash flows from customers to assess and does not distinguish between the drawn and undrawn balances at the reporting date. The portfolio is therefore managed and expected credit losses are measured on a facility level.

IE60   At the reporting date the outstanding balance on the credit card portfolio is CU60,000 and the available undrawn facility is CU40,000. Bank A determines the expected life of the portfolio by estimating the period over which it expects to be exposed to credit risk on the facilities at the reporting date, taking into account:

(a)   the period over which it was exposed to credit risk on a similar portfolio of credit cards;

(b)   the length of time for related defaults to occur on similar financial instruments; and

(c)   past events that led to credit risk management actions because of an increase in credit risk on similar financial instruments, such as the reduction or removal of undrawn credit limits.

IE61   On the basis of the information listed in paragraph IE60, Bank A determines that the expected life of the credit card portfolio is 30 months.

IE62   At the reporting date Bank A assesses the change in the credit risk on the portfolio since initial recognition and determines in accordance with paragraph 5.5.3 of SB-FRS 109 that the credit risk on a portion of the credit card facilities representing 25 per cent of the portfolio, has increased significantly since initial recognition. The outstanding balance on these credit facilities for which lifetime expected credit losses should be recognised is CU20,000 and the available undrawn facility is CU10,000.

IE63   When measuring the expected credit losses in accordance with paragraph 5.5.20 of SB-FRS 109, Bank A considers its expectations about future draw-downs over the expected life of the portfolio (ie 30 months) in accordance with paragraph B5.5.31 and estimates what it expects the outstanding balance (ie exposure at default) on the portfolio would be if customers were to default. By using its credit risk models Bank A determines that the exposure at default on

the credit card facilities for which lifetime expected credit losses should be recognised, is CU25,000 (ie the drawn balance of CU20,000 plus further draw-downs of CU5,000 from the available undrawn commitment). The exposure at default of the credit card facilities for which 12-month expected credit losses are recognised, is CU45,000 (ie the outstanding balance of CU40,000 and an additional draw-down of CU5,000 from the undrawn commitment over the next 12 months).

IE64　The exposure at default and expected life determined by Bank A are used to measure the lifetime expected credit losses and 12-month expected credit losses on its credit card portfolio.

IE65　Bank A measures expected credit losses on a facility level and therefore cannot separately identify the expected credit losses on the undrawn commitment component from those on the loan component. It recognises expected credit losses for the undrawn commitment together with the loss allowance for the loan component in the statement of financial position. To the extent that the combined expected credit losses exceed the gross carrying amount of the financial asset, the expected credit losses should be presented as a provision (in accordance with SB-FRS 107 *Financial Instruments: Disclosures*).

Example 11—modification of contractual cash flows

IE66　Bank A originates a five-year loan that requires the repayment of the outstanding contractual amount in full at maturity. Its contractual par amount is CU1,000 with an interest rate of 5 per cent payable annually. The effective interest rate is 5 per cent. At the end of the first reporting period (Period 1), Bank A recognises a loss allowance at an amount equal to 12-month expected credit losses because there has not been a significant increase in credit risk since initial recognition. A loss allowance balance of CU20 is recognised.

IE67　In the subsequent reporting period (Period 2), Bank A determines that the credit risk on the loan has increased significantly since initial recognition. As a result of this increase, Bank A recognises lifetime expected credit losses on the loan. The loss allowance balance is CU30.

IE68　At the end of the third reporting period (Period 3), following significant financial difficulty of the borrower, Bank A modifies the contractual cash flows on the loan. It extends the contractual term of the loan by one year so that the remaining term at the date of the modification is three years. The modification does not result in the derecognition of the loan by Bank A.

IE69　As a result of that modification, Bank A recalculates the gross carrying amount of the financial asset as the present value of the modified contractual cash flows discounted at the loan's original effective interest rate of 5 per cent. In accordance with paragraph 5.4.3 of SB-FRS 109, the difference between this recalculated gross carrying amount and the gross carrying amount before the modification is recognised as a modification gain or loss. Bank A recognises the modification loss (calculated as CU300) against the gross carrying amount of the loan, reducing it to CU700, and a modification loss of CU300 in profit or loss.

IE70　Bank A also remeasures the loss allowance, taking into account the modified contractual cash flows and evaluates whether the loss allowance for the loan shall continue to be measured at an amount equal to lifetime expected credit losses. Bank A compares the current credit risk (taking into consideration the modified cash flows) to the credit risk (on the original unmodified cash flows) at initial recognition. Bank A determines that the loan is not credit-impaired at the reporting date but that credit risk has still significantly increased compared to the credit risk at initial recognition and continues to measure the loss allowance at an amount equal to lifetime expected credit losses. The loss allowance balance for lifetime expected credit losses is CU100 at the reporting date.

Period	Beginning gross carrying amount	Impairment (loss)/gain	Modification (loss)/gain	Interest revenue	Cash flows	Ending gross carrying amount	Loss allowance	Ending amortised cost amount
	A	B	C	D Gross: A × 5%	E	F = A + C + D − E	G	H = F − G
1	CU1,000	(CU20)		CU50	CU50	CU1,000	CU20	CU980
2	CU1,000	(CU10)		CU50	CU50	CU1,000	CU30	CU970
3	CU1,000	(CU70)	(CU300)	CU50	CU50	CU700	CU100	CU600

IE71   At each subsequent reporting date, Bank A evaluates whether there is a significant increase in credit risk by comparing the loan's credit risk at initial recognition (based on the original, unmodified cash flows) with the credit risk at the reporting date (based on the modified cash flows), in accordance with paragraph 5.5.12 of SB-FRS 109.

IE72   Two reporting periods after the loan modification (Period 5), the borrower has outperformed its business plan significantly compared to the expectations at the modification date. In addition, the outlook for the business is more positive than previously envisaged. An assessment of all reasonable and supportable information that is available without undue cost or effort indicates that the overall credit risk on the loan has decreased and that the risk of a default occurring over the expected life of the loan has decreased, so Bank A adjusts the borrower's internal credit rating at the end of the reporting period.

IE73   Given the positive overall development, Bank A re-assesses the situation and concludes that the credit risk of the loan has decreased and there is no longer a significant increase in credit risk since initial recognition. As a result, Bank A once again measures the loss allowance at an amount equal to 12-month expected credit losses.

Example 12—provision matrix

IE74   Company M, a manufacturer, has a portfolio of trade receivables of CU30 million in 20X1 and operates only in one geographical region. The customer base consists of a large number of small clients and the trade receivables are categorised by common risk characteristics that are representative of the customers' abilities to pay all amounts due in accordance with the contractual terms. The trade receivables do not have a significant financing component in accordance with SB-FRS 115 *Revenue from Contracts with Customers*. In accordance with paragraph 5.5.15 of SB-FRS 109 the loss allowance for such trade receivables is always measured at an amount equal to lifetime time expected credit losses.

IE75   To determine the expected credit losses for the portfolio, Company M uses a provision matrix. The provision matrix is based on its historical observed default rates over the expected life of the trade receivables and is adjusted for forward-looking estimates. At every reporting date the historical observed default rates are updated and changes in the forward-looking estimates are analysed. In this case it is forecast that economic conditions will deteriorate over the next year.

IE76   On that basis, Company M estimates the following provision matrix:

	Current	1–30 days past due	31–60 days past due	61–90 days past due	More than 90 days past due
Default rate	0.3%	1.6%	3.6%	6.6%	10.6%

IE77 The trade receivables from the large number of small customers amount to CU30 million and are measured using the provision matrix.

	Gross carrying amount	Lifetime expected credit loss allowance (Gross carrying amount x lifetime expected credit loss rate)
Current	CU15,000,000	CU45,000
1–30 days past due	CU7,500,000	CU120,000
31–60 days past due	CU4,000,000	CU144,000
61–90 days past due	CU2,500,000	CU165,000
More than 90 days past due	CU1,000,000	CU106,000
	CU30,000,000	**CU580,000**

Example 13—debt instrument measured at fair value through other comprehensive income

IE78 An entity purchases a debt instrument with a fair value of CU1,000 on 15 December 20X0 and measures the debt instrument at fair value through other comprehensive income. The instrument has an interest rate of 5 per cent over the contractual term of 10 years, and has a 5 per cent effective interest rate. At initial recognition the entity determines that the asset is not purchased or originated credit-impaired.

	Debit	Credit
Financial asset—FVOCI[a]	CU1,000	
Cash		CU1,000
(To recognise the debt instrument measured at its fair value)		
(a) FVOCI means fair value through other comprehensive income.		

IE79 On 31 December 20X0 (the reporting date), the fair value of the debt instrument has decreased to CU950 as a result of changes in market interest rates. The entity determines that there has not been a significant increase in credit risk since initial recognition and that expected credit losses should be measured at an amount equal to 12-month expected credit losses, which amounts to CU30. For simplicity, journal entries for the receipt of interest revenue are not provided.

	Debit	Credit
Impairment loss (profit or loss)	CU30	
Other comprehensive income[a]	CU20	
Financial asset—FVOCI		CU50
(To recognise 12-month expected credit losses and other fair value changes on the debt instrument)		

continued…

…continued

| | (a) | The cumulative loss in other comprehensive income at the reporting date was CU20. That amount consists of the total fair value change of CU50 (ie CU1,000 – CU950) offset by the change in the accumulated impairment amount representing 12-month expected credit losses that was recognised (CU30). |

IE80   Disclosure would be provided about the accumulated impairment amount of CU30.

IE81   On 1 January 20X1, the entity decides to sell the debt instrument for CU950, which is its fair value at that date.

	Debit	Credit
Cash	CU950	
Financial asset—FVOCI		CU950
Loss (profit or loss)	CU20	
Other comprehensive income		CU20
(To derecognise the fair value through other comprehensive income asset and recycle amounts accumulated in other comprehensive income to profit or loss)		

Example 14—interaction between the fair value through other comprehensive income measurement category and foreign currency denomination, fair value hedge accounting and impairment

IE82   This example illustrates the accounting relating to a debt instrument denominated in a foreign currency, measured at fair value through other comprehensive income and designated in a fair value hedge accounting relationship. The example illustrates the interaction with accounting for impairment.

IE83   An entity purchases a debt instrument (a bond) denominated in a foreign currency (FC) for its fair value of FC100,000 on 1 January 20X0 and classifies the bond as measured at fair value through other comprehensive income. The bond has five years remaining to maturity and a fixed coupon of 5 per cent over its contractual life on the contractual par amount of FC100,000. On initial recognition the bond has a 5 per cent effective interest rate. The entity's functional currency is its local currency (LC). The exchange rate is FC1 to LC1 on 1 January 20X0. At initial recognition the entity determines that the bond is not purchased or originated credit-impaired. In addition, as at 1 January 20X0 the 12-month expected credit losses are determined to be FC1,200. Its amortised cost in FC as at 1 January 20X0 is equal to its gross carrying amount of FC100,000 less the 12-month expected credit losses (FC100,000—FC1,200).

IE84   The entity has the following risk exposures:

(a)   fair value interest rate risk in FC: the exposure that arises as a result of purchasing a fixed interest rate instrument; and

(b)   foreign exchange risk: the exposure to changes in foreign exchange rates measured in LC.

IE85   The entity hedges its risk exposures using the following risk management strategy:

(a)   for fixed interest rate risk (in FC) the entity decides to link its interest receipts in FC to current variable interest rates in FC. Consequently, the entity uses interest rate swaps

denominated in FC under which it pays fixed interest and receives variable interest in FC; and

(b)   for foreign exchange risk the entity decides not to hedge against any variability in LC arising from changes in foreign exchange rates.

IE86   The entity designates the following hedge relationship:[8] a fair value hedge of the bond in FC as the hedged item with changes in benchmark interest rate risk in FC as the hedged risk. The entity enters into an on-market swap that pays fixed and receives variable interest on the same day and designates the swap as the hedging instrument. The tenor of the swap matches that of the hedged item (ie five years).

IE87   For simplicity, in this example it is assumed that no hedge ineffectiveness arises in the hedge accounting relationship. This is because of the assumptions made in order to better focus on illustrating the accounting mechanics in a situation that entails measurement at fair value through other comprehensive income of a foreign currency financial instrument that is designated in a fair value hedge relationship, and also to focus on the recognition of impairment gains or losses on such an instrument.

IE88   The entity makes the following journal entries to recognise the bond and the swap on 1 January 20X0:

	Debit LC	Credit LC
Financial asset—FVOCI	100,000	
Cash		100,000
(To recognise the bond at its fair value)		
Impairment loss (profit or loss)	1,200	
Other comprehensive income		1,200
(To recognise the 12-month expected credit losses)[(a)]		
Swap	–	
Cash		–
(To recognise the swap at its fair value)		
(a) In case of items measured in the functional currency of an entity the journal entry recognising expected credit losses will usually be made at the reporting date.		

IE89   As of 31 December 20X0 (the reporting date), the fair value of the bond decreased from FC100,000 to FC96,370 because of an increase in market interest rates. The fair value of the swap increased to FC1,837. In addition, as at 31 December 20X0 the entity determines that there has been no change to the credit risk on the bond since initial recognition and continues to carry a loss allowance for 12-month expected credit losses at FC1,200.[9] As at 31 December 20X0, the exchange rate is FC1 to LC1.4. This is reflected in the following table:

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8   The cumulative loss in other comprehensive income at the reporting date was CU20. That amount consists of the total fair value change of CU50 (ie CU1,000 – CU950) offset by the change in the accumulated impairment amount representing 12-month expected credit losses that was recognised (CU30).This example assumes that all qualifying criteria for hedge accounting are met (see paragraph 6.4.1 of SB-FRS 109). The following description of the designation is solely for the purpose of understanding this example (ie it is not an example of the complete formal documentation required in accordance with paragraph 6.4.1 of SB-FRS 109).

9   For the purposes of simplicity the example ignores the impact of discounting when computing expected credit losses.

	1 January 20X0	31 December 20X0
Bond		
Fair value (FC)	100,000	96,370
Fair value (LC)	100,000	134,918
Amortised cost (FC)	98,800	98,800
Amortised cost (LC)	98,800	138,320
Interest rate swap		
Interest rate swap (FC)	–	1,837
Interest rate swap (LC)	–	2,572
Impairment – loss allowance		
Loss allowance (FC)	1,200	1,200
Loss allowance (LC)	1,200	1,680
FX rate (FC:LC)	1:1	1:1.4

IE90　The bond is a monetary asset. Consequently, the entity recognises the changes arising from movements in foreign exchange rates in profit or loss in accordance with paragraphs 23(a) and 28 of SB-FRS 21 *The Effects of Changes in Foreign Exchange Rates* and recognises other changes in accordance with SB-FRS 109. For the purposes of applying paragraph 28 of SB-FRS 21 the asset is treated as an asset measured at amortised cost in the foreign currency.

IE91　As shown in the table, on 31 December 20X0 the fair value of the bond is LC134,918 (FC96,370 × 1.4) and its amortised cost is LC138,320 (FC(100,000–1,200) × 1.4).

IE92　The gain recognised in profit or loss that is due to the changes in foreign exchange rates is LC39,520 (LC138,320 – LC98,800), ie the change in the amortised cost of the bond during 20X0 in LC. The change in the fair value of the bond in LC, which amounts to LC34,918, is recognised as an adjustment to the carrying amount. The difference between the fair value of the bond and its amortised cost in LC is LC3,402 (LC134,918 – LC138,320). However, the change in the cumulative gain or loss recognised in other comprehensive income during 20X0 as a reduction is LC 4,602 (LC3,402 + LC1,200).

IE93　A gain of LC2,572 (FC1,837 × 1.4) on the swap is recognised in profit or loss and, because it is assumed that there is no hedge ineffectiveness, an equivalent amount is recycled from other comprehensive income in the same period. For simplicity, journal entries for the recognition of interest revenue are not provided. It is assumed that interest accrued is received in the period.

IE94 The entity makes the following journal entries on 31 December 20X0:

	Debit LC	Credit LC
Financial asset—FVOCI	34,918	
Other comprehensive income	4,602	
Profit or loss		39,520
(To recognise the foreign exchange gain on the bond, the adjustment to its carrying amount measured at fair value in LC and the movement in the accumulated impairment amount due to changes in foreign exchange rates)		
Swap	2,572	
Profit or loss		2,572
(To remeasure the swap at fair value)		
Profit or loss	2,572	
Other comprehensive income		2,572
(To recognise in profit or loss the change in fair value of the bond due to a change in the hedged risk)		

IE95 In accordance with paragraph 16A of SB-FRS 107, the loss allowance for financial assets measured at fair value through other comprehensive income is not presented separately as a reduction of the carrying amount of the financial asset. However, disclosure would be provided about the accumulated impairment amount recognised in other comprehensive income.

IE96 As at 31 December 20X1 (the reporting date), the fair value of the bond decreased to FC87,114 because of an increase in market interest rates and an increase in the credit risk of the bond. The fair value of the swap increased by FC255 to FC2,092. In addition, as at 31 December 20X1 the entity determines that there has been a significant increase in credit risk on the bond since initial recognition, so a loss allowance at an amount equal to lifetime expected credit losses is recognised.[10] The estimate of lifetime expected credit losses as at 31 December 20X1 is FC9,700. As at 31 December 20X1, the exchange rate is FC1 to LC1.25. This is reflected in the following table:

	31 December 20X0	31 December 20X1
Bond		
Fair value (FC)	96,370	87,114
Fair value (LC)	134,918	108,893
Amortised cost (FC)	98,800	90,300
Amortised cost (LC)	138,320	112,875

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[10] For simplicity this example assumes that credit risk does not dominate the fair value hedge relationship.

…continued

	31 December 20X0	31 December 20X1
Interest rate swap		
Interest rate swap (FC)	1,837	2,092
Interest rate swap (LC)	2,572	2,615
Impairment – loss allowance		
Loss allowance (FC)	1,200	9,700
Loss allowance (LC)	1,680	12,125
FX rate (FC:LC)	1:1.4	1:1.25

IE97   As shown in the table, as at 31 December 20X1 the fair value of the bond is LC108,893 (FC87,114 × 1.25) and its amortised cost is LC112,875 (FC(100,000 – 9,700) × 1.25).

IE98   The lifetime expected credit losses on the bond are measured as FC9,700 as of 31 December 20X1. Thus the impairment loss recognised in profit or loss in LC is LC10,625 (FC(9,700 – 1,200) x 1.25).

IE99   The loss recognised in profit or loss because of the changes in foreign exchange rates is LC14,820 (LC112,875 – LC138,320 + LC10,625), which is the change in the gross carrying amount of the bond on the basis of amortised cost during 20X1 in LC, adjusted for the impairment loss. The difference between the fair value of the bond and its amortised cost in the functional currency of the entity on 31 December 20X1 is LC3,982 (LC108,893 – LC112,875). However, the change in the cumulative gain or loss recognised in other comprehensive income during 20X1 as a reduction in other comprehensive income is LC11,205 (LC3,982 – LC3,402 + LC10,625).

IE100   A gain of LC43 (LC2,615 – LC2,572) on the swap is recognised in profit or loss and, because it is assumed that there is no hedge ineffectiveness, an equivalent amount is recycled from other comprehensive income in the same period.

IE101   The entity makes the following journal entries on 31 December 20X1:

	Debit LC	Credit LC
Financial asset—FVOCI		26,025
Other comprehensive income	11,205	
Profit or loss	14,820	
(To recognise the foreign exchange gain on the bond, the adjustment to its carrying amount measured at fair value in LC and the movement in the accumulated impairment amount due to changes in foreign exchange rates)		
Swap	43	
Profit or loss		43
(To remeasure the swap at fair value)		
Profit or loss	43	
Other comprehensive income		43
(To recognise in profit or loss the change in fair value of the bond due to a change in the hedged risk)		

continued…

…continued

	Debit LC	Credit LC
Profit or loss (impairment loss)	10,625	
Other comprehensive income (accumulated impairment amount)		10,625
(To recognise lifetime expected credit losses)		

IE102   On 1 January 20X2, the entity decides to sell the bond for FC 87,114, which is its fair value at that date and also closes out the swap at fair value. The foreign exchange rate is the same as at 31 December 20X1. The journal entries to derecognise the bond and reclassify the gains and losses that have accumulated in other comprehensive income would be as follows:

	Debit LC	Credit LC
Cash	108,893	
Financial asset—FVOCI		108,893
Loss on sale (profit or loss)	1,367[a]	
Other comprehensive income		1,367
(To derecognise the bond)		
Swap		2,615
Cash	2,615	
(To close out the swap)		
(a) This amount consists of the changes in fair value of the bond, the accumulated impairment amount and the changes in foreign exchange rates recognised in other comprehensive income (LC2,572 + LC1,200 + LC43 + LC10,625 – LC4,602 – LC11,205 = -LC1,367, which is recycled as a loss in profit or loss).		

Application of the impairment requirements on a reporting date

```
┌─────────────────────────────────────┐        ┌──────────────────────┐
│ Is the financial instrument a        │  Yes   │ Calculate a credit-  │
│ purchased or originated              │───────▶│ adjusted effective   │
│ credit-impaired financial asset?     │        │ interest rate and    │
└─────────────────────────────────────┘        │ always recognise a   │
                  │ No                          │ loss allowance for   │
                  ▼                              │ changes in lifetime  │
┌─────────────────────────────────────┐        │ expected credit      │
│ Is the simplified approach for trade │        │ losses               │
│ receivables, contract assets and     │        └──────────────────────┘
│ lease receivables applicable?        │
└─────────────────────────────────────┘
                  │ No
                  ▼
┌─────────────────────────────────────┐  Yes   ┌──────────────────────┐
│ Does the financial instrument have   │───────▶│ Is the low credit    │
│ low credit risk at the reporting     │        │ risk simplification  │
│ date?                                │        │ applied?             │
└─────────────────────────────────────┘        └──────────────────────┘
                  │ No                          No │           │ Yes
                  ▼                                │           │
┌─────────────────────────────────────┐           │           ▼
│ Has there been a significant         │           │  ┌──────────────────────┐
│ increase in credit risk since        │           │  │ Recognise            │
│ initial recognition?                 │──────────────│ 12-month expected    │
└─────────────────────────────────────┘   No         │ credit losses and    │
                  │ Yes                               │ calculate interest   │
                  ▼                                   │ revenue on gross     │
┌─────────────────────────────────────┐              │ carrying amount      │
│ Recognise lifetime expected credit   │◀── Yes       └──────────────────────┘
│ losses                               │
└─────────────────────────────────────┘
                  │ And
                  ▼
┌──────────────┐ No  ┌────────────────────────┐ Yes  ┌──────────────────────┐
│ Calculate    │◀────│ Is the financial        │─────▶│ Calculate interest   │
│ interest     │     │ instrument a            │      │ revenue on           │
│ revenue on   │     │ credit-impaired         │      │ amortised cost       │
│ the gross    │     │ financial asset?        │      └──────────────────────┘
│ carrying     │     └────────────────────────┘
│ amount       │
└──────────────┘
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Reclassification of financial assets (Section 5.6)

IE103   This example illustrates the accounting requirements for the reclassification of financial assets between measurement categories in accordance with Section 5.6 of SB-FRS 109. The example illustrates the interaction with the impairment requirements in Section 5.5 of SB-FRS 109.

Example 15—reclassification of financial assets

IE104   An entity purchases a portfolio of bonds for its fair value (gross carrying amount) of CU500,000.

IE105   The entity changes the business model for managing the bonds in accordance with paragraph 4.4.1 of SB-FRS 109. The fair value of the portfolio of bonds at the reclassification date is CU490,000.

IE106   If the portfolio was measured at amortised cost or at fair value through other comprehensive income immediately prior to reclassification, the loss allowance recognised at the date of reclassification would be CU6,000 (reflecting a significant increase in credit risk since initial recognition and thus the measurement of lifetime expected credit losses).

IE107   The 12-month expected credit losses at the reclassification date are CU4,000.

IE108   For simplicity, journal entries for the recognition of interest revenue are not provided.

Scenario 1: Reclassification out of the amortised cost measurement category and into the fair value through profit or loss measurement category

IE109   Bank A reclassifies the portfolio of bonds out of the amortised cost measurement category and into the fair value through profit or loss measurement category. At the reclassification date, the portfolio of bonds is measured at fair value. Any gain or loss arising from a difference between the previous amortised cost amount of the portfolio of bonds and the fair value of the portfolio of bonds is recognised in profit or loss on reclassification.

	Debit	Credit
Bonds (FVPL assets)	CU490,000	
Bonds (gross carrying amount of the amortised cost assets)		CU500,000
Loss allowance	CU6,000	
Reclassification loss (profit or loss)	CU4,000	
(To recognise the reclassification of bonds from amortised cost to fair value through profit or loss and to derecognise the loss allowance.)		

Scenario 2: Reclassification out of the fair value through profit or loss measurement category and into the amortised cost measurement category

IE110   Bank A reclassifies the portfolio of bonds out of the fair value through profit or loss measurement category and into the amortised cost measurement category. At the reclassification date, the fair value of the portfolio of bonds becomes the new gross carrying amount and the effective interest rate is determined based on that gross carrying amount. The impairment requirements apply to the bond from the reclassification date. For the purposes of recognising expected credit losses, the credit risk of the portfolio of bonds at the reclassification date becomes the credit risk against which future changes in credit risk shall be compared.

	Debit	Credit
Bonds (gross carrying amount of the amortised cost assets)	CU490,000	
Bonds (FVPL assets)		CU490,000
Impairment loss (profit or loss)	CU4,000	
Loss allowance		CU4,000
(To recognise reclassification of bonds from fair value through profit or loss to amortised cost including commencing accounting for impairment.)		

Scenario 3: Reclassification out of the amortised cost measurement category and into the fair value through other comprehensive income measurement category

IE111   Bank A reclassifies the portfolio of bonds out of the amortised cost measurement category and into the fair value through other comprehensive income measurement category. At the reclassification date, the portfolio of bonds is measured at fair value. Any gain or loss arising

from a difference between the previous amortised cost amount of the portfolio of bonds and the fair value of the portfolio of bonds is recognised in other comprehensive income. The effective interest rate and the measurement of expected credit losses are not adjusted as a result of the reclassification. The credit risk at initial recognition continues to be used to assess changes in credit risk. From the reclassification date the loss allowance ceases to be recognised as an adjustment to the gross carrying amount of the bond and is recognised as an accumulated impairment amount, which would be disclosed.

	Debit	Credit
Bonds (FVOCI assets)	CU490,000	
Bonds (gross carrying amount of amortised cost assets)		CU500,000
Loss allowance	CU6,000	
Other comprehensive income[(a)]	CU4,000	
(To recognise the reclassification from amortised cost to fair value through other comprehensive income. The measurement of expected credit losses is however unchanged.)		
(a) For simplicity, the amount related to impairment is not shown separately. If it had been, this journal entry (ie DR CU4,000) would be split into the following two entries: DR Other comprehensive income CU10,000 (fair value changes) and CR other comprehensive income CU6,000 (accumulated impairment amount).		

Scenario 4: Reclassification out of the fair value through other comprehensive income measurement category and into the amortised cost measurement category

IE112   Bank A reclassifies the portfolio of bonds out of the fair value through other comprehensive income measurement category and into the amortised cost measurement category. The portfolio of bonds is reclassified at fair value. However, at the reclassification date, the cumulative gain or loss previously recognised in other comprehensive income is removed from equity and adjusted against the fair value of the portfolio of bonds. As a result, the portfolio of bonds is measured at the reclassification date as if it had always been measured at amortised cost. The effective interest rate and the measurement of expected credit losses are not adjusted as a result of the reclassification. The credit risk at initial recognition continues to be used to assess changes in the credit risk on the bonds. The loss allowance is recognised as an adjustment to the gross carrying amount of the bond (to reflect the amortised cost amount) from the reclassification date.

	Debit	Credit
Bonds (gross carrying value of the amortised cost assets)	CU490,000	
Bonds (FVOCI assets)		CU490,000
Bonds (gross carrying value of the amortised cost assets)	CU10,000	
Loss allowance		CU6,000
Other comprehensive income[(a)]		CU4,000
(To recognise the reclassification from fair value through other comprehensive income to amortised cost including the recognition of the loss allowance deducted to determine the amortised cost amount. The measurement of expected credit losses is however unchanged.)		

continued…

…continued

(a)	The cumulative loss in other comprehensive income at the reclassification date was CU4,000. That amount consists of the total fair value change of CU10,000 (ie CU500,000 – 490,000) offset by the accumulated impairment amount recognised (CU6,000) while the assets were measured at fair value through other comprehensive income.

Scenario 5: Reclassification out of the fair value through profit or loss measurement category and into the fair value through other comprehensive income measurement category

IE113   Bank A reclassifies the portfolio of bonds out of the fair value through profit or loss measurement category and into the fair value through other comprehensive income measurement category. The portfolio of bonds continues to be measured at fair value. However, for the purposes of applying the effective interest method, the fair value of the portfolio of bonds at the reclassification date becomes the new gross carrying amount and the effective interest rate is determined based on that new gross carrying amount. The impairment requirements apply from the reclassification date. For the purposes of recognising expected credit losses, the credit risk of the portfolio of bonds at the reclassification date becomes the credit risk against which future changes in credit risk shall be compared.

	Debit	Credit
Bonds (FVOCI assets)	CU490,000	
Bonds (FVPL assets)		CU490,000
Impairment loss (profit or loss)	CU4,000	
Other comprehensive income		CU4,000

(To recognise the reclassification of bonds from fair value through profit or loss to fair value through other comprehensive income including commencing accounting for impairment. The other comprehensive income amount reflects the loss allowance at the date of reclassification (an accumulated impairment amount relevant for disclosure purposes) of CU4,000.)

Scenario 6: Reclassification out of the fair value through other comprehensive income measurement category and into the fair value through profit or loss measurement category

IE114   Bank A reclassifies the portfolio of bonds out of the fair value through other comprehensive income measurement category and into the fair value through profit or loss measurement category. The portfolio of bonds continues to be measured at fair value. However, the cumulative gain or loss previously recognised in other comprehensive income is reclassified from equity to profit or loss as a reclassification adjustment (see SB-FRS 1 *Presentation of Financial Statements*).

	Debit	Credit
Bonds (FVPL assets)	CU490,000	
Bonds (FVOCI assets)		CU490,000
Reclassification loss (profit or loss)	CU4,000	
Other comprehensive income[(a)]		CU4,000

continued…

…continued

(To recognise the reclassification of bonds from fair value through other comprehensive income to fair value through profit or loss.)
(a) The cumulative loss in other comprehensive income at the reclassification date was CU4,000. That amount consists of the total fair value change of CU10,000 (ie CU500,000 – 490,000) offset by the loss allowance that was recognised (CU6,000) while the assets were measured at fair value through other comprehensive income.

Hedge accounting for aggregated exposures

IE115   The following examples illustrate the mechanics of hedge accounting for aggregated exposures.

Example 16—combined commodity price risk and foreign currency risk hedge (cash flow hedge/cash flow hedge combination)

Fact pattern

IE116   Entity A wants to hedge a highly probable forecast coffee purchase (which is expected to occur at the end of Period 5). Entity A's functional currency is its Local Currency (LC). Coffee is traded in Foreign Currency (FC). Entity A has the following risk exposures:

(a)   commodity price risk: the variability in cash flows for the purchase price, which results from fluctuations of the spot price of coffee in FC; and

(b)   foreign currency (FX) risk: the variability in cash flows that result from fluctuations of the spot exchange rate between LC and FC.

IE117   Entity A hedges its risk exposures using the following risk management strategy:

(a)   Entity A uses benchmark commodity forward contracts, which are denominated in FC, to hedge its coffee purchases four periods before delivery. The coffee price that Entity A actually pays for its purchase is different from the benchmark price because of differences in the type of coffee, the location and delivery arrangement.[11] This gives rise to the risk of changes in the relationship between the two coffee prices (sometimes referred to as 'basis risk'), which affects the effectiveness of the hedging relationship. Entity A does not hedge this risk because it is not considered economical under cost/benefit considerations.

(b)   Entity A also hedges its FX risk. However, the FX risk is hedged over a different horizon—only three periods before delivery. Entity A considers the FX exposure from the variable payments for the coffee purchase in FC and the gain or loss on the commodity forward contract in FC as one aggregated FX exposure. Hence, Entity A uses one single FX forward contract to hedge the FX cash flows from a forecast coffee purchase and the related commodity forward contract.

IE118   The following table sets out the parameters used for Example 16 (the 'basis spread' is the differential, expressed as a percentage, between the price of the coffee that Entity A actually buys and the price for the benchmark coffee):

Example 16—Parameters					
Period	1	2	3	4	5
Interest rates for remaining maturity [FC]	0.26%	0.21%	0.16%	0.06%	0.00%

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[11]   For the purpose of this example it is assumed that the hedged risk is not designated based on a benchmark coffee price risk component. Consequently, the entire coffee price risk is hedged.

Example 16—Parameters					
Period	**1**	**2**	**3**	**4**	**5**
Interest rates for remaining maturity [LC]	1.12%	0.82%	0.46%	0.26%	0.00%
Forward price [FC/lb]	1.25	1.01	1.43	1.22	2.15
Basis spread	-5.00%	-5.50%	-6.00%	-3.40%	-7.00%
FX rate (spot) [FC/LC]	1.3800	1.3300	1.4100	1.4600	1.4300

Accounting mechanics

IE119 Entity A designates as cash flow hedges the following two hedging relationships:[12]

(a) A commodity price risk hedging relationship between the coffee price related variability in cash flows attributable to the forecast coffee purchase in FC as the hedged item and a commodity forward contract denominated in FC as the hedging instrument (the 'first level relationship'). This hedging relationship is designated at the end of Period 1 with a term to the end of Period 5. Because of the basis spread between the price of the coffee that Entity A actually buys and the price for the benchmark coffee, Entity A designates a volume of 112,500 pounds (lbs) of coffee as the hedging instrument and a volume of 118,421 lbs as the hedged item.[13]

(b) An FX risk hedging relationship between the aggregated exposure as the hedged item and an FX forward contract as the hedging instrument (the 'second level relationship'). This hedging relationship is designated at the end of Period 2 with a term to the end of Period 5. The aggregated exposure that is designated as the hedged item represents the FX risk that is the effect of exchange rate changes, compared to the forward FX rate at the end of Period 2 (ie the time of designation of the FX risk hedging relationship), on the combined FX cash flows in FC of the two items designated in the commodity price risk hedging relationship, which are the forecast coffee purchase and the commodity forward contract. Entity A's long-term view of the basis spread between the price of the coffee that it actually buys and the price for the benchmark coffee has not changed from the end of Period 1. Consequently, the actual volume of hedging instrument that Entity A enters into (the nominal amount of the FX forward contract of FC140,625) reflects the cash flow exposure associated with a basis spread that had remained at -5 per cent. However, Entity A's actual aggregated exposure is affected by changes in the basis spread. Because the basis spread has moved from -5 per cent to -5.5 per cent during Period 2, Entity A's actual aggregated exposure at the end of Period 2 is FC140,027.

IE120 The following table sets out the fair values of the derivatives, the changes in the value of the hedged items and the calculation of the cash flow hedge reserves and hedge ineffectiveness:[14]

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[12] This example assumes that all qualifying criteria for hedge accounting are met (see paragraph 6.4.1 of SB-FRS 109). The following description of the designation is solely for the purpose of understanding this example (ie it is not an example of the complete formal documentation required in accordance with SB-FRS 109.6.4.1(b)).

[13] In this example, the current basis spread at the time of designation is coincidentally the same as Entity A's long-term view of the basis spread (-5 per cent) that determines the volume of coffee purchases that it actually hedges. Also, this example assumes that Entity A designates the hedging instrument in its entirety and designates as much of its highly probable forecast purchases as it regards as hedged. That results in a hedge ratio of 1/(100%-5%). Other entities might follow different approaches when determining what volume of their exposure they actually hedge, which can result in a different hedge ratio and also designating less than a hedging instrument in its entirety (see paragraph 6.4.1 of SB-FRS 109).

[14] In the following table for the calculations all amounts (including the calculations for accounting purposes of amounts for assets, liabilities, equity and profit or loss) are in the format of positive (plus) and negative (minus) numbers (eg a profit or loss amount that is a negative number is a loss).

Example 16—Calculations

Period		1	2	3	4	5
Commodity price risk hedging relationship (first level relationship)						
Forward purchase contract for coffee						
Volume (lbs)	112,500					
Forward price [FC/lb]	1.25	Price (fwd) [FC/lb]	1.25	1.01	1.43	1.22	2.15
		Fair value [FC]	0	(26,943)	20,219	(3,373)	101,250
		Fair value [LC]	0	(20,258)	14,339	(2,310)	70,804
		Change in fair value [LC]		(20,258)	34,598	(16,650)	73,114
Hedged forecast coffee purchase						
Hedge ratio	105.26%	Basis spread	-5.00%	-5.50%	-6.00%	-3.40%	-7.00%
Hedged volume	118,421	Price (fwd) [FC/lb]	1.19	0.95	1.34	1.18	2.00
Implied forward price	1.1875	Present value [FC]	0	27,540	(18,528)	1,063	(96,158)
		Present value [LC]	0	20,707	(13,140)	728	(67,243)
		Change in present value [LC]		20,707	(33,847)	13,868	(67,971)
Accounting			LC	LC	LC	LC	LC
Derivative			0	(20,258)	14,339	(2,310)	70,804
Cash flow hedge reserve			0	(20,258)	13,140	(728)	67,243
Change in cash flow hedge reserve				(20,258)	33,399	(13,868)	67,971
Profit or loss				0	1,199	(2,781)	5,143
Retained earnings			0	0	1,199	(1,582)	3,561

Period		1	2	3	4	5
FX risk hedging relationship (second level relationship)						
FX rate [FC/LC]		Spot	1.3800	1.3300	1.4100	1.4600	1.4300
		Forward	1.3683	1.3220	1.4058	1.4571	1.4300
FX forward contract (buy FC/sell LC)						
Volume [FC]	140,625					
Forward rate (in P$_2$)	1.3220	Fair value [LC]		0	(6,313)	(9,840)	(8,035)
		Change in fair value [LC]			(6,313)	(3,528)	1,805
Hedged FX risk						
Aggregated FX exposure		Hedged volume [FC]		140,027	138,932	142,937	135,533
		Present value [LC]		0	6,237	10,002	7,744
		Change in present value [LC]			6,237	3,765	(2,258)
Accounting				LC	LC	LC	LC
Derivative				0	(6,313)	(9,840)	(8,035)
Cash flow hedge reserve				0	(6,237)	(9,840)	(7,744)
Change in cash flow hedge reserve					(6,237)	(3,604)	2,096
Profit or loss					(76)	76	(291)
Retained earnings				0	(76)	0	(291)

IE121   The commodity price risk hedging relationship is a cash flow hedge of a highly probable forecast transaction that starts at the end of Period 1 and remains in place when the FX risk hedging relationship starts at the end of Period 2, ie the first level relationship continues as a separate hedging relationship.

IE122   The volume of the aggregated FX exposure (in FC), which is the hedged volume of the FX risk hedging relationship, is the total of:[15]

         (a)   the hedged coffee purchase volume multiplied by the current forward price (this represents the expected spot price of the actual coffee purchase); and

         (b)   the volume of the hedging instrument (designated nominal amount) multiplied by the difference between the contractual forward rate and the current forward rate (this represents the expected price differential from benchmark coffee price movements in FC that Entity A will receive or pay under the commodity forward contract).

IE123   The present value (in LC) of the hedged item of the FX risk hedging relationship (ie the aggregated exposure) is calculated as the hedged volume (in FC) multiplied by the difference between the forward FX rate at the measurement date and the forward FX rate at the designation date of the hedging relationship (ie the end of Period 2).[16]

IE124   Using the present value of the hedged item and the fair value of the hedging instrument, the cash flow hedge reserve and the hedge ineffectiveness are then determined (see paragraph 6.5.11 of SB-FRS 109).

IE125   The following table shows the effect on Entity A's statement of profit or loss and other comprehensive income and its statement of financial position (for the sake of transparency the line items[17] are disaggregated on the face of the statements by the two hedging relationships, ie for the commodity price risk hedging relationship and the FX risk hedging relationship):

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[15]   For example, at the end of Period 3 the aggregated FX exposure is determined as: 118,421 lbs × 1.34 FC/lb = FC159,182 for the expected price of the actual coffee purchase and 112,500 lbs × (1.25 [FC/lb] − 1.43 [FC/lb]) = FC(20,250) for the expected price differential under the commodity forward contract, which gives a total of FC138,932—the volume of the aggregated FX exposure at the end of Period 3.

[16]   For example, at the end of Period 3 the present value of the hedged item is determined as the volume of the aggregated exposure at the end of Period 3 (FC138,932) multiplied by the difference between the forward FX rate at the end of Period 3 (1/1.4058) and the forward FX rate and the time of designation (ie the end of Period 2: 1/1.3220) and then discounted using the interest rate (in LC) at the end of Period 3 with a term of 2 periods (ie until the end of Period 5 − 0.46%). The calculation is: FC138,932 × (1/(1.4058[FC/LC]) − 1/(1.3220 [FC/LC]))/(1 + 0.46%) = LC6,237.

[17]   The line items used in this example are a possible presentation. Different presentation formats using different line items (including line items that include the amounts shown here) are also possible (SB-FRS 107 sets out disclosure requirements for hedge accounting that include disclosures about hedge ineffectiveness, the carrying amount of hedging instruments and the cash flow hedge reserve).

Example 16—Overview of effect on statements of financial performance and financial position
[All amounts in LC]

Period	1	2	3	4	5
Statement of profit or loss and other comprehensive income					
Hedge ineffectiveness					
Commodity hedge		0	(1,199)	2,781	(5,143)
FX hedge		0	76	(76)	291
Profit or loss	0	0	(1,123)	2,705	(4,852)
Other comprehensive income (OCI)					
Commodity hedge		20,258	(33,399)	13,868	(67,971)
FX hedge		0	6,237	3,604	(2,096)
Total other comprehensive income	0	20,258	(27,162)	17,472	(70,067)
Comprehensive income	0	20,258	(28,285)	20,177	(74,920)
Statement of financial position					
Commodity forward	0	(20,258)	14,339	(2,310)	70,804
FX forward		0	(6,313)	(9,840)	(8,035)
Total net assets	0	(20,258)	8,027	(12,150)	62,769
Equity					
Accumulated OCI					
Commodity hedge	0	20,258	(13,140)	728	(67,243)
FX hedge		0	6,237	9,840	7,744
	0	20,258	(6,904)	10,568	(59,499)
Retained earnings					
Commodity hedge	0	0	(1,199)	1,582	(3,561)
FX hedge		0	76	0	291
	0	0	(1,123)	1,582	(3,270)
Total equity	0	20,258	(8,027)	12,150	(62,769)

IE126   The total cost of inventory after hedging is as follows:[18]

Cost of inventory [all amounts in LC]	
Cash price (at spot for commodity price risk and FX risk)	165,582
Gain/loss from CFHR for commodity price risk	(67,243)
Gain/loss from CFHR for FX risk	7,744
Cost of inventory	106,083

IE127   The total overall cash flow from all transactions (the actual coffee purchase at the spot price and the settlement of the two derivatives) is LC102,813. It differs from the hedge adjusted cost of inventory by LC3,270, which is the net amount of cumulative hedge ineffectiveness from the two hedging relationships. This hedge ineffectiveness has a cash flow effect but is excluded from the measurement of the inventory.

Example 17—combined interest rate risk and foreign currency risk hedge (fair value hedge/cash flow hedge combination)

Fact pattern

IE128   Entity B wants to hedge a fixed rate liability that is denominated in Foreign Currency (FC). The liability has a term of four periods from the start of Period 1 to the end of Period 4. Entity B's functional currency is its Local Currency (LC). Entity B has the following risk exposures:

(a)   fair value interest rate risk and FX risk: the changes in fair value of the fixed rate liability attributable to interest rate changes, measured in LC.

(b)   cash flow interest rate risk: the exposure that arises as a result of swapping the combined fair value interest rate risk and FX risk exposure associated with the fixed rate liability (see (a) above) into a variable rate exposure in LC in accordance with Entity B's risk management strategy for FC denominated fixed rate liabilities (see paragraph IE129(a) below).

IE129   Entity B hedges its risk exposures using the following risk management strategy:

(a)   Entity B uses cross-currency interest rate swaps to swap its FC denominated fixed rate liabilities into a variable rate exposure in LC. Entity B hedges its FC denominated liabilities (including the interest) for their entire life. Consequently, Entity B enters into a cross-currency interest rate swap at the same time as it issues an FC denominated liability. Under the cross-currency interest rate swap Entity B receives fixed interest in FC (used to pay the interest on the liability) and pays variable interest in LC.

(b)   Entity B considers the cash flows on a hedged liability and on the related cross-currency interest rate swap as one aggregated variable rate exposure in LC. From time to time, in accordance with its risk management strategy for variable rate interest rate risk (in LC), Entity B decides to lock in its interest payments and hence swaps its aggregated variable rate exposure in LC into a fixed rate exposure in LC. Entity B seeks to obtain as a fixed rate exposure a single blended fixed coupon rate (ie the uniform forward coupon rate for the hedged term that exists at the start of the hedging relationship).[19]   Consequently, Entity B uses interest rate swaps (denominated

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[18]   'CFHR' is the cash flow hedge reserve, ie the amount accumulated in other comprehensive income for a cash flow hedge.

[19]   An entity may have a different risk management strategy whereby it seeks to obtain a fixed rate exposure that is not a single blended rate but a series of forward rates that are each fixed for the respective individual interest period. For such a strategy the hedge effectiveness is measured based on the difference between the forward rates that existed at the start of the hedging relationship and the forward rates that exist at the effectiveness measurement date for the individual interest periods. For such a strategy a series of forward contracts corresponding with the individual interest periods would be more effective than an interest rate swap (that has a fixed payment leg with a single blended fixed rate).

entirely in LC) under which it receives variable interest (used to pay the interest on the pay leg of the cross-currency interest rate swap) and pays fixed interest.

IE130   The following table sets out the parameters used for Example 17:

Example 17—Parameters					
	t_0	Period 1	Period 2	Period 3	Period 4
FX spot rate [LC/FC]	1.2000	1.0500	1.4200	1.5100	1.3700
Interest curves (vertical presentation of rates for each quarter of a period on a p.a. basis)					
LC	2.50%	5.02%	6.18%	0.34%	[N/A]
	2.75%	5.19%	6.26%	0.49%	
	2.91%	5.47%	6.37%	0.94%	
	3.02%	5.52%	6.56%	1.36%	
	2.98%	5.81%	6.74%		
	3.05%	5.85%	6.93%		
	3.11%	5.91%	7.19%		
	3.15%	6.06%	7.53%		
	3.11%	6.20%			
	3.14%	6.31%			
	3.27%	6.36%			
	3.21%	6.40%			
	3.21%				
	3.25%				
	3.29%				
	3.34%				
FC	3.74%	4.49%	2.82%	0.70%	[N/A]
	4.04%	4.61%	2.24%	0.79%	
	4.23%	4.63%	2.00%	1.14%	
	4.28%	4.34%	2.18%	1.56%	
	4.20%	4.21%	2.34%		
	4.17%	4.13%	2.53%		
	4.27%	4.07%	2.82%		
	4.14%	4.09%	3.13%		
	4.10%	4.17%			
	4.11%	4.13%			
	4.11%	4.24%			
	4.13%	4.34%			
	4.14%				
	4.06%				
	4.12%				
	4.19%				

Accounting mechanics

IE131 Entity B designates the following hedging relationships:[20]

(a) As a fair value hedge, a hedging relationship for fair value interest rate risk and FX risk between the FC denominated fixed rate liability (fixed rate FX liability) as the hedged item and a cross-currency interest rate swap as the hedging instrument (the 'first level relationship'). This hedging relationship is designated at the beginning of Period 1 (ie t_0) with a term to the end of Period 4.

(b) As a cash flow hedge, a hedging relationship between the aggregated exposure as the hedged item and an interest rate swap as the hedging instrument (the 'second level relationship'). This hedging relationship is designated at the end of Period 1, when Entity B decides to lock in its interest payments and hence swaps its aggregated variable rate exposure in LC into a fixed rate exposure in LC, with a term to the end of Period 4. The aggregated exposure that is designated as the hedged item represents, in LC, the variability in cash flows that is the effect of changes in the combined cash flows of the two items designated in the fair value hedge of the fair value interest rate risk and FX risk (see (a) above), compared to the interest rates at the end of Period 1 (ie the time of designation of the hedging relationship between the aggregated exposure and the interest rate swap).

IE132 The following table[21] sets out the overview of the fair values of the derivatives, the changes in the value of the hedged items and the calculation of the cash flow hedge reserve and hedge ineffectiveness.[22] In this example, hedge ineffectiveness arises on both hedging relationships.[23]

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[20] This example assumes that all qualifying criteria for hedge accounting are met (see paragraph 6.4.1 of SB-FRS 109). The following description of the designation is solely for the purpose of understanding this example (ie it is not an example of the complete formal documentation required in accordance with paragraph 6.4.1(b) of SB-FRS 109.

[21] Tables in this example use the following acronyms: 'CCIRS' for cross-currency interest rate swap, 'CF(s)' for cash flow(s), 'CFH' for cash flow hedge, 'CFHR' for cash flow hedge reserve, 'FVH' for fair value hedge, 'IRS' for interest rate swap and 'PV' for present value.

[22] In the following table for the calculations all amounts (including the calculations for accounting purposes of amounts for assets, liabilities and equity) are in the format of positive (plus) and negative (minus) numbers (eg an amount in the cash flow hedge reserve that is in brackets is a loss).

[23] For a situation such as in this example, hedge ineffectiveness can result from various factors, for example credit risk, differences in the day count method or, depending on whether it is included in the designation of the hedging instrument, the charge for exchanging different currencies that is included in cross-currency interest rate swaps (commonly referred to as the 'currency basis').

Example 17—Calculations					
	t₀	Period 1	Period 2	Period 3	Period 4
Fixed rate FX liability					
Fair value [FC]	(1,000,000)	(995,522)	(1,031,008)	(1,030,193)	(1,000,000)
Fair value [LC]	(1,200,000)	(1,045,298)	(1,464,031)	(1,555,591)	(1,370,000)
Change in fair value [LC]		154,702	(418,733)	(91,560)	185,591
CCIRS (receive fixed FC/pay variable LC)					
Fair value [LC]	0	(154,673)	264,116	355,553	170,000
Change in fair value [LC]		(154,673)	418,788	91,437	(185,553)
IRS (receive variable/pay fixed)					
Fair value [LC]		0	18,896	(58,767)	0
Change in fair value [LC]			18,896	(77,663)	(58,767)
CF variability of the aggregated exposure					
Present value [LC]		0	(18,824)	58,753	0
Change in present value [LC]			(18,824)	77,577	(58,753)
CFHR					
Balance (end of period) [LC]		0	18,824	(58,753)	0
Change [LC]			18,824	(77,577)	58,753

IE133 The hedging relationship between the fixed rate FX liability and the cross-currency interest rate swap starts at the beginning of Period 1 (ie t₀) and remains in place when the hedging relationship for the second level relationship starts at the end of Period 1, ie the first level relationship continues as a separate hedging relationship.

IE134 The cash flow variability of the aggregated exposure is calculated as follows:

(a) At the point in time from which the cash flow variability of the aggregated exposure is hedged (ie the start of the second level relationship at the end of Period 1), all cash flows expected on the fixed rate FX liability and the cross-currency interest rate swap over the hedged term (ie until the end of Period 4) are mapped out and equated to a single blended fixed coupon rate so that the total present value (in LC) is nil. This calculation establishes the single blended fixed coupon rate (reference rate) that is used at subsequent dates as the reference point to measure the cash flow variability of the aggregated exposure since the start of the hedging relationship. This calculation is illustrated in the following table:

Example 17—Cash flow variability of the aggregated exposure (calibration)

	Time	FX liability CF(s) [FC]	FX liability PV [FC]	CCIRS FC leg CF(s) [FC]	CCIRS FC leg PV [FC]	CCIRS LC leg CF(s) [LC]	CCIRS LC leg PV [LC]	Calibration 1,200,000 Nominal 5.6963% Rate 4 Frequency [LC]	PV [LC]
Period 1	t_0								
	t_1								
	t_2								
	t_3								
	t_4								
Period 2	t_5	0	0	0	0	(14,771)	(14,591)	17,089	16,881
	t_6	(20,426)	(19,977)	20,246	19,801	(15,271)	(14,896)	17,089	16,669
	t_7	0	0	0	0	(16,076)	(15,473)	17,089	16,449
	t_8	(20,426)	(19,543)	20,582	19,692	(16,241)	(15,424)	17,089	16,229
Period 3	t_9	0	0	0	0	(17,060)	(15,974)	17,089	16,002
	t_{10}	(20,426)	(19,148)	20,358	19,084	(17,182)	(15,862)	17,089	15,776
	t_{11}	0	0	0	0	(17,359)	(15,797)	17,089	15,551
	t_{12}	(20,426)	(18,769)	20,582	18,912	(17,778)	(15,942)	17,089	15,324
Period 4	t_{13}	0	0	0	0	(18,188)	(16,066)	17,089	15,095
	t_{14}	(20,426)	(18,391)	20,246	18,229	(18,502)	(16,095)	17,089	14,866
	t_{15}	0	0	0	0	(18,646)	(15,972)	17,089	14,638
	t_{16}	(1,020,426)	(899,695)	1,020,582	899,832	(1,218,767)	(1,027,908)	1,217,089	1,026,493
Totals			(995,522)		995,550		(1,200,000)		1,199,971
Totals in LC			(1,045,298)		1,045,327		(1,200,000)		1,199,971

PV of all CF(s) [LC] $0 \longleftarrow \sum$

The nominal amount that is used for the calibration of the reference rate is the same as the nominal amount of aggregated exposure that creates the variable cash flows in LC (LC1,200,000), which coincides with the nominal amount of the cross-currency interest rate swap for the variable rate leg in LC. This results in a reference rate of 5.6963 per cent (determined by iteration so that the present value of all cash flows in total is nil).

(b)   At subsequent dates, the cash flow variability of the aggregated exposure is determined by comparison to the reference point established at the end of Period 1. For that purpose, all remaining cash flows expected on the fixed rate FX liability and the cross-currency interest rate swap over the remainder of the hedged term (ie from the effectiveness measurement date until the end of Period 4) are updated (as applicable) and then discounted. Also, the reference rate of 5.6963 per cent is applied to the nominal amount that was used for the calibration of that rate at the end of

Period 1 (LC1,200,000) in order to generate a set of cash flows over the remainder of the hedged term that is then also discounted. The total of all those present values represents the cash flow variability of the aggregated exposure. This calculation is illustrated in the following table for the end of Period 2:

Example 17—Cash flow variability of the aggregated exposure (at the end of Period 2)

Variability in cash flows of the aggregated exposure

		FX liability		CCIRS FC leg		CCIRS LC leg		Calibration	PV
		CF(s)	PV	CF(s)	PV	CF(s)	PV	1,200,000 Nominal 5.6963% Rate 4 Frequency	
		[FC]	[FC]	[FC]	[FC]	[LC]	[LC]	[LC]	[LC]
	Time								
	t_0								
	t_1								
Period 1	t_2								
	t_3								
	t_4								
	t_5	0	0	0	0	0	0	0	0
Period 2	t_6	0	0	0	0	0	0	0	0
	t_7	0	0	0	0	0	0	0	0
	t_8	0	0	0	0	0	0	0	0
	t_9	0	0	0	0	(18,120)	(17,850)	17,089	16,835
Period 3	t_{10}	(20,426)	(20,173)	20,358	20,106	(18,360)	(17,814)	17,089	16,581
	t_{11}	0	0	0	0	(18,683)	(17,850)	17,089	16,327
	t_{12}	(20,426)	(19,965)	20,582	20,117	(19,203)	(18,058)	17,089	16,070
	t_{13}	0	0	0	0	(19,718)	(18,243)	17,089	15,810
Period 4	t_{14}	(20,426)	(19,726)	20,246	19,553	(20,279)	(18,449)	17,089	15,547
	t_{15}	0	0	0	0	(21,014)	(18,789)	17,089	15,280
	t_{16}	(1,020,426)	(971,144)	1,020,582	971,292	(1,221,991)	(1,072,947)	1,217,089	1,068,643
Totals			(1,031,008)		1,031,067		(1,200,000)		1,181,092
Totals in LC			(1,464,031)		1,464,116		(1,200,000)		1,181,092
PV of all CF(s) [LC]		**(18,824)** $\longleftarrow \sum$							

The changes in interest rates and the exchange rate result in a change of the cash flow variability of the aggregated exposure between the end of Period 1 and the end of Period 2 that has a present value of LC-18,824.[24]

IE135 Using the present value of the hedged item and the fair value of the hedging instrument, the cash flow hedge reserve and the hedge ineffectiveness are then determined (see paragraph 6.5.11 of SB-FRS 109).

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[24] This is the amount that is included in the table with the overview of the calculations (see paragraph IE132) as the present value of the cash flow variability of the aggregated exposure at the end of Period 2.

IE136   The following table shows the effect on Entity B's statement of profit or loss and other comprehensive income and its statement of financial position (for the sake of transparency some line items[25] are disaggregated on the face of the statements by the two hedging relationships, ie for the fair value hedge of the fixed rate FX liability and the cash flow hedge of the aggregated exposure):[26]

Example 17—Overview of effect on statements of financial performance and financial position
[All amounts in LC]

	t_0	Period 1	Period 2	Period 3	Period 4
Statement of profit or loss and other comprehensive income					
Interest expense					
FX liability		45,958	50,452	59,848	58,827
FVH adjustment		(12,731)	11,941	14,385	(49,439)
		33,227	62,393	74,233	9,388
Reclassifications (CFH)			5,990	(5,863)	58,982
Total interest expense		33,227	68,383	68,370	68,370
Other gains/losses					
Change in fair value of the CCIRS		154,673	(418,788)	(91,437)	185,553
FVH adjustment (FX liability)		(154,702)	418,733	91,560	(185,591)
Hedge ineffectiveness		0	(72)	(54)	(19)
Total other gains/losses		(29)	(127)	68	(57)
Profit or loss		33,198	68,255	68,438	68,313
Other comprehensive income (OCI)					
Effective CFH gain/loss			(12,834)	71,713	229
Reclassifications			(5,990)	5,863	(58,982)
Total other comprehensive income			(18,842)	77,577	(58,753)
Comprehensive income		33,198	49,432	146,015	9,560
Statement of financial position					
FX liability	(1,200,000)	(1,045,298)	(1,464,031)	(1,555,591)	(1,397,984)
CCIRS	0	(154,673)	264,116	355,553	194,141
IRS		0	18,896	(58,767)	(13,004)
Cash	1,200,000	1,166,773	1,098,390	1,030,160	978,641
Total net assets	0	(33,198)	(82,630)	(228,645)	(238,205)

continued…

[25] The line items used in this example are a possible presentation. Different presentation formats using different line items (including line items that include the amounts shown here) are also possible (SB-FRS 107 sets out disclosure requirements for hedge accounting that include disclosures about hedge ineffectiveness, the carrying amount of hedging instruments and the cash flow hedge reserve).

[26] For Period 4 the values in the table with the overview of the calculations (see paragraph IE132) differ from those in the following table. For Periods 1 to 3 the 'dirty' values (ie including interest accruals) equal the 'clean' values (ie excluding interest accruals) because the period end is a settlement date for all legs of the derivatives and the fixed rate FX liability. At the end of Period 4 the table with the overview of the calculations uses clean values in order to calculate the value changes consistently over time. For the following table the dirty values are presented, ie the maturity amounts including accrued interest immediately before the instruments are settled (this is for illustrative purposes as otherwise all carrying amounts other than cash and retained earnings would be nil).

…continued

Example 17—Overview of effect on statements of financial performance and financial position
[All amounts in LC]

	t₀	Period 1	Period 2	Period 3	Period 4
Equity					
Accumulated OCI		0	(18,824)	58,753	0
Retained earnings	0	33,198	101,454	169,892	238,205
Total equity	0	33,198	82,630	228,645	238,205

IE137 The total interest expense in profit or loss reflects Entity B's interest expense that results from its risk management strategy:

(a) In Period 1 the risk management strategy results in interest expense reflecting variable interest rates in LC after taking into account the effect of the cross-currency interest rate swap, including a difference between the cash flows on the fixed rate FX liability and the fixed leg of the cross-currency interest rate swap that were settled during Period 1 (this means the interest expense does not exactly equal the variable interest expense that would arise in LC on a borrowing of LC1,200,000). There is also some hedge ineffectiveness that results from a difference in the changes in value for the fixed rate FX liability (as represented by the fair value hedge adjustment) and the cross-currency interest rate swap.

(b) For Periods 2 to 4 the risk management strategy results in interest expense that reflects, after taking into account the effect of the interest rate swap entered into at the end of Period 1, fixed interest rates in LC (ie locking in a single blended fixed coupon rate for a three-period term based on the interest rate environment at the end of Period 1). However, Entity B's interest expense is affected by the hedge ineffectiveness that arises on its hedging relationships. In Period 2 the interest expense is slightly higher than the fixed rate payments locked in with the interest rate swap because the variable payments received under the interest rate swap are less than the total of the cash flows resulting from the aggregated exposure.[27] In Periods 3 and 4 the interest expense is equal to the locked in rate because the variable payments received under the swap are more than the total of the cash flows resulting from the aggregated exposure.[28]

Example 18—combined interest rate risk and foreign currency risk hedge (cash flow hedge/fair value hedge combination)

Fact pattern

IE138 Entity C wants to hedge a variable rate liability that is denominated in Foreign Currency (FC). The liability has a term of four periods from the start of Period 1 to the end of Period 4. Entity C's functional currency is its Local Currency (LC). Entity C has the following risk exposures:

(a) cash flow interest rate risk and FX risk: the changes in cash flows of the variable rate liability attributable to interest rate changes, measured in LC.

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[27] In other words, the cash flow variability of the interest rate swap was lower than, and therefore did not fully offset, the cash flow variability of the aggregated exposure as a whole (sometimes called an 'underhedge' situation). In those situations the cash flow hedge does not contribute to the hedge ineffectiveness that is recognised in profit or loss because the hedge ineffectiveness is not recognised (see paragraph 6.5.11 of SB-FRS 109). The hedge ineffectiveness arising on the fair value hedge affects profit or loss in all periods.

[28] In other words, the cash flow variability of the interest rate swap was higher than, and therefore more than fully offset, the cash flow variability of the aggregated exposure as a whole (sometimes called an 'overhedge' situation). In those situations the cash flow hedge contributes to the hedge ineffectiveness that is recognised in profit or loss (see paragraph 6.5.11 of SB-FRS 109). The hedge ineffectiveness arising on the fair value hedge affects profit or loss in all periods.

(b) fair value interest rate risk: the exposure that arises as a result of swapping the combined cash flow interest rate risk and FX risk exposure associated with the variable rate liability (see (a) above) into a fixed rate exposure in LC in accordance with Entity C's risk management strategy for FC denominated variable rate liabilities (see paragraph IE139(a) below).

IE139 Entity C hedges its risk exposures using the following risk management strategy:

(a) Entity C uses cross-currency interest rate swaps to swap its FC denominated variable rate liabilities into a fixed rate exposure in LC. Entity C hedges its FC denominated liabilities (including the interest) for their entire life. Consequently, Entity C enters into a cross-currency interest rate swap at the same time as it issues an FC denominated liability. Under the cross-currency interest rate swap Entity C receives variable interest in FC (used to pay the interest on the liability) and pays fixed interest in LC.

(b) Entity C considers the cash flows on a hedged liability and on the related cross-currency interest rate swap as one aggregated fixed rate exposure in LC. From time to time, in accordance with its risk management strategy for fixed rate interest rate risk (in LC), Entity C decides to link its interest payments to current variable interest rate levels and hence swaps its aggregated fixed rate exposure in LC into a variable rate exposure in LC. Consequently, Entity C uses interest rate swaps (denominated entirely in LC) under which it receives fixed interest (used to pay the interest on the pay leg of the cross-currency interest rate swap) and pays variable interest.

IE140 The following table sets out the parameters used for Example 18:

Example 18—Parameter overview					
	t_0	Period 1	Period 2	Period 3	Period 4
FX spot rate [LC/FC]	1.2	1.05	1.42	1.51	1.37
Interest curves (vertical presentation of rates for each quarter of a period on a p.a. basis)					
LC	2.50%	1.00%	3.88%	0.34%	[N/A]
	2.75%	1.21%	4.12%	0.49%	
	2.91%	1.39%	4.22%	0.94%	
	3.02%	1.58%	5.11%	1.36%	
	2.98%	1.77%	5.39%		
	3.05%	1.93%	5.43%		
	3.11%	2.09%	5.50%		
	3.15%	2.16%	5.64%		
	3.11%	2.22%			
	3.14%	2.28%			
	3.27%	2.30%			
	3.21%	2.31%			
	3.21%				
	3.25%				
	3.29%				
	3.34%				

…continued

Example 18—Parameter overview					
	t_0	Period 1	Period 2	Period 3	Period 4
FC	3.74%	4.49%	2.82%	0.70%	[N/A]
	4.04%	4.61%	2.24%	0.79%	
	4.23%	4.63%	2.00%	1.14%	
	4.28%	4.34%	2.18%	1.56%	
	4.20%	4.21%	2.34%		
	4.17%	4.13%	2.53%		
	4.27%	4.07%	2.82%		
	4.14%	4.09%	3.13%		
	4.10%	4.17%			
	4.11%	4.13%			
	4.11%	4.24%			
	4.13%	4.34%			
	4.14%				
	4.06%				
	4.12%				
	4.19%				

Accounting mechanics

IE141   Entity C designates the following hedging relationships:[29]

(a)   As a cash flow hedge, a hedging relationship for cash flow interest rate risk and FX risk between the FC denominated variable rate liability (variable rate FX liability) as the hedged item and a cross-currency interest rate swap as the hedging instrument (the 'first level relationship'). This hedging relationship is designated at the beginning of Period 1 (ie t_0) with a term to the end of Period 4.

(b)   As a fair value hedge, a hedging relationship between the aggregated exposure as the hedged item and an interest rate swap as the hedging instrument (the 'second level relationship'). This hedging relationship is designated at the end of Period 1, when Entity C decides to link its interest payments to current variable interest rate levels and hence swaps its aggregated fixed rate exposure in LC into a variable rate exposure in LC, with a term to the end of Period 4. The aggregated exposure that is designated as the hedged item represents, in LC, the change in value that is the effect of changes in the value of the combined cash flows of the two items designated in the cash flow hedge of the cash flow interest rate risk and FX risk (see (a) above), compared to the interest rates at the end of Period 1 (ie the time of designation of the hedging relationship between the aggregated exposure and the interest rate swap).

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[29]   This example assumes that all qualifying criteria for hedge accounting are met (see paragraph 6.4.1 of SB-FRS 109). The following description of the designation is solely for the purpose of understanding this example (ie it is not an example of the complete formal documentation required in accordance with paragraph 6.4.1(b) of SB-FRS 109).

IE142 The following table[30] sets out the overview of the fair values of the derivatives, the changes in the value of the hedged items and the calculation of the cash flow hedge reserve.[31] In this example no hedge ineffectiveness arises on either hedging relationship because of the assumptions made.[32]

Example 18—Calculations					
	t_0	Period 1	Period 2	Period 3	Period 4
Variable rate FX liability					
Fair value [FC]	(1,000,000)	(1,000,000)	(1,000,000)	(1,000,000)	(1,000,000)
Fair value [LC]	(1,200,000)	(1,050,000)	(1,420,000)	(1,510,000)	(1,370,000)
Change in fair value [LC]		150,000	(370,000)	(90,000)	140,000
PV of change in variable CF(s) [LC]	0	192,310	(260,346)	(282,979)	(170,000)
Change in PV [LC]		192,310	(452,656)	(22,633)	112,979
CCIRS (receive variable FC/pay fixed LC)					
Fair value [LC]	0	(192,310)	260,346	282,979	170,000
Change in fair value [LC]		(192,310)	452,656	22,633	(112,979)
CFHR					
Opening balance	0	0	(42,310)	(28,207)	(14,103)
Reclassification FX risk		153,008	(378,220)	(91,030)	140,731
Reclassification (current period CF)		(8,656)	(18,410)	2,939	21,431
Effective CFH gain/loss		(186,662)	(479,286)	20,724	(135,141)
Reclassification for interest rate risk		0	(82,656)	67,367	(27,021)
Amortisation of CFHR		0	14,103	14,103	14,103
Ending balance		(42,103)	(28,207)	(14,103)	0
IRS (receive fixed/pay variable)					
Fair value [LC]		0	(82,656)	(15,289)	(42,310)
Change in fair value			(82,656)	67,367	(27,021)
Change in present value of the aggregated exposure					
Present value [LC]		(1,242,310)	(1,159,654)	(1,227,021)	(1,200,000)
Change in present value [LC]			82,656	(67,367)	27,021

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[30] Tables in this example use the following acronyms: 'CCIRS' for cross-currency interest rate swap, 'CF(s)' for cash flow(s), 'CFH' for cash flow hedge, 'CFHR' for cash flow hedge reserve, 'FVH' for fair value hedge, 'IRS' for interest rate swap and 'PV' for present value.

[31] In the following table for the calculations all amounts (including the calculations for accounting purposes of amounts for assets, liabilities and equity) are in the format of positive (plus) and negative (minus) numbers (eg an amount in the cash flow hedge reserve that is a negative number is a loss).

[32] Those assumptions have been made for didactical reasons, in order to better focus on illustrating the accounting mechanics in a cash flow hedge/fair value hedge combination. The measurement and recognition of hedge ineffectiveness has already been demonstrated in Example 16 and Example 17. However, in reality such hedges are typically not perfectly effective because hedge ineffectiveness can result from various factors, for example credit risk, differences in the day count method or, depending on whether it is included in the designation of the hedging instrument, the charge for exchanging different currencies that is included in cross-currency interest rate swaps (commonly referred to as the 'currency basis').

IE143   The hedging relationship between the variable rate FX liability and the cross-currency interest rate swap starts at the beginning of Period 1 (ie t_0) and remains in place when the hedging relationship for the second level relationship starts at the end of Period 1, ie the first level relationship continues as a separate hedging relationship. However, the hedge accounting for the first level relationship is affected by the start of hedge accounting for the second level relationship at the end of Period 1. The fair value hedge for the second level relationship affects the timing of the reclassification to profit or loss of amounts from the cash flow hedge reserve for the first level relationship:

     (a)   The fair value interest rate risk that is hedged by the fair value hedge is included in the amount that is recognised in other comprehensive income as a result of the cash flow hedge for the first level hedging relationship (ie the gain or loss on the cross-currency interest rate swap that is determined to be an effective hedge).[33] This means that from the end of Period 1 the part of the effective cash flow hedging gain or loss that represents the fair value interest rate risk (in LC), and is recognised in other comprehensive income in a first step, is in a second step immediately (ie in the same period) transferred from the cash flow hedge reserve to profit or loss. That reclassification adjustment offsets the gain or loss on the interest rate swap that is recognised in profit or loss.[34] In the context of accounting for the aggregated exposure as the hedged item, that reclassification adjustment is the equivalent of a fair value hedge adjustment because in contrast to a hedged item that is a fixed rate debt instrument (in LC) at amortised cost, the aggregated exposure is already remeasured for changes regarding the hedged risk but the resulting gain or loss is recognised in other comprehensive income because of applying cash flow hedge accounting for the first level relationship. Consequently, applying fair value hedge accounting with the aggregated exposure as the hedged item does not result in changing the hedged item's measurement but instead affects where the hedging gains and losses are recognised (ie reclassification from the cash flow hedge reserve to profit or loss).

     (b)   The amount in the cash flow hedge reserve at the end of Period 1 (LC42,310) is amortised over the remaining life of the cash flow hedge for the first level relationship (ie over Periods 2 to 4).[35]

IE144   The change in value of the aggregated exposure is calculated as follows:

     (a)   At the point in time from which the change in value of the aggregated exposure is hedged (ie the start of the second level relationship at the end of Period 1), all cash flows expected on the variable rate FX liability and the cross-currency interest rate swap over the hedged term (ie until the end of Period 4) are mapped out and their combined present value, in LC, is calculated. This calculation establishes the present value that is used at subsequent dates as the reference point to measure the change in present value of the aggregated exposure since the start of the hedging relationship. This calculation is illustrated in the following table:

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[33]   As a consequence of hedging its exposure to cash flow interest rate risk by entering into the cross-currency interest rate swap that changed the cash flow interest rate risk of the variable rate FX liability into a fixed rate exposure (in LC), Entity C in effect assumed an exposure to fair value interest rate risk (see paragraph IE139).

[34]   In the table with the overview of the calculations (see paragraph IE142) this reclassification adjustment is the line item "Reclassification for interest rate risk" in the reconciliation of the cash flow hedge reserve (eg at the end of Period 2 a reclassification of a gain of LC82,656 from the cash flow hedge reserve to profit or loss—see paragraph IE144 for how that amount is calculated).

[35]   In the table with the overview of the calculations (see paragraph IE142) this amortisation results in a periodic reclassification adjustment of LC14,103 that is included in the line item "Amortisation of CFHR" in the reconciliation of the cash flow hedge reserve.

Example 18—Present value of the aggregated exposure (starting point)						
Present value of the aggregated exposure						
		FX liability		**CCIRS FC leg**		**CCIRS LC leg**
		CF(s)	**PV**	**CF(s)**	**PV**	**CF(s)**	**PV**
		[FC]	**[FC]**	**[FC]**	**[FC]**	**[LC]**	**[LC]**
	Time						
Period 1	t_0						
	t_1						
	t_2						
	t_3						
	t_4						
Period 2	t_5	(11,039)	(10,918)	11,039	10,918	(9,117)	(9,094)
	t_6	(11,331)	(11,082)	11,331	11,082	(9,117)	(9,067)
	t_7	(11,375)	(11,000)	11,375	11,000	(9,117)	(9,035)
	t_8	(10,689)	(10,227)	10,689	10,227	(9,117)	(9,000)
Period 3	t_9	(10,375)	(9,824)	10,375	9,824	(9,117)	(8,961)
	t_{10}	(10,164)	(9,528)	10,164	9,528	(9,117)	(8,918)
	t_{11}	(10,028)	(9,307)	10,028	9,307	(9,117)	(8,872)
	t_{12}	(10,072)	(9,255)	10,072	9,255	(9,117)	(8,825)
Period 4	t_{13}	(10,256)	(9,328)	10,256	9,328	(9,117)	(8,776)
	t_{14}	(10,159)	(9,147)	10,159	9,147	(9,117)	(8,727)
	t_{15}	(10,426)	(9,290)	10,426	9,290	(9,117)	(8,678)
	t_{16}	(1,010,670)	(891,093)	1,010,670	891,093	(1,209,117)	(1,144,358)
Totals			(1,000,000)		1,000,000		(1,242,310)
Totals in LC			(1,050,000)		1,050,000		(1,242,310)
PV of aggregated exposure [LC]		(1,242,310) ←			Σ		

The present value of all cash flows expected on the variable rate FX liability and the cross-currency interest rate swap over the hedged term at the end of Period 1 is LC-1,242,310.[36]

(b)   At subsequent dates, the present value of the aggregated exposure is determined in the same way as at the end of Period 1 but for the remainder of the hedged term. For that purpose, all remaining cash flows expected on the variable rate FX liability and the cross-currency interest rate swap over the remainder of the hedged term (ie from the effectiveness measurement date until the end of Period 4) are updated (as applicable) and then discounted. The total of those present values represents the

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[36]   In this example no hedge ineffectiveness arises on either hedging relationship because of the assumptions made (see paragraph IE142). Consequently, the absolute values of the variable rate FX liability and the FC denominated leg of the cross-currency interest rate are equal (but with opposite signs). In situations in which hedge ineffectiveness arises, those absolute values would not be equal so that the remaining net amount would affect the present value of the aggregated exposure.

present value of the aggregated exposure. This calculation is illustrated in the following table for the end of Period 2:

Example 18—Present value of the aggregated exposure (at the end of Period 2)						
		Present value of the aggregated exposure				
		FX liability		CCIRS FC leg		CCIRS LC leg	
		CF(s) [FC]	PV [FC]	CF(s) [FC]	PV [FC]	CF(s) [LC]	PV [LC]
	Time						
Period 1	t_0						
	t_1						
	t_2						
	t_3						
	t_4						
Period 2	t_5	0	0	0	0	0	0
	t_6	0	0	0	0	0	0
	t_7	0	0	0	0	0	0
	t_8	0	0	0	0	0	0
Period 3	t_9	(6,969)	(6,921)	6,969	6,921	(9,117)	(9,030)
	t_{10}	(5,544)	(5,475)	5,544	5,475	(9,117)	(8,939)
	t_{11}	(4,971)	(4,885)	4,971	4,885	(9,117)	(8,847)
	t_{12}	(5,401)	(5,280)	5,401	5,280	(9,117)	(8,738)
Period 4	t_{13}	(5,796)	(5,632)	5,796	5,632	(9,117)	(8,624)
	t_{14}	(6,277)	(6,062)	6,277	6,062	(9,117)	(8,511)
	t_{15}	(6,975)	(6,689)	6,975	6,689	(9,117)	(8,397)
	t_{16}	(1,007,725)	(959,056)	1,007,725	956,056	(1,209,117)	(1,098,568)
	Totals		(1,000,000)		1,000,000		(1,159,654)
	Totals in LC		(1,420,000)		1,420,000		(1,159,654)
	PV of aggregated exposure [LC]	(1,159,654) ← $\sum$					

The changes in interest rates and the exchange rate result in a present value of the aggregated exposure at the end of Period 2 of LC-1,159,654. Consequently, the change in the present value of the aggregated exposure between the end of Period 1 and the end of Period 2 is a gain of LC82,656.[37]

IE145 Using the change in present value of the hedged item (ie the aggregated exposure) and the fair value of the hedging instrument (ie the interest rate swap), the related reclassifications from the cash flow hedge reserve to profit or loss (reclassification adjustments) are then determined.

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[37] This is the amount that is included in the table with the overview of the calculations (see paragraph IE142) as the change in present value of the aggregated exposure at the end of Period 2.

IE146 The following table shows the effect on Entity C's statement of profit or loss and other comprehensive income and its statement of financial position (for the sake of transparency some line items[38] are disaggregated on the face of the statements by the two hedging relationships, ie for the cash flow hedge of the variable rate FX liability and the fair value hedge of the aggregated exposure):[39]

Example 18—Overview of effect on statements of financial performance and financial position
[All amounts in LC]

	t_0	Period 1	Period 2	Period 3	Period 4
Statement of profit or loss and other comprehensive income					
Interest expense					
FX liability		45,122	54,876	33,527	15,035
FVH adjustment		0	(20,478)	16,517	(26,781)
		45,122	34,398	50,045	(11,746)
Reclassifications (CFH)		(8,656)	(18,410)	2,939	21,431
		36,466	15,989	52,983	9,685
Amortisation of CFHR		0	14,103	14,103	14,103
Total interest expense		36,466	30,092	67,087	23,788
Other gains/losses					
IRS		0	82,656	(67,367)	27,021
FX gain/loss (liability)		(150,000)	370,000	90,000	(140,000)
FX gain/loss (interest)		(3,008)	8,220	1,030	(731)
Reclassification for FX risk		153,008	(378,220)	(91,030)	140,731
Reclassification for interest rate risk		0	(82,656)	67,367	(27,021)
Total other gains/losses		0	0	0	0
Profit or loss		36,466	30,092	67,087	23,788
Other comprehensive income (OCI)					
Effective gain/loss		186,662	(479,286)	(20,724)	135,141
Reclassification (current period CF)		8,656	18,410	(2,939)	(21,431)
Reclassification for FX risk		(153,008)	378,220	91,030	(140,731)
Reclassification for interest rate risk		0	82,656	(67,367)	27,021
Amortisation of CFHR		0	(14,103)	(14,103)	(14,103)
Total other comprehensive income		42,310	(14,103)	(14,103)	(14,103)
Comprehensive income		78,776	15,989	52,983	9,685

continued…

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38 The line items used in this example are a possible presentation. Different presentation formats using different line items (including line items that include the amounts shown here) are also possible (SB-FRS 107 sets out disclosure requirements for hedge accounting that include disclosures about hedge ineffectiveness, the carrying amount of hedging instruments and the cash flow hedge reserve).

39 For Period 4 the values in the table with the overview of the calculations (see paragraph IE142) differ from those in the following table. For Periods 1 to 3 the 'dirty' values (ie including interest accruals) equal the 'clean' values (ie excluding interest accruals) because the period end is a settlement date for all legs of the derivatives and the fixed rate FX liability. At the end of Period 4 the table with the overview of the calculations uses clean values in order to calculate the value changes consistently over time. For the following table the dirty values are presented, ie the maturity amounts including accrued interest immediately before the instruments are settled (this is for illustrative purposes as otherwise all carrying amounts other than cash and retained earnings would be nil).

…continued

Example 18—Overview of effect on statements of financial performance and financial position
[All amounts in LC]

	t₀	Period 1	Period 2	Period 3	Period 4
Statement of financial position					
FX liability	(1,200,000)	(1,050,000)	(1,420,000)	(1,510,000)	(1,375,306)
CCIRS	0	(192,310)	260,346	282,979	166,190
IRS		0	(82,656)	(15,289)	(37,392)
Cash	1,200,000	1,163,534	1,147,545	1,094,562	1,089,076
Total net assets	0	(78,776)	(94,765)	(147,748)	(157,433)
Accumulated OCI	0	42,310	28,207	14,103	0
Retained earnings	0	36,466	66,558	133,645	157,433
Total equity	0	78,776	94,765	147,748	157,433

IE147　The total interest expense in profit or loss reflects Entity C's interest expense that results from its risk management strategy:

(a)　In Period 1 the risk management strategy results in interest expense reflecting fixed interest rates in LC after taking into account the effect of the cross-currency interest rate swap.

(b)　For Periods 2 to 4, after taking into account the effect of the interest rate swap entered into at the end of Period 1, the risk management strategy results in interest expense that changes with variable interest rates in LC (ie the variable interest rate prevailing in each period). However, the amount of the total interest expense is not equal to the amount of the variable rate interest because of the amortisation of the amount that was in the cash flow hedge reserve for the first level relationship at the end of Period 1.[40]

Hedge accounting for nature-dependent electricity contracts

IE148　This example illustrates one possible way for an entity to designate forecast electricity purchases as the hedged item with a variable nominal amount in a cash flow hedge in accordance with paragraph 6.10.1 of SB-FRS 109.

Example 19—designation of a variable nominal amount if using contracts referencing nature-dependent electricity as hedging instruments

Fact pattern

IE149　Entity A is a machine manufacturer in Region One and purchases electricity from the market in that region as and when it needs electricity (that is, on-demand). To hedge the unit price per megawatt hour (MWh) purchased, Entity A enters into a 25-year virtual power purchase agreement with Wind Farm X, which generates and delivers renewable electricity to the market in Region Two.

IE150　This virtual power purchase agreement necessitates net settlement of the difference between the fixed unit price specified in the contract and the market price based on the amount of renewable electricity delivered by Wind Farm X to the market in Region Two. Entity A settles

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[40]　See paragraph IE143(b). That amortisation becomes an expense that has an effect like a spread on the variable interest rate.

the contracts net in cash in arrears based on the actual amount of electricity Wind Farm X delivered to the market in Region Two during a calendar month. The contract qualifies as a contract referencing nature-dependent electricity (as described in paragraph 2.3A of SB-FRS 109). Entity A wants to designate this contract as a hedging instrument in a cash flow hedge to hedge the cash flow variability of future electricity purchases.

Designating a variable nominal amount as the hedged item (paragraph 6.10.1 of SB-FRS 109)

IE151   Entity A designates as a cash flow hedge the hedging relationship between:

(a)   its forecast electricity purchases in Region One for a term of 25 years (as the hedged item); and

(b)   the contract for nature-dependent electricity described in IE150 (as the hedging instrument).

IE152   In line with its risk management strategy, Entity A wants to designate as the hedged item a variable nominal amount of electricity purchases per month that is aligned to the variable nominal amount of electricity that Wind Farm X is expected to deliver to the market as referenced in the hedging instrument. Entity A allocates the first purchases made each month to the variable nominal amount designated.

IE153   Entity A uses a probability-based assessment to determine whether the designated amount of electricity purchases for each month is highly probable. It expects its monthly electricity purchases to continue over the hedged term, based on its current and past practice (that is, at the time of designation Entity A does not have any information to the contrary). Based on the probability assessment, Entity A determines that it is highly probable that the amount of the entity's forecast electricity purchases will be higher than or equal to the variable nominal amount designated as the hedged item.

Effectiveness of the hedging relationship

IE154   To assess the effectiveness of the hedging relationship, Entity A assesses whether there is an economic relationship between the hedged item (future electricity purchases) and the hedging instrument (the contract referencing nature-dependent electricity). Although Entity A purchases future electricity in Region One and Wind Farm X delivers nature-dependent electricity to Region Two, this difference in reference markets does not preclude an economic relationship. If the hedged item and the hedging instrument have an economic relationship, their values would generally move in opposite directions as a result of the same risk—that is, the hedged risk (as set out in paragraph B6.4.4 of SB-FRS 109).

IE155   However, Entity A identifies two potential sources of ineffectiveness. The first is the basis risk associated with the variation in market prices of electricity between Region One and Region Two. The second is structural price differences—that is, the difference in the forecast market prices of electricity at the time of purchases to meet electricity demand of Entity A (reflected in the hedged item) and the forecast market prices at the time of delivery of electricity by Wind Farm X under the contract referencing nature-dependent electricity that are used to calculate the cash flows for net settlement (reflected in the hedging instrument).

IE156   For the forecast purchases of electricity, forecast market prices are modelled based on the expected future electricity spot price, which might vary depending on the timing of the purchase (for example, peak or off-peak). For example, Entity A might use an expected future baseload price in Region One and adjust that price for the timing of the expected consumption over a month, to reflect the actual timing of the purchase to meet demand. This method results in an average forecast market price per monthly volume purchased.

IE157   The forecast market prices for the volume expected to be delivered under the hedging instrument are also modelled based on the expected future electricity spot price. For example, Entity A might use an expected future baseload price in Region Two (as opposed

to Region One because the hedging instrument is referencing a different spot market) adjusted for the expected production and hence the delivery profile of Wind Farm X for that same month. This method results in another average forecast market price for the same monthly volume, which might then lead to hedging ineffectiveness. Despite these sources of ineffectiveness, Entity A determines that an economic relationship exists.

Measurement

IE158   The variable nominal amounts of the hedged item and hedging instrument are both based on the variable volume of nature-dependent electricity Wind Farm X is expected to deliver to the electricity market in Region Two. Therefore, Entity A uses the same volume assumptions it uses to measure the contract referencing nature-dependent electricity to construct a hypothetical derivative to measure the changes in present value of the hedged item. However, with regards to the forecast market prices, Entity A bases its assumptions on the characteristics of the respective markets as described in paragraphs IE156—IE157.

IE159   Entity A adjusts the cash flow hedge reserve in accordance with paragraph 6.5.11(a) to the lower of:

(a)   the cumulative gain or loss on the hedging instrument from inception of the hedge; and

(b)   the cumulative change in fair value (present value) of the hedged item (that is, the present value of the cumulative change in the hedged expected future cash flows, which for the volume assumptions only are aligned with the ones from the hedging instrument) from inception of the hedge.