

In this example,

- X is the holder/buyer of the option
- Y Ltd is the writer of the option
- ABC Ltd shares are the specific underlying item (asset) (note that the price of ABC Ltd shares is the underlying variable (referred to in Section 1.1.))
- As the option gives the holder the right to buy the specific underlying item at a specific price, it is a call option
- 1,000 shares represent the notional quantity, and
- \$10 represents the exercise price.

If instead, X purchased an option to sell 1,000 shares of ABC Ltd at \$10 per share, X now becomes a holder of a put option with the right to sell the underlying asset at the strike price, while Y Ltd is the writer of the put option.

Additionally, if the features are as follows, the option type will change accordingly:

American option

X may be able to exercise his right to buy 1,000 shares of ABC Ltd at any time during the 3 months up to 31 March 20x1 (expiry of the option).

European option

X can only exercise his right to buy 1,000 shares of ABC Ltd on 31 March 20x1 (expiry of the option).

An option described in Illustration 1.1 meets the definition of a derivative under IFRS 9, based on the 3 characteristics as discussed above:

No	Characteristic	Option contract described in Illustration 1.1
1	Its value changes in response to changes in an underlying variable or simply referred to as the underlying.	The underlying is represented by ABC Ltd share price.
2	It requires no initial net investment or one that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors.	On date of contract inception, the investor pays \$2,000 which represents the option premium on contract inception. Had the investor purchased the shares directly, he would have to pay \$10,000 (\$10 per share x 1,000 shares) instead.
3	It is settled at a future date.	The exercise of the option must take place in the future, i.e, at or before the expiry date of 31 March 20x1.

A straight American or European call or put option would be considered non-exotic, or plain vanilla. There are features that could cause an option to be considered exotic. Illustration 1.2 lists features of options that could result in an option being regarded as exotic:

Illustration 1.2 Examples of Exotic Options

Examples

Asian option

Lookback option

Barrier option

Binary option or "digital option"

Key features

Payoff depends on average pricing over a certain time interval

Payoff depends on the maximum or minimum price over the life of the option

Existence of the option depends on whether the price of the underlying asset has reached a certain price level

Payoff can only take 2 possible outcomes, either a pre-determined monetary amount or nothing at all

The complexity of these features require the use of complex option pricing models in valuing these options, which we will briefly discuss in Section 1.2.2 below.

1.2.2 Valuation of Options

An option price (representing the fair value of an option or commonly referred to as the option premium) comprises 2 components:

- Intrinsic value, and
- Time value.

1.2.2.1 Fair Value of an Option

There are numerous option valuation models applied by valuation experts. Depending on the extent of complexity and features of the option, certain valuation models may be preferred over another. We briefly discuss 3 commonly used option pricing models here. It is not within the scope of this book to cover the details of the various valuation models.

Black Scholes model

The Black Scholes model is a closed form equation used for pricing relatively simpler options, such as European options.

Binomial model

The binomial model uses an iterative procedure, allowing for specification of nodes (or points in time) during the time period between valuation date and expiry of the option. For each node-to-node, the assumption is that the underlying asset price can only either increase or decrease. This assumption is then iterated till maturity, following which the value of the option may then be derived.

Monte Carlo simulation

This model is typically used to calculate value of a relatively complex option with multiple sources of uncertainty. As the name suggests, the model involves the use of powerful computer programming language to generate multiple simulations to derive an estimated expected value of the option.

1.2.2.2 Intrinsic Value

The intrinsic value of an option is the difference between the underlying variable (e.g. share price) and the strike price, or is zero if the underlying price is not favourable to the option holder. Where there exists an intrinsic value that exceeds zero, the option is commonly known to be "in-the-money". If, however, the underlying price is not favourable to the option holder, the option is commonly perceived as "out-of-the-money". Where the exercise (or strike) price is identical to the prevailing price (commonly known as spot price or current market price) of the underlying item (e.g. shares), the option is known to be "at-the-money".

The above may be illustrated in Illustration 1.3 below:

Illustration 1.3 Intrinsic Value of a Call Option

Same information as in Illustration 1.1. Depending on the prevailing price of the ABC Ltd shares on 31 January 20x1, the intrinsic value of each call option is as follows:

Scenario	Price of ABC Ltd shares on 31 January 20x1	Intrinsic value per option	In-the-money / Out-of-the-money / At-the money
(i)	\$12	\$2 (\$12 - \$10)	In-the-money
(ii)	\$9	\$Nil (\$9 - \$10: unfavourable to holder to exercise)	Out-of-the-money
(iii)	\$10	\$Nil (\$10 - \$10: holder indifferent to exercise)	At-the-money

In the case of a call option, it is favourable to the holder only when the prevailing market price is higher than the exercise price. In Scenario (i), when ABC Ltd shares are priced at \$12, this is favourable to the option holder who has a right to purchase the shares at \$10, \$2 below the prevailing market price. In Scenario (ii) however, the option holder is better off directly purchasing the shares at the prevailing market price of \$9, rather than exercising his right to purchase at \$10.

The same considerations apply in the case of a put option, as shown below:

Illustration 1.4 Intrinsic Value of a Put Option

Same information as in Illustration 1.1, except that Investor X purchased the right to sell 1,000 shares of ABC Ltd at \$10 per share. Depending on the prevailing price of the ABC Ltd shares on 31 January 20x1, the intrinsic value of each put option is as follows:

Scenario	Price of ABC Ltd shares on 31 January 20x1	Intrinsic value per option	In-the-money / Out-of-the-money / At-the money
(i)	\$12	\$Nil (\$10 - \$12: unfavourable to holder to exercise)	Out-of-the-money
(ii)	\$9	\$1 (\$10 - \$9: favourable to holder to exercise)	In-the-money
(iii)	\$10	\$Nil (\$10 - \$10: holder indifferent to exercise)	At-the-money

In the case of a put option, it is favourable to the holder only when the prevailing market price is lower than the exercise price. In Scenario (ii), when ABC Ltd shares are priced at \$9, this is favourable to the option holder who has a right to sell the shares at \$10, \$1 above the prevailing market price. In Scenario (i) however, the option holder is better off selling the shares at the prevailing market price of \$12, rather than exercising his right to sell at \$10.

The above examples may be summarised in the following table:

Option type	Strike > Spot price	Strike = Spot price	Strike < Spot price
Call option	Out-of-the-money*	At-the-money*	In-the-money
Put option	In-the-money	At-the-money*	Out-of-the-money*

* Intrinsic value is \$nil in these scenarios.

It can henceforth be also inferred that the intrinsic value of an option is never negative, as the worst case scenario is one where the option holder simply elects not to exercise his right or that the holder is commonly perceived to let his right lapse.

1.2.2.3 Time Value

The time value of an option from the holder's perspective is commonly understood as the extra cost paid to the writer for the value attributable to the fact that an option contract value may increase in the future time dimension (or becomes "in-the-money" if it was previously "out-of-the-money" or "at-the-money" at inception).

The following factors determine the extent of time value:

<ul style="list-style-type: none"> • Price of underlying and strike price 	How far the strike price is from spot price has an impact on the time value – a deeply out-of-the-money option has a relatively lower probability of becoming in-the-money.
<ul style="list-style-type: none"> • Time till expiry 	Time value diminishes over time. On the expiry date, keeping all other variables constant, time value should approach zero.
<ul style="list-style-type: none"> • Volatility of underlying 	Higher volatility provides a higher probability of the option value increasing and/or becoming "in-the-money".
<ul style="list-style-type: none"> • Discount rate 	An appropriate discount rate needs to be applied due to the fact that the money invested can be used to earn risk-free income.

The time value of an option is derived as the residual difference between the fair value and the intrinsic value of an option. In other words,

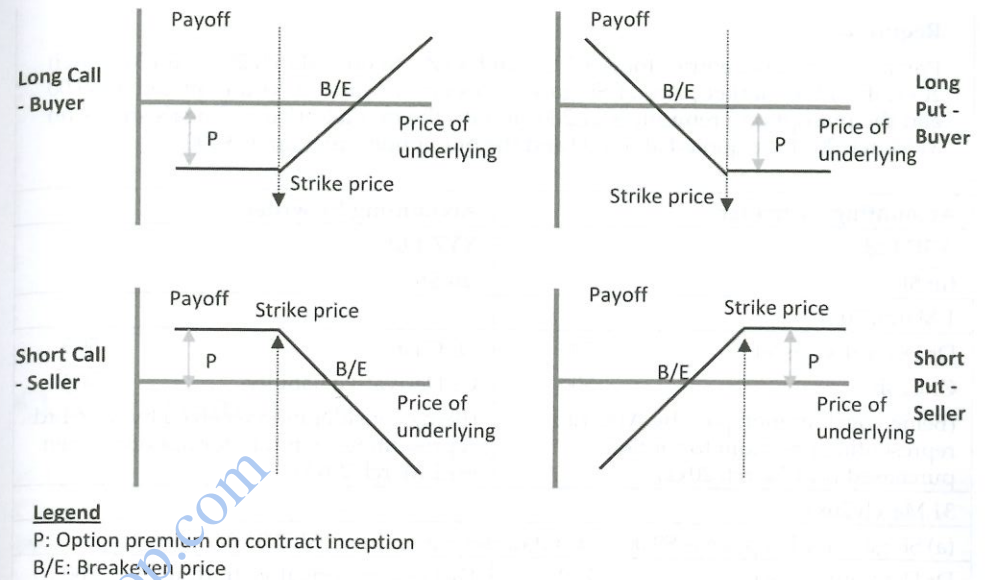
$$\text{Time value of option} = \text{Fair value of option} - \text{Intrinsic value of option}$$

It follows from Sections 1.2.2.2 and 1.2.2.3 that an option cannot have a negative fair value. When an option is out-of-the-money or at-the-money, the fair value of the option is simply the time value of the option. It is common that on contract inception, the option is not "in-the-money", and the premium consideration paid by the holder of the option on contract inception comprises just the time value of the option.

Please refer to Section 1.2.3 on illustration of how to account for an option, from a holder's perspective and a writer's perspective.

1.2.2.4 Option Payoffs

As an option gives the holder the right, but not the obligation to buy or sell an underlying item at a specified price, this gives rise to asymmetric payoffs. From the perspective of the holder, the maximum loss is the option premium paid, whereas the gain is unlimited. From the perspective of the writer, the maximum gain is the option premium received, whereas the loss is unlimited. Graphically, this can be illustrated as follows:



In all 4 scenarios, the region where the payoff is sloping (either upwards or downwards) represents the region where the option is in-the-money; where payoff is flat, it represents the option is out-of-the-money, or in other words, the option holder is better off not exercising his right, and the payoffs represent the option premium consideration paid by the holder on contract inception.

Derivatives trading may be viewed upon as a zero-sum game. The option holder's gains or losses derived from the option will be exactly offset by the writer's losses or gains derived from the option.

1.2.3 Accounting for Options

The illustration below demonstrates how options are generally accounted for. Option contracts are classified as FVPL (unless they are designated as hedging instruments (see Chapters 2 and 3)) and have to be fair valued through profit or loss, and to be carried at fair value on the entity's statement of financial position.

Illustration 1.5 Accounting for an Option

On 1 March 20x1, ABC Ltd pays \$500 to purchase a 60-day put option from XYZ Ltd on 1,000 ordinary shares of Singa Airlines Ltd ("Singa"), at a strike price of \$10.00 per share. The put option was purchased for speculative purposes.

The price of Singa's shares are quoted at \$10.00 per share on 1 March 20x1.

Expectation to settle / Maturity	Expects to settle < 12 months from end of reporting period	Expects to settle > 12 months from end of reporting period
Maturity of < 12 months from end of reporting period	Current asset / liability	Not applicable
Maturity of > 12 months from end of reporting period	Current asset / liability	Non-current asset / liability

1.6.2 Statement of Profit or Loss and Other Comprehensive Income

In many of the earlier illustrations, it is indicated that the fair value changes of a derivative from the end of a reporting period to another may be accounted for through profit or loss, or through OCI, depending on the intended purpose or use of the derivative and whether hedge accounting is applied.

As a general rule, derivatives are classified as FVPL under IFRS 9. As derivatives are re-measured to their fair values from the end of one reporting period to another, the changes in fair value are recorded through profit or loss.

When entities use derivatives for hedging, they can elect (i.e. not mandatory) to apply a set of hedge accounting rules, which represent an exception to the above general rule. The focus of Chapters 2 and 3 of this book is to introduce and discuss the details of these hedge accounting rules. The key objective of hedge accounting is to ensure that profits or losses arising from the re-measurement of the hedged item and hedging instruments (typically derivatives) offset one another within the same period, thereby reducing profit or loss volatility, which would otherwise not be the case under general accounting rules. Depending on the hedge accounting model applied, the re-measurement gains and losses may be recorded in OCI rather than profit or loss. If entities do not elect to apply hedge accounting, they will apply the general rule of recording changes in fair value through profit or loss, as described above.

1.6.3 Contracts to Buy or Sell Non-Financial Items

Section 1.6 mentions that the definition of a derivative can be a broad one, especially where it relates to contracts to buy or sell non-financial items. Consider Illustration 1.20 below.

Illustration 1.20 Is a Contract to Buy or Sell Non-Financial Items a Financial Instrument under IFRS 9?

Entity XYZ enters into a fixed price forward contract to purchase 1 million kilogrammes of copper. At first glance, it appears that the forward purchase contract meets the definition of a derivative:

No	Characteristic	Forward purchase contract
1	Its value changes in response to changes of an underlying variable.	The underlying is represented by the forward copper prices.
2	It requires no initial net investment or one that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors.	On date of contract inception, the contracted forward price represents the market forward price prevailing as at contract date. This gives rise to zero fair value on contract inception – which implies no initial net investment.
3	It is settled at a future date.	Delivery of the 1 million kilogrammes of copper will take place in the future.

An immediate misconception arising from the above is that all forward purchases or sales of raw materials and goods or any other forms of non-financial items by manufacturers or other corporates would meet the definition of a derivative and be marked-to-market at the point a contract is entered into.

The inaccurate conclusion in Illustration 1.20 clearly appears odd and it is henceforth important to note that for contracts to buy or sell non-financial items, there are additional criteria to be considered before such contracts may be scoped in within IFRS 9.

Contracts to buy or sell non-financial items are within the scope of IFRS 9 if the following conditions are met (IFRS 9 para 2.4):

- the contract to buy or sell a non-financial item can be settled net in cash or another financial instrument, or by exchanging financial instruments, as if the contracts were financial instruments, and
- the contract to buy or sell a non-financial item was not entered into and continue to be held for the purpose of receipt or delivery of a non-financial item in accordance with the entity's expected purchase, sale or usage requirements.

Under IFRS 9 para 2.6, net settlement can take place in the following manner:

- the contractual terms may permit either party to settle net in cash or by exchanging financial instruments
- settlement may not be explicit under the terms of the contract, but the entity may have a past practice of net settling similar contracts
- for similar contracts, the entity may have a past practice of taking delivery of the underlying and selling it within a short period after delivery for the purpose of generating a profit from short-term price fluctuations or dealer's margin, or
- the non-financial item that is the subject of the contract may be readily convertible to cash.

The practical application of the above may be complicated at times and involves judgement.

Illustration 1.21 Contract to Buy or Sell Non-Financial Items (Extracted from IFRS 9 Guidance on Implementing IFRS 9 A.1)

Entity XYZ enters into a fixed price forward contract to purchase 1 million kilogrammes of copper in accordance with its expected usage requirements. The contract permits XYZ to take physical delivery of the copper at the end of 12 months or to pay or receive a net settlement in cash, based on the change in fair value of copper.

If XYZ intends to settle the contract by taking delivery and has no history for similar contracts of settling net in cash or of taking delivery of the copper and selling it within a short period after delivery for the purpose of generating a profit from short-term fluctuations in price or dealer's margin, the contract is not accounted for as a derivative under IFRS 9. Instead, it is accounted for as an executory contract (i.e. outside the scope of IFRS 9).

Illustration 1.21 suggests that entities which enter into physical forwards as part of their operations, (i.e. for its expected usage requirements and no history for similar contracts of settling net in cash or of taking delivery of the copper and selling it within a short period after delivery for the purpose of generating a profit from short-term fluctuations in price or dealer's margin) would ordinarily not account for these physical forwards as derivatives, but recognise these forwards as executory contracts instead. Executory contracts are contracts under which neither party has performed any of its obligations, or both parties have partially performed their obligations to an equal extent. Executory contracts are typically not recognised and only warrant disclosures unless they are onerous, and require recognition under IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*.

In addition to the above conditions, a written option to buy or sell a non-financial item that can be settled net contractually or when the non-financial item is readily convertible to cash is always within the scope of IFRS 9.

Illustration 1.22 Written Option with Possible Net Settlement (Adapted from IFRS 9 Guidance on Implementing IFRS 9 A.2)

Entity XYZ owns an office building. XYZ enters into a put option with an investor that permits XYZ to put the building to the investor for CU150 million. The current value of the building is CU175 million. The option expires in 5 years' time. The option, if exercised, may be settled through physical delivery or net cash, at XYZ's option.

The option holder - XYZ's accounting depends on XYZ's intention and past practice for settlement. Although the contract meets the definition of a derivative, XYZ does not account for it as a derivative if XYZ intends to settle the contract by delivering the building if XYZ exercises its option and there is no past practice of settling net.

The option writer - The investor, however, cannot conclude that the option was entered into to meet the investor's expected purchase, sale or usage requirements because the investor does not have the ability to require delivery. In addition, the option may be settled net in cash. Therefore, the investor has to account for the contract as a derivative. Regardless of past practices, the investor's intention does not affect whether the settlement is by delivery or in cash. The investor has written an option, and a written option in which the holder has a choice of physical settlement or net cash settlement can never satisfy the normal delivery requirement for the exemption from IFRS 9 because the option writer does not have the ability to require delivery.

However, if:

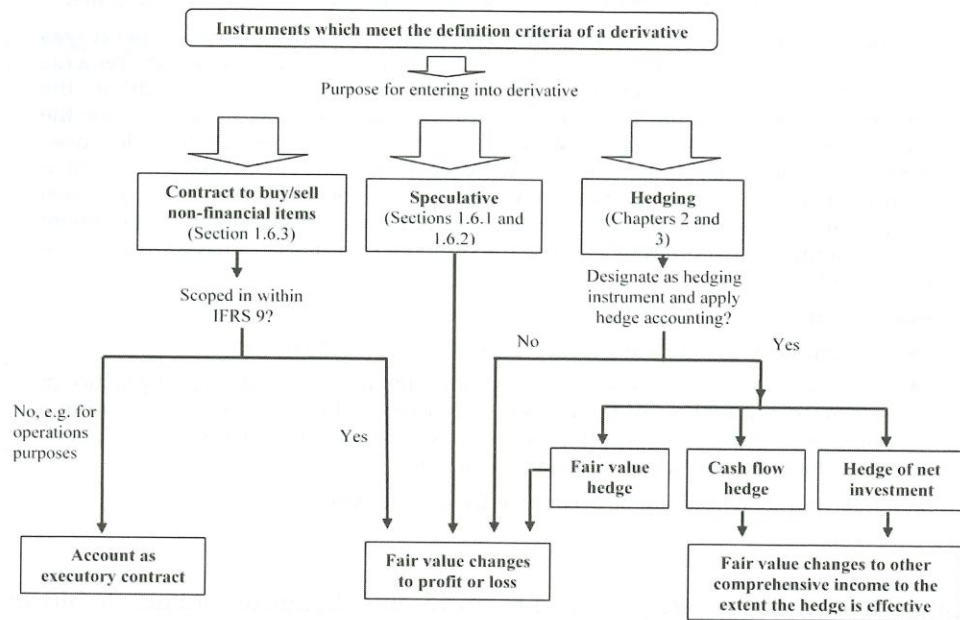
- the contract was a forward contract rather than an option, and
- the contract required physical delivery (and the investor had no past practice of settling net in cash or of taking delivery of the building and selling it within a short period after delivery for the purpose of generating a profit from short-term fluctuations in price or dealer's margin)

then the contract would not be accounted for as a derivative.

Under IFRS 9, entities are permitted to irrevocably designate contracts to buy or sell a non-financial item that can be settled net in cash or another financial instrument, or by exchanging financial instruments, as measured at FVPL even if they were entered into for the purpose of the receipt or delivery of a non-financial item in accordance with the entity's expected purchase, sale or usage requirements. This designation is available only at the inception of the contract and only if it eliminates or significantly reduces a recognition inconsistency (sometimes referred to as an "accounting mismatch") that would otherwise arise from not recognising that contract because it is excluded from the scope of IFRS 9. We will revisit this topic from a hedging perspective under Section 3.10 in Chapter 3.

1.6.4 Summary of Accounting for Derivatives

The decision tree below summarises the above principles:



Note:

An exception exists under IFRS 9 when the hedged item is an equity instrument designated as fair value through other comprehensive income, where fair value changes of the hedging derivative is recognised in OCI, to the extent the hedge is effective.

1.6.5 Embedded Derivatives

Although many derivatives are stand-alone, some may be embedded within a host instrument. For example a convertible bond which gives the holder the right to conversion comprises both a debt (host) and an equity call option (embedded derivative). Other common examples include structured deposits. The host contract may be financial or non-financial:

Examples of Host Contracts

Examples of Host Contracts	
Financial	Non-financial
Debt	Sales
Equity	Purchase
	Service
	Lease

The financial instrument comprising both the host contract and the embedded feature is known as a hybrid instrument.

1.6.5.1 Accounting for Embedded Derivatives

Under IFRS 9, accounting for embedded derivatives is dependent on the nature of the host contract. If the host contract is a financial liability or a non-financial item, "split accounting" is required. However, if the host is a financial asset, the hybrid contract is accounted for in its entirety, and does not require "split accounting".

"Split accounting" is applied when the following conditions are met:

- the economic characteristics and risks of the embedded derivative are not closely related to the economic risks and characteristics of the host contract
- a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative, and
- the hybrid instrument is not measured at fair value with changes in fair value recognised in profit or loss.

"Split accounting" means that the embedded derivative should be accounted for as a derivative (see Sections 1.6.1 and 1.6.2 above). The host is accounted for under its respective accounting standards.

Condition (b) means the embedded feature should itself meet the definition of a derivative, in other words meeting the 3 criteria as listed in Section 1.6. Condition (c) means that any financial liability or a non-financial item that is held at fair value with changes in fair value recognised through profit or loss does not need to be evaluated for separate accounting of embedded derivatives since the entire hybrid contract is already accounted for at FVPL.

Of the 3 criteria, condition (a) is the most challenging to implement. There is no specific definition of what constitutes "closely related". In certain cases, the evaluation of whether an embedded feature is closely related to its host is straight-forward. In other cases, the evaluation entails significant judgement.

The topic of embedded derivatives is complex. It is not within the scope of this book to cover the details of accounting for embedded derivatives.

¶1.7 Summary

Derivatives are used increasingly by corporates for speculative and risk management purposes. Although derivatives can come in different forms, the most basic forms are options, forwards and swaps. Futures are similar to forwards.

Derivatives are generally accounted for at FVPL, unless hedge accounting rules are elected and applied. Contracts to buy or sell non-financial items need to be further evaluated against additional conditions to ascertain if they are accounted for as derivatives under IFRS 9.

3 rd quarter		
Dr Cash flow hedge loss (OCI)	80	
Cr Beginning retained profit or P/L		10
Cr Hedging instrument		70

Note that as at the end of the 3rd quarter, the cumulative loss on the hedging instrument is \$270 and the cumulative gain on the hedged item is \$250. Thus, cumulatively at the end of 3rd quarter, of the \$270 loss on the hedging instrument, \$250 is effective and \$20 is ineffective. So, even though the loss on hedging instrument for the 3rd quarter is \$70, the amount that is needed to be taken to the "Cash flow hedge reserve" is \$80. Thus, the journal entry for the 3rd quarter involves a reversal of \$10 from the profit or loss or beginning retained profit to the "Cash flow hedge reserve".

As discussed, IAS 39 allows the hedging of foreign currency risk in a firm commitment to be accounted for using the fair value hedge or the cash flow hedge. An illustration of accounting for hedging of foreign currency risk in a firm commitment using the fair value hedge is given in Illustration 2.13. Here below is an illustration of accounting for hedging of foreign currency risk in a firm commitment using the cash flow hedge (based on the same facts of the case in Illustration 2.13).

Illustration 2.19

On 30 September 20x1, SP Ltd (an equipment-manufacturing company incorporated in Singapore with S\$ as its functional and presentation currency) entered into an agreement with MA Ltd (a company incorporated in Malaysia, with RM as its functional and presentation currency) to sell a piece of manufactured equipment for RM1,000,000, on cash terms, to MA Ltd on 30 June 20x2.

In order to hedge the foreign exchange risk in the sales commitment, SP Ltd entered into a FFEC on 30 September 20x1 to sell RM1,000,000 to the foreign exchange dealer on 30 June 20x2.

SP Ltd's accounting year-end is 31 December. The foreign exchange rates between RM and S\$ at relevant dates were as follows:

At 30 September 20x1: 9-month future rate: RM1.00 = S\$0.50

At 31 December 20x1: 6-month future rate: RM1.00 = S\$0.45

At 30 June 20x2: Spot rate: RM1.00 = S\$0.44

SP Ltd wishes to apply cash flow hedge accounting under IAS 39. It has complied with all the requirements of IAS 39 in respect of hedge accounting, and has designated the change in the fair value of the FFEC based on the forward rate to hedge the change in the expected cash flow of the firm sales commitment based on the forward rate. (Ignore time value of money, as it is deemed to be immaterial.)

Solution

The journal entries (in S\$) to record the above transactions and events are as follows:

30 September 20x1

No journal entry required. Just memorandum entries to record the fact that (i) a firm commitment has been entered into, and (ii) a FFEC has been entered into as a hedging instrument to hedge the firm commitment.

31 December 20x1

Dr Hedging instrument	50,000	
Cr Cash flow hedge gain (OCI)		50,000
(Fair value adjustment for forward contract)		

30 June 20x2

Dr Hedging instrument	10,000	
Cr Cash flow hedge gain (OCI)		10,000
(Fair value adjustment for forward contract)		

Dr Cash	60,000	
Cr Hedging instrument		60,000
(Settlement of the forward contract)		

Dr Cash	440,000	
Cr Sales		440,000
(Sale of manufactured equipment)		

Dr Cash flow hedge reserve	60,000	
Cr Sales		60,000
(Closing of "Cash flow hedge reserve" to profit or loss)		

Note that, unlike in the case of fair value hedge (see Illustration 2.13), the firm commitment is not accounted for in cash flow hedge, in accordance with the rule for hedged item in cash flow hedge accounting. Even though the firm commitment is not accounted for, its related changes in cash flow is computed to assess hedge effectiveness. In this case, since the change in the fair value of the FFEC based on forward rate is designated to hedge the change in expected cash flow of the firm commitment also based on forward rate, it is a perfect hedge and hence there is no ineffective portion of the hedge to be dealt with.

Note also that by entering into a cash flow hedge, SP Ltd was able to "lock-in" at the foreign exchange rate of RM1.00 = S\$0.50. Therefore, SP Ltd ultimately recorded sales of S\$500,000 and received cash of S\$500,000 (RM1,000,000 multiplied by the "locked-in" foreign exchange rate of RM1.00 = S\$0.50). (As shown in the journal entries, S\$500,000 comprises sale proceeds of S\$440,000 and net receipt of S\$60,000 from settlement of forward.)

By applying cash flow hedge accounting, the gain or loss on the hedging instrument is deferred and recognised in profit or loss only when the hedged item (sales) is recognised in profit or loss. This ensures proper accounting matching and thereby reduces income volatility.

If SP Ltd has entered into the FFEC to hedge the firm commitment but decides not to apply hedge accounting, the profit or loss of the company will be more volatile: the \$50,000 gain on the FFEC will be recognised as profit for 20x1, and the \$10,000 gain recognised as profit for 20x2, whilst the sale for 20x2 will be \$440,000.

If SP Ltd has not hedged the sales commitment (i.e. it did not enter into the FFEC), its sales recorded in 20x2 will be just S\$440,000, and it would only receive S\$440,000.

Even though the journal entries are different, but the net effect is exactly the same between applying a fair value hedge (see Illustration 2.13) and applying a cash flow hedge (this illustration). This is the reason why IAS 39 allows for the use of both fair value hedge and cash flow hedge in accounting for the hedging of foreign currency risk in a firm commitment.

Besides the case of hedging for foreign currency risk in a firm commitment (as illustrated above), all the hedged items in cash flow hedges are highly probable forecast transactions.

The term “highly probable” indicates a much greater likelihood of happening than the term “more likely than not”. A transaction’s probability should be supported by observable facts and the attendant circumstances such as the frequency of similar past transactions, the financial and operational ability of the entity to carry out the transaction, and substantial commitment of resources. Thus, to be “highly probable”, the forecast transaction cannot be just a transaction that an entity may undertake. To be “highly probable”, the forecast transaction must be, for example, based on transactions that the entity had habitually undertook in the past (e.g. making a sale to a counter-party once every quarter), or a future transaction that has been duly approved by the board of directors.

While an entity is not required to predict and document the exact date a forecast transaction is expected to occur, it is required to identify and document the time period during which the forecast transaction is expected to occur within a reasonable specific and generally narrow range of time from a most probable date, as a basis for assessing hedge effectiveness.

The following is an illustration on cash flow hedge accounting where the hedged item is a highly probable forecast transaction.

Illustration 2.20

AAA Ltd is a Singapore-incorporated company whose functional and presentation currency is S\$. It adopts 31 December accounting year-ends.

To forge a long-term strategic alliance with BBB Bhd (a Malaysia-incorporated company whose functional and presentation currency is RM), the 2 companies had come to an understanding on 1 April 20x1 that AAA Ltd would acquire 1 million

shares of BBB Bhd (whose share capital comprises 10 million shares) on 31 December 20x1 based on the quoted price of the shares as at 31 December 20x1.

On 1 April 20x1, the shares of BBB Bhd were quoted on Bursa Malaysia at RM10.00 per share, and the spot exchange rate was RM1.00 = S\$0.40.

To hedge the price risk and the foreign currency risk of this highly probable forecast purchase, AAA Ltd had, on 1 April 20x1, purchased a call option and entered into a FFEC. The call option, purchased at a premium of S\$100,000, was on 1 million shares of BBB Bhd at a strike price of RM10.00 per share, and would be exercisable on 31 December 20x1. The FFEC was to buy RM10 million on 31 December 20x1 at an exchange rate of RM1.00 = S\$0.42.

AAA Ltd had complied with all the requirements of IAS 39 in respect of hedge accounting. It had designated the change in the intrinsic value of the call option as a hedge against the price risk of the highly probable forecast purchase, and the change in the fair value of the FFEC based on the spot rate as a hedge against the foreign currency risk of the highly probable forecast purchase based on spot rate.

On 31 December 20x1, the shares of BBB Bhd were quoted at RM11.00 per share, and the spot exchange rate was RM1.00 = S\$0.33. On the same date, the call option was duly exercised, the FFEC was duly settled, and the shares of BBB Bhd were duly acquired.

Ignore time value of money as it was not expected to be significant, and ignore tax effects, if any, arising from the above transactions and events.

Solution

The journal entries (in S\$) to record the above transactions and events are as follows:

1 April 20x1			
Dr Call option	100,000		
Cr Cash/Payable		100,000	
(Purchase of call option)			
31 December 20x1			
Dr Call option	230,000		
Dr Time value loss (P/L)	100,000		
Cr Intrinsic value gain (OCI)		330,000	
(Change in fair value of call option)			
[Time value: \$100,000 - 0 = \$100,000]			
[Intrinsic value: ((RM11 - RM10) × 1,000,000 × 0.33 = \$330,000)]			
Dr Exchange loss: Interest (P/L)	200,000		
Dr Exchange loss: Spot (OCI)	700,000		
Cr FFEC		900,000	
(Change in fair value of FFEC)			
[Interest: RM10,000,000 × (0.40 - 0.42) = \$200,000]			
[Spot: RM10,000,000 × (0.33 - 0.40) = \$700,000]			

The foreign exchange rates between US\$ and S\$ are assumed as follows:

Date	Spot exchange rate for US\$1.00	Forward foreign exchange rate for US\$1.00 (at 30 September 20x3)
10 January 20x3	S\$1.40	S\$1.42
31 March 20x3	S\$1.43	S\$1.48
30 June 20x3	S\$1.47	S\$1.52
30 September 20x3	S\$1.54	S\$1.54

On 30 September 20x3, the machine is purchased (the price had remained the same), and the FFEC settled.

Ignore time value of money as it is not expected to be significant. Ignore tax effects, if any, arising from the above transactions and events.

Solution

The journal entries (in S\$) to record the above transactions and events are as follows:

31 March 20x3		
Dr FFEC	60,000	
Cr Cash flow hedge gain (OCI) (Change in fair value of FFEC)		60,000
30 June 20x3		
Dr FFEC	40,000	
Cr Cash flow hedge gain (OCI) (Change in fair value of FFEC)		40,000
30 September 20x3		
Dr FFEC	20,000	
Cr Cash flow hedge gain (OCI) (Change in fair value of FFEC)		20,000
Dr Machine	1,540,000	
Cr Cash (Purchase of machine)		1,540,000
Dr Cash flow hedge reserve	120,000	
Cr Machine (Basis adjustment)		120,000

Dr Cash	120,000	
Cr FFEC		120,000
(Settlement of FFEC)		

Notes to the solution

- Under the "basis adjustment" method, the "Cash flow hedge reserve" is adjusted against the initial cost of the machine. (It may be appreciated that the "basis adjustment" will result in the initial cost of the machine to be S\$1,420,000, being the amount "locked-in", i.e. US\$1,000,000 at rate of US\$1.00 = S\$1.42).
- The economic impact of hedging:
 - With hedging, the net cash outflow is S\$1,420,000 (US\$1,000,000 at the "locked-in" rate of US\$1.00 = S\$1.42) and hence, the initial cost of the machine of S\$1,420,000.
 - Without hedging, the net cash outflow will be S\$1,540,000 (US\$1,000,000 at the prevailing rate of US\$1.00 = S\$1.54) and hence, the initial cost of the machine of S\$1,540,000.
- The accounting impact of applying hedge accounting may be shown below:

	Not applying hedge accounting	Applying hedge accounting
January - March 20x3	Gain on derivative: S\$60,000	Nil
April - June 20x3	Gain on derivative: S\$40,000	Nil
July - September 20x3	Gain on derivative: S\$20,000	Nil
Over useful life of machine	Depreciation expense: S\$1,540,000	Depreciation expense: S\$1,420,000

It may be noted that the S\$120,000 gain on the hedging instrument is recognised immediately in the 3 quarters if hedge accounting is not applied, but is deferred and spread over the useful life of machine if hedge accounting is applied. Thus, hedge accounting helps to reduce income volatility. (It may also be appreciated that the total effect in profit or loss in the entire period up to the derecognition of the machine is the same whether or not hedge accounting is applied.)

The following illustration compares the journal entries and the impact of the "recycling method" and the "basis adjustment" method under para 98.

Illustration 2.25**Case A**

AIS Airlines Ltd (with 31 December accounting year-ends) is in an expanding phase of its business development and plans to purchase an airplane every 2 years.

On 1 January 20x1, AIS Airlines Ltd has identified an airplane to purchase on 1 January 20x3. The airplane identified will cost US\$100 million, on cash terms. The exchange rate on 1 January 20x1 is US\$1 = S\$1.50. The management of AIS Airlines Ltd expects the foreign exchange rate to increase to around US\$1 = S\$1.70 on 1 January 20x3.

To hedge the forecast purchase, AIS Airlines Ltd enters into a FFEC on 1 January 20x1 to buy US\$100 million from the exchange dealer on 1 January 20x3.

AIS Airlines Ltd decides to apply hedge accounting (cash flow hedge) under IAS 39 and has designated change in the fair value of the FFEC based on forward rate to hedge the change in the expected cash flow based on forward rate.

The exchange rate between US\$ and S\$ at the relevant dates are as follows:

At 1 January 20x1:

Spot rate	US\$1.00 = S\$1.50
24-month future rate	US\$1.00 = S\$1.52

At 31 December 20x1:

Spot rate	US\$1.00 = S\$1.55
12-month future rate	US\$1.00 = S\$1.58

At 31 December 20x2:

Spot rate	US\$1.00 = S\$1.68
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On 1 January 20x3, the company purchased the airplane as planned for US\$100 million. AIS Airlines Ltd has adopted the policy of "recycling" to deal with the "Cash flow hedge reserve".

The journal entries (in S\$'million) to record the above transactions will be as follows (ignore time value of money):

1 January 20x1

No journal entry required. Just a memorandum entry to record the fact that a FFEC has been entered into as a cash flow hedge.

31 December 20x1

Dr Hedging instrument	6	
Cr Cash flow hedge gain (OCI)		6
(Fair value adjustment for hedging instrument)		

31 December 20x2

Dr Hedging instrument	10	
Cr Cash flow hedge gain (OCI)		10
(Fair value adjustment for hedging instrument)		

1 January 20x3

Dr Cash	16	
Cr Hedging instrument		16
(Receipt from foreign exchange dealer on settlement)		

Dr Airplane	168	
Cr Cash		168
(Purchase of airplane)		

Under the "recycling" policy, the "Cash flow hedge reserve" will remain in the Statement of Financial Position and will be amortised as income to Statement of Profit or Loss and Other Comprehensive Income as and when the airplane is depreciated and charged as an expense to the Statement of Profit or Loss and Other Comprehensive Income.

Case B

Assume that the fact pattern is exactly the same as Case A above, except that AIS Airlines Ltd adopts the policy of "basis adjustment" to deal with the "Cash flow hedge reserve".

In this case, the journal entries (in S\$'million) to record the above transactions will be exactly the same as those for Case A above, except that on 1 January 20x3 when the airplane was purchased, the "Cash flow hedge reserve" is offset against the initial cost of airplane, through the following journal entry:

Dr Cash flow hedge reserve	16	
Cr Airplane		16
(basis adjustment)		

Notes:

- (1) With reference to Case A and Case B above, it may be noted that as a result of hedging, the net cash outflow for the purchase of the airplane is S\$152 million (US\$100 million at the "locked-in" rate of US\$1 = S\$1.52). If the company did not hedge, the net cash outflow will be S\$168 million (US\$100 million at the prevailing foreign exchange rate at the date of transaction). Thus, whether or not a company hedges its forecast transactions will have both economic consequences (cash flows) as well as accounting consequences (profit or loss effects).
- (2) However, having hedged the forecast transaction, whether or not the company applies hedge accounting under IAS 39 will not have impact on its cash flows, it will only affect the volatility of its profit or loss. With reference to Case A and Case B above, and assuming that the airplane has a 6-year useful life with no

The following is another illustration on fair value hedge.

Illustration 3.9

ABC Ltd (with 31 December accounting year-ends) purchases a fixed interest debt security at its par value of \$100,000 on 1 January 20x1 and classifies it as FVOCI under IFRS 9.

Due to decline in the market interest rate, the fair value of the debt security increases to \$110,000 as at 31 December 20x1.

To protect the value of \$110,000, ABC Ltd enters into a hedge by acquiring an IRS on 1 January 20x2.

Due to increase in the market interest rate, the fair value of the debt security declines by \$6,000, and the fair value of the IRS increases by \$6,000 as at 31 December 20x2.

ABC Ltd has decided to apply hedge accounting under IFRS 9, and has complied with all the requirements of IFRS 9 for hedge accounting.

Solution

Journal entries (in \$)

(ignoring the interest component of the debt security)

1 January 20x1

Dr Investment in debt security	100,000	
Cr Cash		100,000
(Investment in FVOCI debt security)		

31 December 20x1

Dr Investment in debt security	10,000	
Cr Fair value gain (OCI)		10,000
(Mark-to-market gain of FVOCI investment)		

31 December 20x2

Dr IRS	6,000	
Cr Gain on hedging instrument (P/L)		6,000
(FVPL of hedging instrument)		
Dr Loss on hedged item (P/L)	6,000	
Cr Investment in debt security		6,000
(FVPL of hedged item)		

Notes to the solution

- (1) The unrealised mark-to-market gain of \$10,000 on the investment in FVOCI debt security in 20x1 is recognised in OCI in the Statement of Profit or Loss and

Other Comprehensive Income and subsequently in "Fair value reserve" in the Statement of Financial Position, in accordance with the relevant applicable accounting rules for FVOCI under IFRS 9.

- (2) The unrealised mark-to-market loss of \$6,000 on the investment in FVOCI debt security in 20x2 is recognised in profit or loss in the Statement of Profit or Loss and Other Comprehensive Income, as the investment is now hedged, and accounted for in accordance with the fair value hedge accounting rules under IFRS 9.
- (3) It may be noted that, under the fair value hedge:
- in 20x2 Statement of Profit or Loss and Other Comprehensive Income, there is no gain or loss on fair value exposure, and
 - in 31 December 20x2 Statement of Financial Position, the investment in debt security will be carried at \$104,000, and the derivative asset will be carried at \$6,000, giving a total balance of \$110,000.
- (4) In all subsequent financial periods (as long as the fair value hedge is in effect), there will be no gain or loss on fair value exposure in the Statement of Profit or Loss and Other Comprehensive Income, and the total balance of investment in debt security and derivative asset/liability in the Statements of Financial Position will be \$110,000.
- (5) Without applying hedge accounting, the change in the fair value of the IRS will be recognised in profit or loss, whereas the change in the fair value of the FVOCI debt security will be recognised in OCI, resulting in an accounting mismatch and volatility in profit or loss in the financial statements.

The following illustration assumes the same case facts as the earlier Illustration 3.9 except that ABC Ltd purchases an equity instrument instead of a fixed interest debt security.

Illustration 3.10

ABC Ltd (with 31 December accounting year-ends) purchases an equity instrument at its fair value of \$100,000 on 1 January 20x1 and classifies it as FVOCI under IFRS 9.

As at 31 December 20x1, the fair value of the equity instrument increases to \$110,000.

To protect the value of \$110,000, ABC Ltd enters into a hedge by acquiring a put option on 1 January 20x2.

Due to market movements, the fair value of the equity instrument declines by \$6,000, and the fair value (intrinsic value) of the derivative put option increases by \$6,000 as at 31 December 20x2.

ABC Ltd has decided to apply hedge accounting under IFRS 9, and has complied with all the requirements of IFRS 9 for hedge accounting.

*Solution**Journal entries in (\$)*

(ignoring the time value component)

1 January 20x1

Dr Investment in equity investment	100,000	
Cr Cash		100,000
(Investment in FVOCI equity instrument)		

31 December 20x1

Dr Investment in equity instrument	10,000	
Cr Fair value gain (OCI)		10,000
(Mark-to-market gain of FVOCI investment)		

31 December 20x2

Dr Derivative asset	6,000	
Cr Gain on hedging instrument (OCI)		6,000
(Gain on hedging instrument taken to OCI)		
Dr Loss on hedged item (OCI)	6,000	
Cr Investment in equity instrument		6,000
(FVOCI of hedged item)		

Notes to the solution

- (a) The unrealised mark-to-market gain of \$10,000 on the investment in FVOCI equity instrument in 20x1 is recognised in OCI in the Statement of Profit or Loss and Other Comprehensive income and subsequently in "Fair value reserve" in the Statement of Financial Position, in accordance with the relevant applicable accounting rules for FVOCI under IFRS 9.
- (b) The unrealised mark-to-market gain of \$6,000 on the derivative put option in 20x2 is recognised in OCI in the Statement of Profit or Loss and Other Comprehensive income. Since the investment hedged is an equity instrument, the hedging instrument is accounted for in accordance with the "exception" to the fair value hedge accounting rules for the hedge of equity instrument for which an entity has elected to present changes in fair value in OCI under IFRS 9 para 6.5.8(a).
- (c) It may be noted that, under the fair value hedge
- in 20x2 Statement of Profit or Loss and Other Comprehensive income, there is no gain or loss on fair value exposure, and
 - in 31 December 20x2 Statement of Financial Position, the investment in equity instrument will be carried at \$104,000, and the derivative asset will be carried at \$6,000, giving a total of \$110,000.

- (d) In all subsequent financial periods (as long as the fair value hedge is in effect), there will be no gain or loss on fair value exposure in the Statement of Profit or Loss and Other Comprehensive income, and the total balance of investment in equity instrument and derivative asset in the Statements of Financial Position will be \$110,000.
- (e) Without applying hedge accounting, the change in the fair value of the put option will be recognised in profit or loss, whereas the change in the fair value of the FVOCI equity instrument will be recognised in OCI, resulting in an accounting mismatch and volatility in profit or loss.

An entity may hedge more than one type of risk in a hedged item, as illustrated below.

Illustration 3.11

DEF Ltd ("the company") is a Singapore-incorporated company listed on the Singapore Exchange. It adopts 31 December accounting year-ends, and prepares quarterly financial statements. Its functional and presentation currency is S\$.

XYZ Bhd is a Malaysia-incorporated company with RM as its functional and presentation currency. On 10 January 20x1, the company paid RM500,000 to acquire 500,000 shares of XYZ Bhd with the intention of establishing a long-term strategic alliance with the investee company. On this date, the shares of XYZ Bhd were quoted on Bursa Malaysia at RM1.00 per share, and the exchange rate was RM1.00 = S\$0.40. The company had properly classified the investment in XYZ Bhd as FVOCI under IFRS 9.

On 10 January 20x1, the company purchased a put option and entered into a FFEC to hedge the exposures arising from the FVOCI investment. The put option, purchased at a premium of S\$5,000, was on 500,000 shares of XYZ Bhd at an exercise price of RM1.00 per share, and would expire on 31 March 20x1. The FFEC was to sell RM500,000 on 31 March 20x1 at an exchange rate of RM1.00 = S\$0.38.

The company had complied with all the requirements of IFRS 9 in respect of hedge accounting. It had designated the change in the intrinsic value of the put option as a hedge against the price risk of the FVOCI investment, and the change in the fair value of the FFEC based on the spot rate as a hedge against the foreign currency risk of the FVOCI investment. The company has adopted the alternative accounting treatment for the forward points under IFRS 9 similar to that of the time value of an option.

On 31 March 20x1, the shares of XYZ Bhd were quoted at RM0.80 per share, and the exchange rate was RM1.00 = S\$0.35.

On 31 March 20x1, the put option was duly exercised and the FFEC was duly settled. The company continued to hold the FVOCI investment.

Ignore time value of money as it was not expected to be significant, and ignore tax effects, if any, arising from the above transactions and events.

	Not applying hedge accounting	Applying hedge accounting
OCI for quarter 31 March 20x1	<ul style="list-style-type: none"> Net OCI loss on FVOCI investment = \$60,000 	<ul style="list-style-type: none"> Exchange gain (spot): \$25,000 Intrinsic value gain: \$35,000 Net OCI gain on financial derivatives = \$60,000 Net OCI loss on FVOCI investment = \$60,000
P/L for subsequent quarters	Nil Note: Reclassification of all amounts recognised in equity is made within equity.	Nil Note: Reclassification of all amounts recognised in equity is made within equity.

- (3) The time value of the option and the interest element of the FFEC are deferred in equity through OCI over the term of the hedge as shown above. These are then removed from equity to profit or loss depending on the categorisation of the hedged item as 'transaction-related' or 'time period-related'. In this case, the FVOCI investment is a "time period-related" hedged item and hence, the time value of the option and the interest element of the FFEC is deferred in equity through OCI and "released" to the profit or loss over the time period of the underlying hedge. The above journal entries have not incorporated this release to profit or loss. Refer to section 3.10 which discusses the accounting for the time value of an option or interest element of a forward contract which have not been designated as hedging instruments.

As the period of hedge is for one quarter only, i.e. the quarter ended 31 March 20x1, the journal entry (in S\$) to "release" the time value of option and interest element of FFEC for the quarter ended 31 March 20x1 respectively would be as follows:

Dr Time value loss (P/L)	5,000	
Cr Time value loss (OCI)		5,000
and		
Dr Foreign exchange loss: interest (P/L)	10,000	
Cr Foreign exchange loss: interest (OCI)		10,000

Hence, the net effect of the deferral to OCI and release to profit or loss over period of hedge is that the time value loss and interest element of the foreign exchange loss are in the profit or loss for the quarter ended 31 March 20x1, as reflected in the above analysis.

In the illustration above, the option (hedging instrument) is entered into at-the-money. Options may, of course, also be entered into in-the-money or out-of-the-

money and used as the hedging instrument. At inception, an out-of-the-money option has no intrinsic value but would have time value (see also Chapter 1).

The following illustrates a case where an out-of-the-money option is used as the hedging instrument. It also illustrates that a hedged item may not be fully hedged or that it is hedged partially.

Illustration 3.12

On 1 August 20x9, DEF Ltd (with 31 December year-ends and prepares quarterly financial statements) purchases 200,000 shares of Ababa Ltd at \$1.50 per share. The investment is classified as FVOCI under IFRS 9.

On the same date, DEF Ltd purchases an out-of-the-money put option on 200,000 shares of Ababa Ltd at a premium of \$5,000. The put option has an exercise price of \$1.47 and will expire on 30 September 20x9.

DEF Ltd designates the change in the intrinsic value of the put option as the hedging instrument. The time value of the option contract is excluded from hedge accounting.

On 30 September 20x9, the put option position was closed and net-settled. DEF Ltd continues to hold the 200,000 shares of Ababa Ltd.

The prices of the shares of Ababa Ltd and the put option were as follows:

Date	Share price of Ababa Ltd	Price per unit of put option
On 31 August 20x9	\$1.35	\$0.13
On 30 September 20x9	\$1.26	\$0.21
On 31 December 20x9	\$1.20	-

Solution

This is a fair value hedge of the possible decline in fair value of the FVOCI investment in Ababa Ltd's shares below the exercise price of \$1.47 per share (i.e. DEF Ltd does not hedge the risk of fall in price of FVOCI shares from \$1.50 to \$1.47).

Given that the critical terms are the same (and assuming there is no liquidity and other credit risk), the hedge is expected to be 100% effective.

The hedge effectiveness may be calculated as shown below:

	31 July 20x9	31 August 20x9	30 September 20x9
Hedged item			
Price of FVOCI shares	\$1.50	\$1.35	\$1.26
Less amount not hedged	\$0.03	-	-
	\$1.47	\$1.35	\$1.26
Quantity	200,000	200,000	200,000

The company has decided to apply hedge accounting and has complied with all the requirements of IFRS 9 for hedge accounting. Ignore margin deposit for the futures contract.

Solution

Hedge effectiveness test

Qualitative measure of hedge effectiveness is assessed by comparing the change in spot price of SMR with the change in the future price of the RSS futures contract multiplied by the notional amount at the hedge ratio of 2:3. Since the spot prices of SMR and futures prices of RSS are very highly correlated with a correlation coefficient of 2:3, and the critical terms are closely matched (not exactly matched), the hedge is expected to be highly effective prospectively.

For the period 1 June 20x8 to 30 June 20x8, the loss on hedged item is \$40,500 [$(\$2.00 - \$1.55) \times 90,000$] and the gain on hedging instrument is \$36,000 [$(\$2.80 - \$2.20) \times 60,000$].

It is not a perfect hedge because the critical terms are not matched exactly (future price of RSS contracts vs spot price of SMR inventory).

Journal entries (in \$)

30 June 20x8		
Dr Futures contract	36,000	
Cr Gain on hedging instrument (P/L) (Change in fair value of hedging instrument)		36,000
Dr Loss on hedged item (P/L)	40,500	
Cr SMR inventory (Change in fair value of hedged item)		40,500
Dr Cash	36,000	
Cr Futures contracts (Settlement of the hedging instrument)		36,000
1 July 20x8		
Dr Cash	139,500	
Cr Sales (Sale of the SMR inventory)		139,500
Dr Cost of sales	94,500	
Cr SMR inventory (Cost of sales)		94,500

Notes to the journal entries

- (1) With hedging, the net cash inflow is \$175,500 (sale proceeds of \$139,500 and net settlement of hedging instrument of \$36,000). Without hedging, the net cash inflow is \$139,500 (i.e. sale proceeds of \$139,500). The difference is due to a gain of \$36,000 on the hedging instrument. However, the difference in profit between hedging (sales of \$139,500 – cost of sales of \$94,500 = profit of \$45,000), and no hedging (sales of \$139,500 – cost of sales of \$135,000 = profit of \$4,500) is \$40,500 and not \$36,000, because this is not a perfect hedge.
- (2) Applying fair value hedge, the fair value gain on the hedging instrument of \$36,000 and the fair value loss of \$40,500 of the hedged item are recognised in profit or loss in June 20x8 Statement of Profit or Loss and Other Comprehensive Income, thus reducing accounting mismatch.

In all the illustrations so far, the hedged items are recognised assets and liabilities. IFRS 9 provides that the hedged item for fair value hedge may also be an unrecognised firm commitment.

Under generally accepted accounting practices, firm commitments (being executory contracts) are not recognised. However, where a firm commitment is designated as a hedged item under fair value hedge, it has to be accounted for at FVPL (like any hedged item under fair value hedge). Specifically, IFRS 9 requires the cumulative change in fair value of firm commitment attributable to the hedged risk to be recognised either as an asset or a liability, and the changes in the fair value attributable to the hedged risk recognised in profit or loss (para 6.5.8(a)).

IFRS 9 further provides that cumulative change in fair value of the firm commitment should subsequently be adjusted against the initial carrying amount of the asset or liability that is the subject of the firm commitment (para 6.5.9). This is often referred to as “basis adjustment”.

Illustration 3.15

On 30 September 20x1, SP Ltd (an equipment-manufacturing company incorporated in Singapore with S\$ as its functional and presentation currency) entered into an agreement with MA Bhd (a company incorporated in Malaysia with RM as its functional and presentation currency) to sell a piece of manufactured equipment for RM1,000,000, on cash terms, to MA Bhd on 30 June 20x2.

In order to hedge the foreign currency risk in the sales commitment, SP Ltd entered into a FFEC on 30 September 20x1 to sell RM1,000,000 at the forward exchange rate of RM1.00 = S\$0.50, to the foreign exchange dealer on 30 June 20x2.

SP Ltd's accounting year-end is 31 December. Exchange rates between RM and S\$ at relevant dates were as follows:

- At 30 September 20x1: 9-month future rate: RM1.00 = S\$0.50
- At 31 December 20x1: 6-month future rate: RM1.00 = S\$0.45
- At 30 June 20x2: Spot rate: RM1.00 = S\$0.44

Ignore time value of money as it was not expected to be significant, and ignore tax effects, if any, arising from the above transactions and events.

Solution

The journal entries (in S\$) to record the above transactions and events are as follows:

1 April 20x1			
Dr Call option	100,000		
Cr Cash/Payable		100,000	
(Purchase of call option)			
31 December 20x1			
Dr Call option	230,000		
Dr Time value loss (OCI)	100,000		
Cr Intrinsic value gain (OCI)		330,000	
(Change in fair value of call option)			
[Time value: $\$100,000 - 0 = \$100,000$]			
[Intrinsic value: $((RM11 - RM10) \times 1,000,000 \times 0.33 = \$330,000)$]			
Dr Exchange loss: Interest (P/L)	200,000		
Dr Exchange loss: Spot (OCI)	700,000		
Cr FFEC		900,000	
(Change in fair value of FFEC)			
[Interest: $RM10,000,000 \times (0.40 - 0.42) = \$200,000$]			
[Spot: $RM10,000,000 \times (0.33 - 0.40) = \$700,000$]			
Dr Cash	330,000		
Cr Call option		330,000	
(Settlement of call option)			
[($RM11,000,000 - RM10,000,000$) $\times 0.33$]			
Dr FFEC	900,000		
Cr Cash		900,000	
(Settlement of FFEC)			
[$RM10,000,000 \times (0.42 - 0.33)$]			
Dr Investment in shares	3,630,000		
Cr Cash		3,630,000	
(Purchase of shares)			
[($RM11 \times 1,000,000$) $\times 0.33$]			

Notes to the solution

- (1) In this case, AAA Ltd chooses the "split" exception under para 6.2.4 and use only the intrinsic value of option and the spot element of forward for hedge accounting purposes. However, the fair values of the option and forward in their entirety would still have to be accounted for. (The time value of option and the interest element of forward which are not used for hedging accounting purposes will be excluded from the effectiveness tests and accounted for accordingly. In the case of the time value of option, there is no choice and AAA Ltd has to account for it in accordance with para 6.5.15 depending on whether the option is hedging a transaction-related or time period-related hedged item. In this case, the underlying hedged item is transaction-related, where the time value accumulated in OCI is reclassified to profit or loss in the same period/(s) during which the hedged cash flows affect profit or loss. Refer to Section 3.10 where we discuss the accounting for the time value of an option or interest element of a forward contract which have not been designated as hedging instruments. With regard to the interest element of forward, as mentioned, AAA Ltd did not opt for the alternative accounting treatment under the IFRS 9 model and has accounted for it in the profit or loss.)

Note also that the highly probable forecast transaction is not accounted for in cash flow hedge, in accordance with the rule for hedged item in cash flow hedge accounting. Even though the highly probable forecast transaction is not accounted for, its related changes in cash flows are computed to assess hedge effectiveness. In this case, since the change in the fair value of the option and FFEC based on intrinsic value and spot rate respectively are designated to hedge the change in expected cash flows of the highly probable forecast transaction based on spot rate, it is a perfect hedge and hence there is no ineffective portion of hedge.

- (2) The journal entry for the subsequent reversal of the "Cash flow hedge reserve" (accumulated through gains/losses recognised in OCI) will be discussed later in this Section.
- (3) If AAA Ltd does not wish to apply hedge accounting, the gain or loss on the 2 derivatives as at 31 December 20x1 will be recognised in profit or loss, as shown below:

Dr Call option	230,000		
Cr Gain on derivative (P/L)		230,000	
(Change in fair value of call option)			
[($RM1,000,000 \times 0.33 - \$100,000$)]			
Dr Loss on derivative (P/L)	900,000		
Cr FFEC		900,000	
(Change in fair value of FFEC)			
[$RM10,000,000 \times (0.33 - 0.42)$]			

- (4) Applying hedge accounting helps to reduce accounting mismatch and thereby, reducing income volatility by deferring the gain/loss on hedging instruments to the same accounting period/(s) when the hedged item affects profit or loss.