Wolters Kluwer

Derivatives and Hedge Accounting

2nd Edition

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ABBREVIATIONS

A$	Australian dollar
OCI	Other comprehensive income
FFEC	Forward foreign exchange contract
FVOCI	Fair value through other comprehensive income
FVPL	Fair value through profit or loss
IBOR	Inter-bank offered rate
IAS	International Accounting Standard
IASB	International Accounting Standards Board
IFRIC	International Financial Reporting Interpretation Committee
IFRS	International Financial Reporting Standard
IRS	Interest rate swap
P/L	Profit or loss
RM	Ringgit Malaysia (Malaysian currency)
RSS	Ribbed Smoked Sheet (rubber)
SMR	Standard Malaysian Rubber
S$	Singapore dollar
US$	United States dollar

Chapter 1

ACCOUNTING FOR DERIVATIVES

Learning Objectives

After reading this chapter, you should be able to:

1. understand the nature of derivatives
2. understand the various uses of derivatives, and
3. understand the requirements of IFRS 9 *Financial Instruments* with respect to accounting for derivatives.

¶1.1 Introduction

Business entities enter into derivative contracts for a variety of reasons. These reasons range from risk management to pure speculative purposes. As we will learn throughout this book, derivatives play an important role in risk management.

Derivatives are financial instruments whose values are derived from the changes (differential) in the value of some underlying variables. For example, a stock option is a derivative whose value is derived based on the changes in the price of a stock. Other examples of underlying variables include:

- a security price or security or market index
- a commodity price or commodity price index
- an interest rate or interest rate index
- a credit rating or credit index
- a foreign exchange rate or foreign exchange index
- an insurance index or catastrophe loss index, or
- a climatic or geographical condition (e.g. rainfall).

Some examples of why business entities enter into derivative contracts are listed below:

Scenario 1

ABC Ltd ("ABC") shares are trading at $3.00 per share and a 3-month call option for 1,000 ABC shares is priced at $1,000. Investor H has $30,000 in his trading account and speculates that ABC share price will increase. He can either (i) purchase 10,000 ABC shares or (ii) purchase 30 units of at-the-money call option for 1,000 ABC shares. Assuming the share price increases to $3.30 at the end of a 3-month holding period, purchase strategy (i) yields Investor H ($3.30 – $3.00) x 10,000 = $3,000 profit, while purchase strategy (ii) yields Investor H ($3.30 – $3.00) x 1,000 x 30 =

$9,000 profit. Purchase strategy (ii) allows Investor H to leverage upon his $30,000 investment and earn more than had he adopted strategy (i). It should be noted that if the price of ABC shares decrease to $2.50 at the end of the 3-month holding period, Investor H will end up with ABC shares worth 2.50 x 10,000 = $25,000 under strategy (i) while the call options under strategy (ii) are worthless.

Scenario 2

Farmer John sells his newly harvested soybean crops every 6 months. Soybean prices are subject to demand and supply forces, which are in turn impacted by other factors such as sea-port, weather conditions, and substitute food products. Farmer John enters into futures contracts to lock in soybean prices to hedge against volatility in soybean prices.

Scenario 3

XYZ Ltd ("XYZ") purchases corporate bonds which yield interest income based on a 3-month floating interest rate benchmark coupons that are payable on a quarterly basis. In light of falling interest rates, XYZ decides to hedge its interest cash flow volatility by entering into an interest rate swap ("IRS") where XYZ will pay interest based on the 3-month floating interest rate benchmark and receive 6% per annum (p.a.), payable on a quarterly basis. This effectively converts the flexible-rate corporate bond into one that is paying fixed rate coupons.

Conversely, if the corporate bonds yield 6% p.a., payable on a quarterly basis, XYZ, whilst having no exposure to interest cash flow volatility, is exposed to another form of interest rate risk – fair value exposure on the bonds. If interest rates were to increase to 8% p.a., the fair value of the corporate bonds will decline, and vice versa. In this case, XYZ may enter into an IRS where it pays 6% p.a., and receives interest coupon based on a 3-month floating interest rate benchmark payable on a quarterly basis. This effectively converts the fixed-rate corporate bond into one that is paying flexible rate coupons.

For annual reporting periods beginning on or after 1 January 2018, the accounting standard that governs accounting of derivatives is IFRS 9.

IFRS 9 provides that a financial instrument must have the following 3 characteristics to qualify as a derivative:

(i) its value changes in response to an underlying variable
(ii) 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, and
(iii) it is settled at a future date.

Derivatives may come in the most exotic forms, and may be highly complex. Nonetheless, we can regard the following types as the basic building blocks for constituting more complex derivatives through a process commonly known as financial engineering:

- options
- forwards

- futures, and
- swaps.

The accounting treatment for derivatives depends on the use of the derivatives. If derivatives are used for speculative purposes, they are classified as "fair value through profit or loss" ("FVPL") securities and have to be measured at fair value, and changes in fair value recorded through profit or loss. If the derivatives are used for hedging purposes, hedge accounting rules (see Chapters 2 and 3) may be applied. If derivatives are used to meet normal operation needs (taking physical delivery of the underlying), they are deemed to be "executory contracts" and generally not accounted for.

In this chapter, we will discuss the nature, valuation and accounting for each of the above 4 common types of derivatives. Section 1.2 discusses options. Sections 1.3, 1.4 and 1.5 discuss forwards, futures and swaps respectively. Section 1.6 discusses some of the conceptual and practical issues in accounting for derivatives. The chapter concludes with a summary in Section 1.7 and an appendix on problems for self-study in Section 1.8.

¶1.2 Options

An option contract is one that gives one party the right, but not the obligation, to buy or sell a specific amount of an item ("notional quantity") from or to another party at a specific price ("strike price" or "exercise price") in the future ("exercise date").

1.2.1 Key Features

The party who purchases the option contract and hence has the right to exercise the option contract is known as the holder or buyer of the option. The party who writes and sells the option contract and hence has the obligation is known as the writer of the option. The "price" at which the holder purchases the option contract from the writer is known as the option premium (see also Section 1.2.2).

A call option is one which gives the holder the right to buy the underlying asset at the strike price. A put option, on the converse, gives the holder the right to sell the underlying asset at the strike price.

An European option allows the holder to exercise his right only on maturity, while an American option allows the holder to exercise his right at any time during the life of the option contract.

Illustration 1.1 Features of an Option

On 1 January 20x1, Investor X purchased from Y Ltd an option to buy 1,000 shares of ABC Ltd at $10 per share. The option expires in 3 months' time, on 31 March 20x1. Investor X pays Y Ltd $2,000, representing the option premium on 1 January 20x1. Assume that the share of ABC Ltd is trading at $10 on 1 January 20x1.

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	European 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).	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	Key features
Asian option	Payoff depends on average pricing over a certain time interval
Lookback option	Payoff depends on the maximum or minimum price over the life of the option
Barrier option	Existence of the option depends on whether the price of the underlying asset has reached a certain price level
Binary option or "digital option"	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:

• 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.
• Time till expiry	Time value diminishes over time. On the expiry date, keeping all other variables constant, time value should approach zero.
• Volatility of underlying	Higher volatility provides a higher probability of the option value increasing and/or becoming "in-the-money".
• 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,

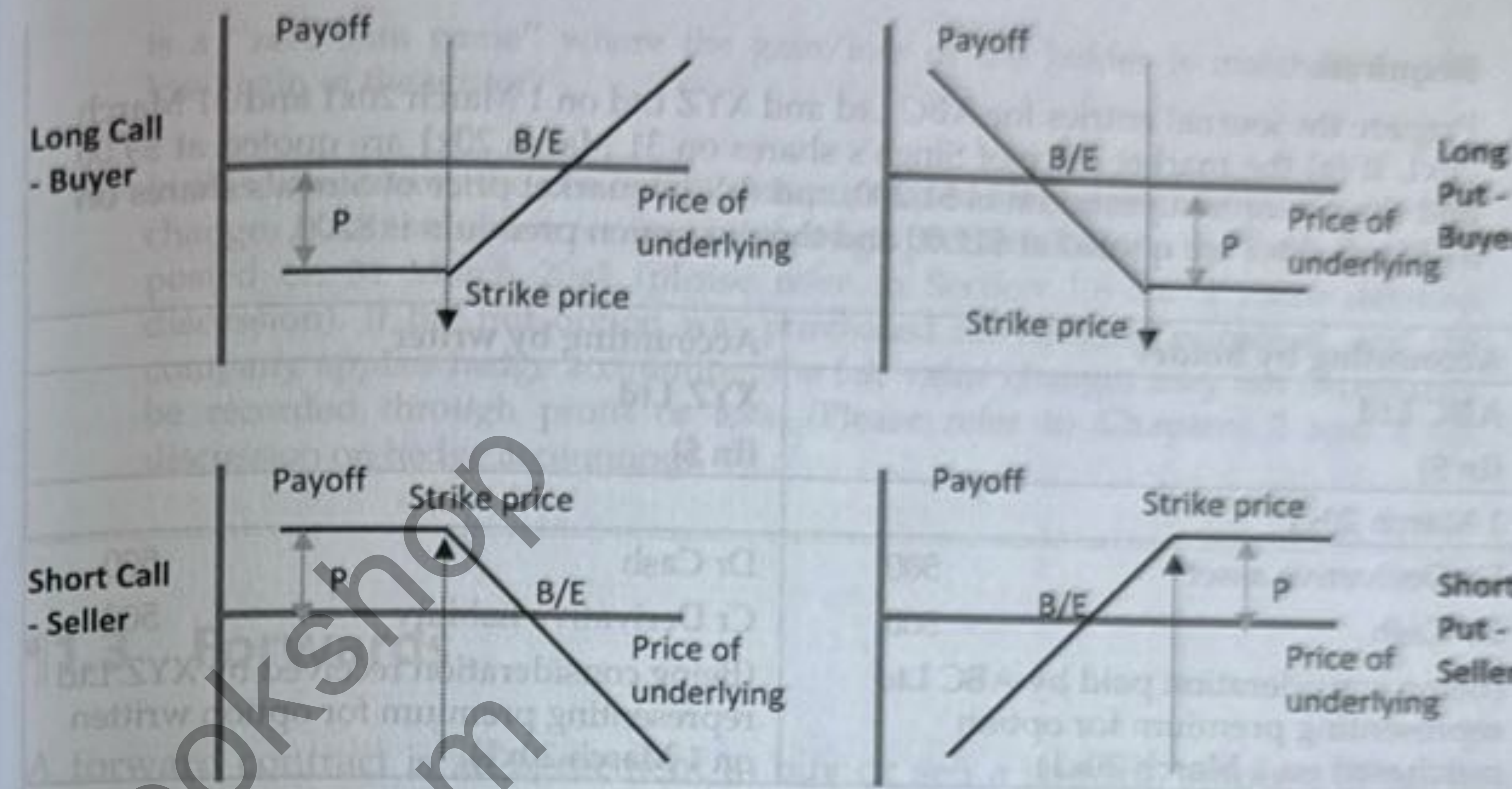
Time value of option = Fair value of option – Intrinsic value of option

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:



Legend
P: Option premium on contract inception
B/E: Breakeven price

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.

Required:
Prepare the journal entries for ABC Ltd and XYZ Ltd on 1 March 20x1 and 31 March 20x1, if (a) the market price of Singa's shares on 31 March 20x1 are quoted at $9.00 and the put option premium is $1,200, and (b) the market price of Singa's shares on 31 March 20x1 are quoted at $11.00 and the put option premium is $200.

Accounting by holder		Accounting by writer	
ABC Ltd (in $)		**XYZ Ltd (in $)**	
1 March 20x1			
Dr Derivative asset	500	Dr Cash	500
Cr Cash	500	Cr Derivative liability	500
(Being consideration paid by ABC Ltd representing premium for option purchased on 1 March 20x1)		(Being consideration received by XYZ Ltd representing premium for option written on 1 March 20x1)	
31 March 20x1			
(a) Singa's market price is $9.00 and put option fair value is $1,200.			
Dr Derivative asset	700	Dr Loss on derivative trading	700
Cr Gain on derivative trading	700	Cr Derivative liability	700
(Unrealised gain on re-measurement of fair value of option asset)		(Unrealised loss on re-measurement of fair value of option liability)	
(b) Singa's market price is $11.00 and put option fair value is $200.			
Dr Loss on derivative trading	300	Dr Derivative liability	300
Cr Derivative asset	300	Cr Gain on derivative trading	300
(Unrealised loss on re-measurement of fair value of option asset)		(Unrealised gain on re-measurement of fair value of option liability)	

Notes to the journal entries

(1) On 1 March 20x1 where the strike price equals the quoted price of $10, the option is "at-the-money". In line with Section 1.2.2.3, the fair value of the option of $500 will only comprise time value (because intrinsic value = $nil).

(2) On 31 March 20x1,

a) when Singa's market price is $9.00, the option fair value of $1,200 will comprise intrinsic value ($10 - $9) x 1,000 shares = $1,000 and time value, in this case $200 ($1,200 - $1,000), and

b) when Singa's market price is $11.00, the option fair value of $200 represents the time value. The intrinsic value is $nil as the exercise price is lesser than the market price.

(3) The journal entries posted on 31 March 20x1 ensure that the option is carried at fair value ($1,200 and $200 respectively in Scenario (a) and (b)). The journal entries posted by the holder and the writer respectively imply that the derivative gain amount earned by one party corresponds to the derivative loss amount incurred by the other. It is commonly perceived that derivatives trading is a "zero-sum game" where the gain/loss of the holder is matched by the loss/gain of the writer.

(4) In this illustration, the put option was purchased for speculative purposes - the changes in fair value are recognised through profit or loss via the journal entries posted on 31 March 20x1 (please refer to Section 1.6 for a more detailed discussion). If the put option was purchased for hedging purposes, and the company applies hedge accounting, the fair value changes may not necessarily be recorded through profit or loss. (Please refer to Chapters 2 and 3 for discussion on hedge accounting).

¶1.3 Forwards

A forward contract is an agreement to buy or sell a specific amount of an item ("notional amount") at a specific price ("forward price" or "contracted price") on a specific time in the future ("maturity date").

1.3.1 Key Features

In contrast with the option contract where the holder possesses the right, but not the obligation to exercise that right, in the case of a forward contract, both buyer and seller have the equal right and obligation to perform their respective responsibilities to take delivery or deliver the item, regardless of whether the underlying price becomes favourable.

In a forward contract arrangement, the buyer is commonly known as the party that takes a long position. The seller is commonly known as the party that takes a short position.

Another difference between a forward contract and an option contract is that the latter typically involves a premium consideration exchanged on contract inception, generally constituting the time value of the option (see Section 1.2.2.3). On the contrary, a forward contract generally involves no initial payment, and henceforth is of zero value to both parties in the long and short position on contract inception.

On contract inception, the forward contract would be entered into at the forward rate prevailing on that date for delivery on maturity date. The forward rate is the price to deliver the item at a future point in time, rather than immediate, commonly understood as on a spot basis. Illustration 1.6 demonstrates why a forward contract should generally be of zero value to both parties on inception.

Illustration 1.6 Zero Value of Forward Contract on Inception

On 30 September 20x5, Party A enters into a contract with Party B to purchase units of item X in 6 months' time at $40 per unit.

Assuming the transaction takes place at commercial terms, $40 must represent the prevailing market forward price as at 30 September 20x5 to take delivery of item X in 6 months' time, otherwise there would be arbitrage opportunities. For example, if the forward price is instead $42, Party A would reap immediate profits on 30 September 20x5 by entering a sale contract with another Party C at $42 and derive $2 profits ($42 - $40). Party B would similarly not enter into the arrangement to sell at $40 per unit if it is of the knowledge that it could sell in the market at $42 per unit.

Subsequent to contract inception, both buyer and seller will be subject to symmetrical payoffs. Section 1.3.2 discusses this in further detail.

Common examples of forward contracts are forward foreign exchange contracts ("FFEC") and forward rate agreements. In a scenario where item X in Illustration 1.6 is foreign currency, for example, Party A buys US dollars (US$) and sells Singapore dollars (S$), it will meet the definition of a derivative under IFRS 9 based on the 3 characteristics as discussed above:

No	Characteristic	Forward foreign exchange contract
1	Its value changes in response to changes in an underlying variable.	The underlying is represented by the forward foreign exchange rates.
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 foreign exchange will take place in the future on maturity date.

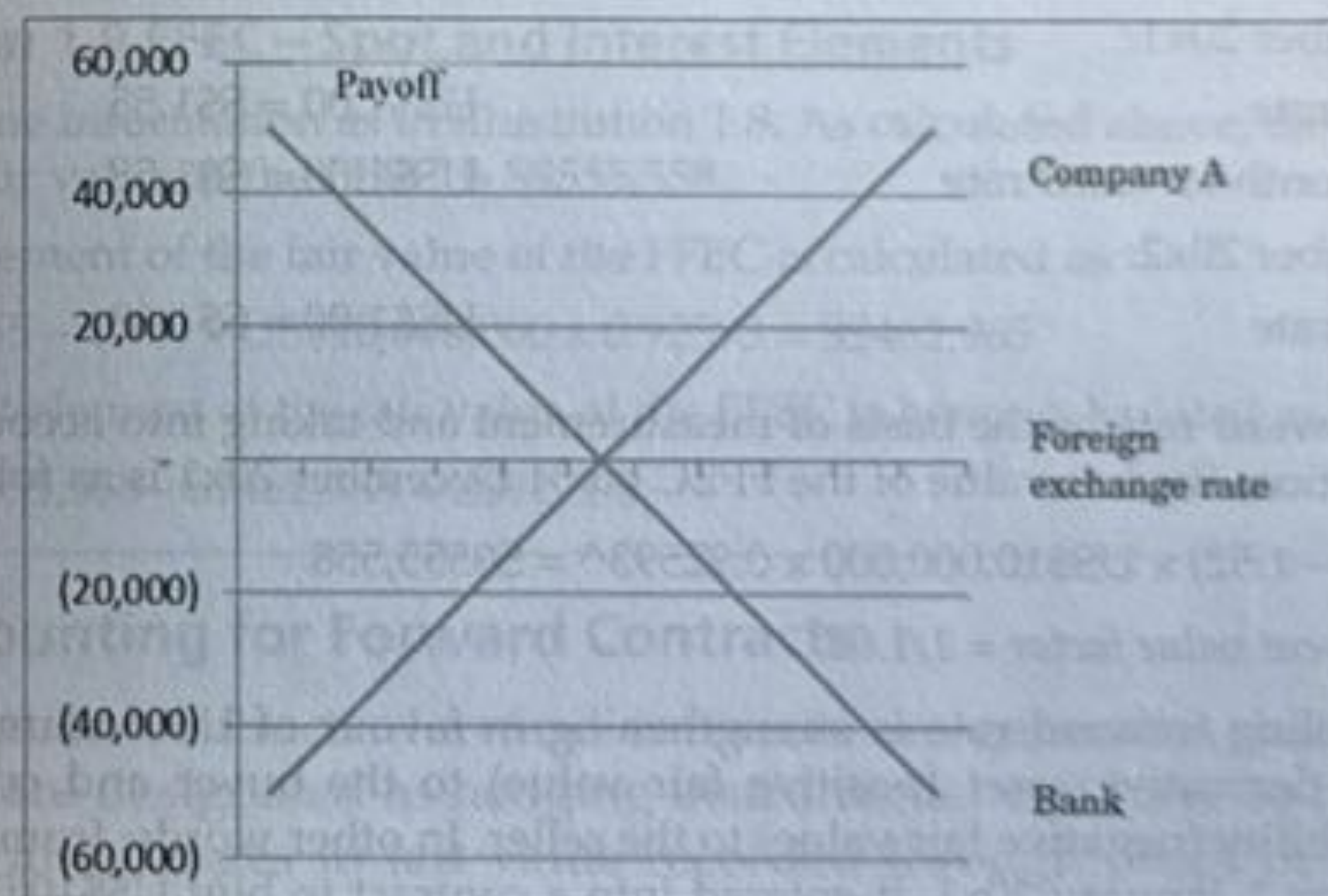
1.3.2 Forward Contract Payoffs

As discussed under Section 1.3.1, a forward contract differs from an option contract in that both parties have to abide by the obligation to take delivery or deliver the item. The asymmetric payoffs described, in the case of an option contract does not exist for forward contracts. Instead, parties to a forward contract will experience symmetric payoffs.

Illustration 1.7 Example of Forward Contracts – FFEC

On 1 January 20x5, Company A contracts with a bank to buy US$1,000,000 and sell S$1,300,000 in a year's time at a contracted rate of US$1: S$1.30. On 31 March 20x5, assuming the following forward exchange rates to exchange US$ for S$ change, the payoff diagram will appear as follows:

Contracted Forward Rate	Prevailing Forward Rate as at 31 Mar 2015	Company A S$	Bank S$
1.3	1.25	(50,000)	50,000
1.3	1.26	(40,000)	40,000
1.3	1.27	(30,000)	30,000
1.3	1.28	(20,000)	20,000
1.3	1.29	(10,000)	10,000
1.3	1.3	–	–
1.3	1.31	10,000	(10,000)
1.3	1.32	20,000	(20,000)
1.3	1.33	30,000	(30,000)
1.3	1.34	40,000	(40,000)
1.3	1.35	50,000	(50,000)



Compared with the option payoffs in Section 1.2.2.4, the payoffs of a forward contract are symmetrical.

1.3.3 Valuation of Forward Contracts

Forward contracts are commonly valued using the discounted cash flows model. This technique considers the present value of the differential between the contracted forward price and prevailing forward price. Specifically,

Fair value of forward contract = Present value (Difference between contracted and prevailing forward price) x notional quantity

The fair value of the forward contract may be positive or negative, depending on whether it is calculated from the buyer's or seller's perspective. It is generally market practice to ignore the effects of discounting when the delivery date is within a year from the reporting date.

Illustration 1.8 Fair Valuation of Forward Contracts – FFEC

ABC Ltd (with S$ functional currency, 31 December accounting year-ends and prepares yearly financial statements) enters into a FFEC on 1 January 20x1 to buy US$10,000,000 from the exchange dealer on 1 January 20x3. Assume a market interest rate of 8% p.a.

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

On 1 January 20x1:	
Spot rate	US$1.00 = S$1.50
24-month forward rate	US$1.00 = S$1.52
On 31 December 20x1:	
Spot rate	US$1.00 = S$1.55
12-month forward rate	US$1.00 = S$1.58
On 31 December 20x2:	
Spot rate	US$1.00 = S$1.68

Using the forward rate as the basis of measurement and taking into account present value calculation, the fair value of the FFEC on 31 December 20x1 is as follows:

(1.58 – 1.52) x US$10,000,000 x 0.92593^ = S$555,558

^ present value factor = $1/1.08^1$

As the prevailing forward rate is strengthening in favour of US dollars, S$555,558 represents a derivative asset (positive fair value) to the buyer and conversely a derivative liability (negative fair value) to the seller. In other words, from ABC Ltd's perspective, on 1 January 20x1, it entered into a contract to buy US$10,000,000 at a rate of US$1.00 = S$1.52. On 31 December, 20x1, another party entering into a similar contract to buy US$10,000,000 on 1 January 20x3 will have to now do so at US$1.00 = S$1.58, at a more expensive rate. This represents a benefit to ABC Ltd.

Conversely, the exchange dealer who contracted to sell US$10,000,000 at US$1.00 = S$1.52 is worse off on 31 December 20x1 where the exchange rate is at US$1.00 = S$1.58. Consequently, the exchange dealer would recognise a derivative liability.

Please refer to Section 1.3.4 below for details on accounting for a forward contract.

The fair value of the FFEC on 31 December 20x2 is as follows:

(1.68 – 1.52) x US$10,000,000 = S$1,600,000

No discounting is necessary on 31 December 20x2 since the delivery takes place on the following day on 1 January 20x3.

1.3.3.1 Spot and Interest Elements of Forward Contracts

Similar to option contracts, the fair value of forward contracts may also be segregated into 2 components:

- Spot element, and
- Interest element.

The spot element is commonly derived using the following formula:

Spot element of forward contract = Present value (difference between spot rate on contract date and prevailing spot rate) x notional quantity

The spot element may be positive or negative, depending whether it is calculated from the buyer's or seller's perspective.

The interest element is simply the residual after deducting the spot element from the fair value of a forward contract, or:

Interest element of forward contract = Fair value of forward – Spot element of forward

Illustration 1.9 FFEC – Spot and Interest Elements

Use the same information as in Illustration 1.8. As calculated above, on 31 December 20x1, the fair value of the FFEC is S$555,558.

The spot element of the fair value of the FFEC is calculated as:

(1.55 – 1.50) x US$10,000,000 x 0.92593 = S$462,965

The interest element of the fair value of the FFEC is hence calculated as:

S$555,558 - S$462,965 = S$92,593

1.3.4 Accounting for Forward Contracts

Similar to option contracts, forward contracts are generally classified as FVPL (unless they are designated as hedging instruments) and have to be measured at fair value, with changes in fair value recorded through profit or loss and to be carried at fair value on the entity's statement of financial position. The following examples illustrate accounting for FFEC in various scenarios:

Illustration 1.10 Short-dated FFEC to buy US$

Illustration 1.11 Short-dated FFEC to sell US$

Illustration 1.12 Long-dated FFEC

Illustration 1.13 Long-dated FFEC accounted on a quarterly basis