

Share-based Payment.

A guide to IFRS 2

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Foreword

The issuance of IFRS 2 **Share-based Payment** in February 2004 completes one of the first major objectives of the International Accounting Standards Board (IASB) and fills a gap that has existed in International Financial Reporting Standards (IFRS). This gap was noted by the International Organization of Securities Commissions (IOSCO) in its 2000 report to the IASC – giving the IASB extra motivation for solving the difficulties in this area.

IFRS 2 has been developed and designed to take a leadership position in what has historically been a difficult area for standard setters. Several standard-setting bodies around the world are expected to follow the IASB's lead.

The IASB has published 13 examples in the Implementation Guidance of IFRS 2. The matters addressed in this book are intended to supplement the IASB's own guidance.

Large as this book may seem, it does not address all fact patterns. Moreover, the guidance is subject to change as new IFRS are issued or as the IFRIC issues interpretations of IFRS 2. You are encouraged to consult a Deloitte Touche Tohmatsu professional regarding your specific issues and questions.

It is our intention to use our website, www.iasplus.com, to update the guidance in this book as it evolves. We hope you will find this information useful in implementing IFRS 2.

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Abbreviations

AICPA	American Institute of Certified Public Accountants (U.S.)
APB	Accounting Principles Board (U.S.)
FASB	Financial Accounting Standards Board (U.S.)
GAAP	Generally Accepted Accounting Principles
IASB	International Accounting Standards Board
IFRIC	International Financial Reporting Interpretations Committee
IFRS	International Financial Reporting Standards
IPO	Initial Public Offering
SFAS	Statement of Financial Accounting Standards (U.S.)
SOP	Statement of Position (U.S.)

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I. Executive summary

There has been considerable debate by accounting standard-setters, users, preparers and politicians about whether share options granted to employees should be expensed. While that debate will go on in jurisdictions around the world, the International Accounting Standards Board (IASB) has issued International Financial Reporting Standard (IFRS) 2 **Share-based Payment** (“IFRS 2”) that will require share-based payments to be recognised as an expense under IFRS. This expense will be measured at the fair value of the equity instruments issued, or the goods or services received determined at the date of grant, or receipt of goods or service. Several standard-setting bodies around the world are expected to follow the IASB’s lead.

The concept of share-based payments is broader than just employee share options. IFRS 2 also encompasses the issuance of shares or rights to shares in return for services and goods. IFRS 2 does not address other capital transactions such as share splits, the purchase or sale of treasury shares, and other similar equity transactions. Examples of items included in the scope of IFRS 2 are, share appreciation rights, employee share purchase plans, employee share ownership plans, share option plans, and plans where the issuance of shares (or rights to shares) may depend on a market or non-market related variable.

In order to apply IFRS 2, share-based payments will need to be categorised as either a) equity-settled, b) cash-settled, or c) equity-settled with cash alternatives. The measurement objective – and therefore the amount of the expense recognised – will depend on this categorisation.

Now that the recognition issue has been determined for those entities complying with IFRS, the focus has shifted to the application of IFRS 2 – specifically how the fair value of goods, services, and equity instruments should be determined. The measurement of share-based payments to employees has been the focus of considerable debate. Given the fact that there is currently no generally accepted “correct” measurement model or technique, the IASB has decided not to put forth a model that could be considered a safe harbour measurement of employee share options. The guidance provided by the IASB is focussed on limiting the measurement possibilities and states that the accounting objective is to estimate the fair value of the share-based payment from the perspective of the employer and a willing buyer in the marketplace.

IFRS 2 provides limited guidance and conventions for estimating the fair value of share-based payments to provide a consistent approach for including some of the unique features of share-based payments into the valuation process. Without a single conventional model for estimating the fair value of share-based payments or consensus for quantifying unique features of share-based payments into valuation models, considerable judgement will be an essential ingredient in the valuation process. As a result, some now believe the share-based compensation measurement problem should be afforded the same respect of other complex valuations (e.g., the valuation of pension obligations or complex financial instruments).

The variables used to measure the fair value of an equity instrument issued under IFRS 2 have a significant impact on that valuation and the determination of these variables requires a significant amount of professional judgement. A minor change in a variable, such as volatility or expected life of an instrument could have a quantitatively material impact on the fair value of the instruments granted. In the end, the selection of variables must be based on entity-specific information.

IFRS 2 also expands the disclosure requirements previously included in IAS 19 **Employee Benefits**. Appendix A of this document provides illustrative examples of applying the disclosure requirements of IFRS 2 in an efficient and effective manner.

This document aims to provide further guidance on how to apply IFRS 2 to some of the more common transactions that currently exist. Should you require any assistance in the application of IFRS 2, you are encouraged to consult a Deloitte professional regarding your specific issues and questions.



II. Summary of IFRS 2

A. Scope

IFRS 2 defines a share-based payment as a transaction in which the entity receives or acquires goods or services as consideration for equity instruments of the entity or by incurring liabilities for amounts based on the price of the entity's shares or other equity instruments of the entity. The accounting requirements for the share-based payment depend on how the transaction will be settled; a) through the issuance of equity, b) the payment of cash, or c) through the issuance of equity or payment of cash.

Illustration A – Examples of transactions considered share-based payments

IFRS 2 applies to transactions other than traditional share option plans, including:

- Employee Share Purchase Plans;
- Share Appreciation Rights; and
- Other payments based on the price of the entity's shares.

Illustration B – Transaction within the scope of IFRS 2

Company B has two consultants who were granted share warrants. The warrants have a contingent provision that requires an exit event, defined as an initial public offering (IPO), to trigger exercisability. In addition, the consultants must provide services to Company B up until the date of the IPO. This transaction is a share-based payment for services.

There are two exemptions to the general scope. First, the issuance of shares to acquire the net assets in a business combination should be accounted for under IFRS 3 **Business Combinations**. However, care should be taken to distinguish share-based payments made in exchange for control of the acquiree from share-based payments made to employees of the acquiree in exchange for services. (See Question 1 in Section III for further guidance on this principle.)

Second, IFRS 2 does not address share-based payments within the scope of paragraphs 8-10 of IAS 32 **Financial Instruments: Disclosure and Presentation**, or paragraphs 5-7 of IAS 39 **Financial Instruments: Recognition and Measurement**. Therefore, IAS 32 and 39 should be applied to contracts to buy or sell non-financial items that may be settled net in shares or rights to shares.

Illustration C – Interaction with IAS 32 and IAS 39

Company C enters into a forward contract to buy 1,000 units of a commodity at a strike price equal to 2,000 shares of Company C's ordinary shares. Company C can settle the contract net, but does not intend to do so (nor has a practice of doing so). This transaction would be within the scope of IFRS 2. However, if Company C had a practice of settling these contracts net, or did not intend to take physical delivery, then the forward contract would be within the scope of IAS 32 and IAS 39.

IFRS 2 does not apply to share-based payment transactions other than for the acquisition of goods and services, such as share dividends, the purchase of treasury shares, or the issuance of additional shares. Moreover, IFRS 2 does not apply to transactions with employees in their capacity as holders of equity instruments of the entity. For example, a general share dividend received by employees would be accounted for similar to the dividends received by non-employees.

Illustration D – Transaction outside the scope of IFRS 2

Company D purchases its own shares from employees for an amount that equals the fair value of those shares. This transaction would be considered a purchase of treasury shares and would not be within the scope of IFRS 2. However, if Company D pays an amount only to its employees in excess of fair value, that excess would be considered compensation expense.

B. Recognition

The issuance of shares, or rights to shares, requires an increase in a component of equity. Conversely, a cash payment dependent upon a share price requires the recognition of a liability. IFRS 2 requires that the offsetting debit entry to these transactions be expensed when the payment for goods or services does not qualify for recognition as an asset. For example, the issuance of shares, or rights to shares, to purchase inventory would be presented as an increase in inventory and would only be expensed once the inventory is sold or impaired.

In certain transactions, a major shareholder or a parent entity will issue, on behalf of another entity of the group, share-based payments to the entity's employees or suppliers. These transactions are, in substance, capital contributions to the entity by a principal shareholder for compensation of employees or purchase of goods by the benefiting entity. Therefore, it should be recognised in accordance with IFRS 2.

The expense related to share-based payment transactions should be recognised as the goods or services are consumed. The issuance of fully vested shares, or rights to shares is presumed to relate to past service, requiring the full amount of the grant-date fair value to be expensed immediately. Conversely, the issuance of share options to employees with a three-year vesting period is considered to relate to services to be provided over the vesting period. This section provides further guidance on the application of this principle to various types of share-based payment transactions.

As noted earlier, the accounting results (both recognition and measurement) will depend on whether the share-based payment transaction is a) equity-settled, b) cash-settled, or c) equity-settled with cash alternatives. Furthermore, each share-based payment transaction should be analysed to see whether it includes market and/or non-market-based performance conditions because this will also affect the accounting treatment and measurement of the transaction. The following table summarises where illustrations of these plans can be found either in this document, or in IFRS 2 (IG – Implementation Guidance).

	No performance features	Non-market based	Market based	Both market and non-market
Equity-settled	Illustration E	Illustration G IG12, Ex. 2-4	IG13, Ex. 5 IG14, Ex. 6	Illustration H
Cash-settled	Illustration I IG19, Ex. 12	Illustration J	Similar to Illustration J	Similar to Illustration J
Cash alternatives	Illustration K IG22, Ex. 13	Not Illustrated	Not Illustrated	Not Illustrated

Equity-Settled Share-based Payments

IFRS 2 defines an equity-settled share-based payment as a transaction in which the entity receives goods or services as consideration for equity instruments (or rights to equity instruments) of the entity. Equity-settled share-based payments with either no performance features, or only non-market based performance features, are accounted for under a 'true-up' model. Ultimately, the total amount expensed will equal the multiple of the total number of vested instruments and each instrument's fair value determined at the date of grant. At each reporting date, the amount expensed should be adjusted to reflect the entity's best estimate of the number of shares that will vest.

The following table summarises the effect of non-market and market performance conditions on the measurement approach applied.

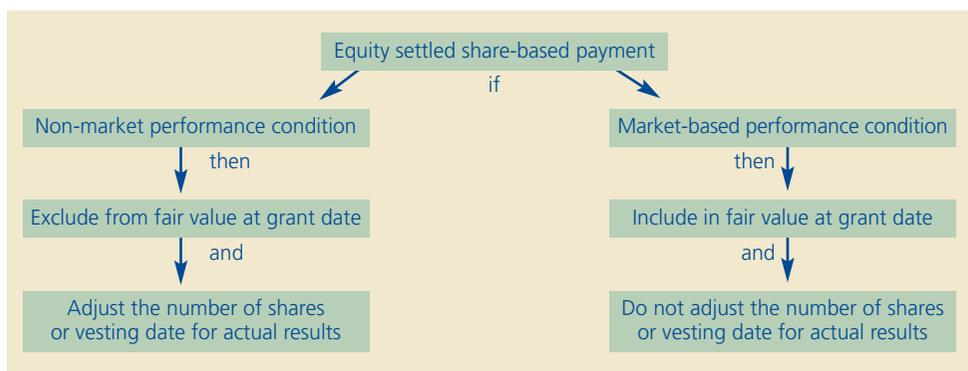


Illustration E – Traditional employee share option grant – No performance features

Company E issues a total of 100 share options to 10 members of its executive management team (10 options each) on 1 January 20X4. The options vest at the end of a three-year period. Company E has determined that each option has a fair value at the date of grant equal to 15. The company expects that all 100 options will vest and therefore records the following entry at 30 June 20X4 – the end of its first six-month interim reporting period:

Dr. Share Option Expense	250	
	[(100 x 15) * 1/6 periods]	
Cr. Equity		250

If all 100 shares vest, the above entry would be made at the end of each 6-month reporting period. However, if one member of the executive management team leaves during the second half of 20X5 – therefore forfeiting their entire amount of 10 options – the following entry at 31 December 20X5 would be made:

Dr. Share Option Expense	150	
	[(90 x 15) * 4/6 periods] - [(250 + 250 + 250)]	
Cr. Equity		150

If the remainder of the 90 options vest on 1 January 20X7, then a total expense of 1,350 [90 options x 15] will have been recorded. This would equate to charges of 225 [90 x 15 x 1/6] in periods 5 and 6. No subsequent adjustment is made to total equity after the share-based payments vest. However, reclassification within equity of any vested awards that expire unexercised is allowable.

Often, share-based payments are conditional upon the achievement of performance conditions – in addition to future service requirements. As a result of the performance conditions, the vesting period and the cumulative expense recognised may vary depending on when (or whether) the conditions are satisfied. The accounting for performance features depends on whether the performance condition is market-based, non-market based, or both. Market conditions are defined in IFRS 2 as conditions upon which the exercise price, vesting, or exercisability of an equity instrument depends on the market price of the entity's equity instruments.

Illustration F – Market based vs. Non-market based performance conditions

The following are examples of market based performance conditions:

- Vesting based on achieving a specific share price of the entity's equity instruments; or
- Vesting based on achieving a specified target share price relative to an index of market prices.

The following are examples of non-market based performance conditions:

- Vesting based on achieving a specific growth in revenue;
- Vesting based on achieving a specific growth in profits;
- Vesting based on achieving a specific increase in earnings per share; or
- Vesting based on achieving non-financial targets (e.g., IPO or number of employees).

Non-market based performance features should not be included in the determination of the fair value of the share-based payment at the grant date. Therefore, options with only non-market conditions will be accounted for similar to equity-settled share-based payments without performance features. That is, only the shares that vest are ultimately expensed. Examples 2, 3, and 4 in the Implementation Guidance of IFRS 2 provide further illustration of how to account for three different types of equity-settled share-based payments with non-market based performance features.

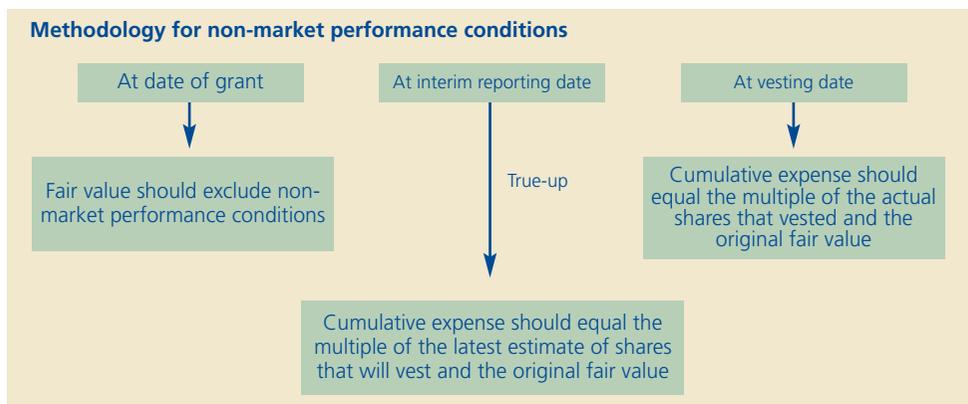
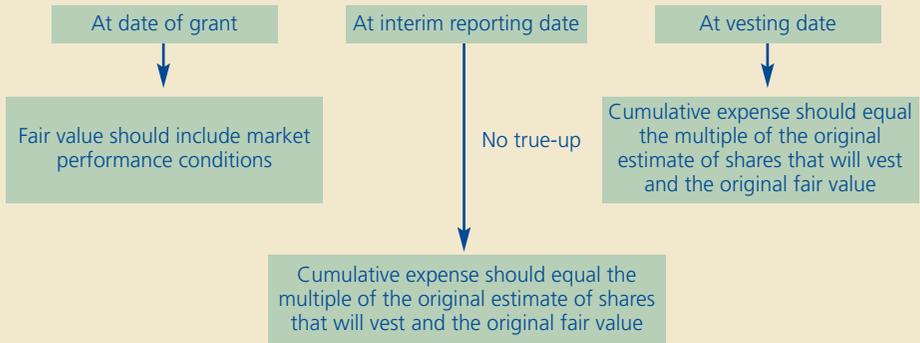


Illustration G – Contingent issuance of shares for goods or services from non-employees

Company G enters into an agreement with its lawyers currently assisting Company G in defending a lawsuit. If Company G is successful in winning the case, it will issue 100 of its own shares to the lawyers. If Company G is not successful in winning the case, it will issue 20 of its own shares to its lawyers. Company G expenses the amount it expects to pay to the lawyers over the service period. At the end of each reporting period, Company G shall make its best estimate of whether the lawyers will win the case as well as the most likely outcome of the period over which the case will be settled. This estimate shall be revised at the end of each reporting period as long as the case is not settled. In the end, the expense should equal the multiple of the shares issued and their fair value at the date of grant (determined by either reference to the value of the services received, or, if not reliable, the fair value of the equity instruments granted, in accordance with the measurement guidance for share-based payment transactions with non-employees).

Market-based performance conditions should be taken into account when estimating the fair value of the equity instrument granted. Because the effect of the market factor has been included in the grant-date fair value, the ‘true-up’ model does not apply. Therefore, if all non-market vesting conditions are met, the total grant date fair value will be expensed regardless of whether the shares or options vest. Share-based payments with market-based performance factors raise certain measurement difficulties that will be discussed in more detail in the measurement sections of this document. Additionally, Example 5 and Example 6 in the Implementation Guidance to IFRS 2 provide further illustration of recognition requirements for share-based payments with market-based performance conditions.

Methodology for market performance condition



Share-based payments may involve both non-market and market based performance conditions. IFRS 2 states that the expense for share-based payments with a market condition should be recognised if “all other” vesting conditions are satisfied. Therefore, irrespective of whether market conditions are satisfied, the expense would be recognised. This approach is illustrated below.

Illustration H – Share option grant with both market and non-market performance conditions

Company H issued 100 share options to certain of its employees that will vest once revenues reach \$1 billion and its share price equals \$50. The employee will have to be employed with Company H at the time the share options vest in order to receive the options. The share options will expire in 10 years.

Paragraph 21 of IFRS 2 states that the grant date fair value of the share-based payment with market-based performance conditions that has met all its other vesting conditions should be recognised, irrespective of whether that market condition is achieved. Company H determines the grant date fair value of the share-based payment excluding the non-market based performance factor, but including the market-based performance factor.

Assuming Company H determines the fair value of the share-based payment at the date of grant is \$20 per option, the expense recorded over the expected vesting period in the following fact patterns would be:

- All options vest – \$2,000 [100 options x \$20];
- All vesting conditions are met, except the market-based performance condition – \$2,000 [100 options x \$20];
- All vesting conditions are met, except the non-market based performance condition – nil expense; or
- All vesting conditions are met, except half of the employees who received options left the company prior to the vesting date – \$1,000 [50 options x \$20].

Cash-settled share-based payments

Share-based payment transactions that will be settled in cash or other assets (rather than with an entity's own equity instruments) shall be measured at the fair value of the liability at each reporting date. Similar to equity-settled share-based payments, the payments should only be recognised to the extent the related goods or services have been acquired or received. However, unlike equity-settled share-based payments the liability will continue to be remeasured until the liability is settled. IFRS 2 requires that changes in the liability be recognised in profit or loss, unless the goods or services acquired are recognised as assets.

In estimating the fair value of cash-settled share-based payments, the entity should take into consideration expected forfeitures, including those as a result of non-market based performance factors. Changes in the expected rate of forfeiture should be taken into account in the measurement of the liability in future periods.

Illustration I – Share appreciation rights

Company I issued share appreciation rights (SARs) to certain of its employees that vest after 3 years, if the employees remain employed by Company I. Each SAR provides for a cash payment equal to the amount the share price of Company I's common shares exceed €10 per share. No payment will be made if Company I's share price is at, or below, €10. If the fair value of the SARs expected to vest over a three-year vesting period were; 120 at the end of year 1, 210 at the end of year 2, and 300 at the end of year 3, the following entries would be made:

Year 1

Dr. Expense	40	
Cr. Liability		40
	[120 x (1 year/3 years)]	

Year 2

Dr. Expense	100	
Cr. Liability		100
	[210 x (2 years/3 years) – 40]	

Year 3

Dr. Expense	160	
Cr. Liability		160
	[300 – 140]	

If the SARs are not exercised at the vesting date, the liability of 300 should continue to be remeasured at its fair value, with changes recognised in profit or loss.

Illustration J – SARs with non-market-based performance factor

Company J grants SARs with a contractual period of 10 years to 10 of its employees. The SARs will vest at the end of 3 years, provided the employees remain with Company J and provided the average revenue growth over the period exceed 5 percent. If the average growth in revenue is between 5 and 10 percent, the employees will each receive 100 SARs. If the average growth in revenue is between 10 and 15 percent, the employees will each receive 200 SARs. If the average growth in revenue is more than 15 percent, the employees will each receive 300 SARs.

On the grant date, Company J determines the fair value of each SAR to be €30. Company J expects average revenue growth of 8 percent during the 3-year vesting period, and that 4 of its employees will leave before the end of the vesting period. Assuming the estimates do not change during year 1, the following entry would be made:

Year 1

Dr. Expense	6,000
Cr. Liability	6,000
	[€30 x (100 x (10-4)) x (1 year/3 years)]

At the end of year 2, revenue growth projections are now 11 percent and 8 people are expected to remain in the entity's employ. Further, the fair value of each SAR is €35. Therefore, the following entry would be made:

Year 2

Dr. Expense	31,333
Cr. Liability	31,333
	[€35 x (200 x (10-2)) x (2 year/3 years)] – 6,000

At the end of year 3, revenue growth was 13 percent and 9 people remained in the entity's employ. Further, the fair value of each SAR is €40. On the vesting date, 2 individuals exercised their SARs with an intrinsic value of €38 per SAR. Therefore, the following entries would be made:

Year 3

Dr. Expense	33,867
Cr. Liability	18,667
Cr. Cash	15,200
	Expense: [€40 x (200 x (10-1))] – [37,333] – [200 x 2 x (€40-€38)]
	Liability: [(€40 x 200 x 7) – 37,333]
	Cash: [€38 x 200 x 2]

The liability relating to the above SARs will continue to be measured at fair value until the SARs are exercised. As noted from this illustration, the fair value of the share-based payments will not equal the intrinsic value.

IFRS 2 clarifies that the effects of remeasurement should be recognised in profit or loss, and therefore, if the goods or services received were recognised as an asset in the entity's balance sheet, the carrying amount of the asset is not adjusted for the effects of changes in the fair value of the liability.

Cash-settled share-based payments may be issued with market-based performance features, or a combination of market and non-market-based performance features. For cash-settled share-based payments, both market and non-market based performance features are accounted for similarly. Therefore, if the market-based performance features are not met, then no liability should be recorded (and therefore, no cumulative expense recorded).

Share-based Payments with Cash Alternatives

Certain contracts provide either the issuer or the holder with the choice of settling the transaction with either cash or equity instruments. As a matter of principle under IFRS 2, both the liability (right to demand cash or other assets) and equity (obligation to transfer equity instruments rather than cash) components should individually be measured and recognised. For the liability component, the entity recognises the goods or services acquired, and a liability to pay for those services, as the counterparty provides the goods or services. This requirement is similar for cash-settled share-based payment transactions.

For the equity component (if any), the entity recognises the goods and services received, and an increase in equity, as the counterparty provides the goods or services in the same manner as other equity-settled share-based payment transactions. At the settlement date, the liability is remeasured to fair value and either reduced to zero if cash is paid, or reclassified to equity if equity instruments are issued. Any amount already recognised in equity remains within equity (reclassifications within equity are allowed).

The recognition and measurement of each component will depend on which party has the choice of settlement and whether the transaction is with employees or non-employees. If the counterparty has the choice of settlement, the entity has issued a compound financial instrument, which comprises a debt component and an equity component. Similar to the accounting requirements for compound instruments in IAS 32 **Financial Instruments: Disclosure and Presentation**, once the split between the liability component and equity component is performed at issuance, that split should not be subsequently revised.

Illustration K – Cash alternatives, fair value of equity instruments

Company K issues 100 share options to each of its 10 directors with a 3-year vesting period. Company K is a private company whose shares cannot be acquired outside of holding these instruments. Company K has a practice of paying dividends on its shares. The strike price of the options and the fair value of Company K's ordinary shares was \$15 at the date of issuance. Once the options become exercisable, the directors may elect to receive either 100 shares for \$15 each (strike price), or receive cash payment equal to the fair value of the shares at the date of exercise, less \$10 per share. (If the strike price of the cash alternative is equal to or greater than the current fair value of the ordinary shares, the equity alternative will equal nil. In those cases, the entire share-based payment will be accounted for as a cash-settled share-based payment.)

At the end of years 1, 2, and 3, Company K's share price was \$19, \$22, and \$25, respectively. Company K estimates the grant date fair value of the options (ignoring the cash alternative) to be \$12 per option. As a result, the fair value of the instrument is \$12,000 (1,000 x \$12) at grant date. The fair value of the cash alternative is \$5,000 [1,000 x (\$15-\$10)] at the grant date. Therefore, the fair value of the equity component of the compound instrument is \$7,000 (12,000 – 5,000). The following entries would be made:

Year 1

Dr. Expense	5,333	
Cr. Liability	3,000	
Cr. Equity	2,333	
		Liability: [1,000 x (19-10) x (1 year/3 years)]
		Equity: [7,000 x (1 year/3 years)]

Year 2

Dr. Expense	7,333	
Cr. Liability	5,000	
Cr. Equity	2,333	
		Liability: [1,000 x (22-10) x (2 year/3 years)] – [3,000]
		Equity: [7,000 x (1 year/3 years)]

Year 3

Dr. Expense	9,334	
Cr. Liability	7,000	
Cr. Equity	2,334	
		Liability: [1,000 x (25-10)] – [3,000 + 5,000]
		Equity: [7,000 x (1 year/3 years)]

If the directors choose the cash option, the liability is reduced to nil, however, the equity component remains at \$7,000. If the directors choose the share option, the liability is reclassified to equity. Consistent with the accounting for cash-settled share options, the liability should be marked to fair value until the date of exercise or forfeiture.

For transactions with parties other than employees, IFRS 2 has a rebuttable presumption that the fair value of the goods and services received can be measured reliably. The share-based payment is then measured at the fair value of the goods or services received. When share-based payments to parties other than employees have cash alternatives, the equity component is measured as the difference between the fair value of the debt component and the fair value of the goods or services received.

If the issuer has the choice of settlement, the transaction should be accounted for as an equity-settled transaction, unless the entity has a present obligation to settle in cash. The entity may have a present obligation to settle in cash if, for example, the equity choice has no commercial substance, or the entity has a past practice or stated policy of settling in cash. If the transaction is accounted for as an equity-settled share-based payment, the following adjustments may be required upon settlement:

- If the entity elects to settle in cash, the cash payment is accounted for as the repurchase of equity interests (a deduction from equity).
- If the entity elects to settle in cash and this amount is greater than the fair value of the equity instruments, an additional expense for the excess value given (determined at the settlement date) is recognised.
- If the entity elects to settle in equity instruments and the fair value of these equity instruments at the settlement date is greater than the cash alternative, an additional expense for the excess value given (determined at the settlement date) is recognised.

It should be noted that the accounting requirements that stem from the classification as an equity-settled or cash-settled share-based payment differ from the requirements for the classification of a financial instrument as an equity instrument or a financial liability under IAS 32. For example, a transaction that may be settled by a variable amount of shares may be considered a liability under IAS 32, but an equity transaction under IFRS 2.

Accounting for deferred taxes

In several jurisdictions, companies receive tax benefits related to the issuance of share-based payments. The effects of these tax benefits should be measured as the difference between the carrying amount of the asset in the balance sheet (which may be zero) and the tax basis of the asset. Paragraph 9 of IAS 12 Income Taxes clarifies that items that are not recognised as assets (but recognised as an expense) may have a tax base. Additionally, the measurement of the deferred tax asset for each period should be based on an estimate of the future tax deduction (if any).

Illustration L – Tax base of a share-option grant

Company L receives a tax deduction for the intrinsic values at the date options are exercised. If options expire unexercised, no tax deduction is received. The total equity-settled options currently outstanding have an intrinsic value of €100. The options currently outstanding have completed 2 years of a 4-year vesting period. Assuming the enacted tax rate is 40%, L would recognise a deferred tax asset of €20 $[(100 \times 40\%) \times (2/4)]$.

The deferred tax asset related to share-based payments should be remeasured at each balance sheet date based on the entity's current assessment of the tax deduction and the recognition of compensation expense. The recognition of the deferred tax asset should be allocated on the following basis:

- If the estimated (or actual) tax deduction is less than, or equal to, the cumulative recognised compensation expense, the associated tax benefits are recognised in profit or loss.
- If the estimated (or actual) tax deduction exceeds the cumulative recognised compensation expense, the excess associated tax benefits are recognised directly in equity.

Illustration M – Allocation of deferred tax on share option grant

Company M granted 100 share options to its employees with a total grant date fair value of €3,000 (€30 per option). This amount will be expensed over the 3-year vesting period on a straight-line basis. At the end of year 1, the intrinsic value of each option was €11. Assuming Company M has an enacted tax rate of 40% and that Company M receives a tax deduction equal to the intrinsic value of the share options at the date of exercise. The following entry would be made in year 1 to recognise the deferred tax asset.

Year 1

Dr. Deferred Tax Asset	146	
Cr. Income Tax P&L Account		133
Cr. Equity		13
Deferred Tax Asset: $[\text{€}11 \times 100 \times (1 \text{ year}/3 \text{ years}) \times 40\%]$		
Income: $[(\text{€}3,000 \times (1 \text{ year}/3 \text{ years})) \times 40\% \times (1 \text{ year}/3 \text{ years})]$		
Equity: $[(\text{€}11 \times 100) - \text{€}1,000] \times 40\% \times (1 \text{ year}/3 \text{ years})]$		

Since the intrinsic value of €1,100 exceeds the expense of €1,000, part of the deferred tax asset is recorded in equity. If in future periods, the expense exceeds the intrinsic value, the amount recorded in equity is reversed to income.

IFRS 2 also requires the following for equity-settled share-based payments:

- The tax benefits credited directly to equity should be included in the calculation of the assumed issue proceeds for purposes of the EPS calculations; and
- Tax cash flows should be classified in a manner consistent with the recognition of the tax benefits in the income statement and equity. Therefore, any tax benefits recognised in profit or loss should be classified in the cash flow statement as operating cash flows. Any tax benefits recognised directly in equity should be classified as financing cash inflows.

For share-based payment transactions that will be cash-settled, IFRS 2 also requires the estimated tax deduction to be based on the current share price. As a result, all tax benefits received, or expected to be received should be recognised in profit or loss.

C. Modifications, cancellations and settlements

The modification of the terms on which equity instruments were granted may have an effect on the expense that will be recorded. IFRS 2 clarifies that the guidance on modifications also applies to instruments modified after their vesting date. The determination of whether a modification has an effect on the amount recognised, depends on whether the fair value of the new instruments is greater than the fair value of the original instruments (both determined at the modification date). For example:

- If the fair value of the modified instruments is more than the fair value of the old instruments (e.g., reduction of the strike price, or issuance of additional instruments), the incremental amount is recognised over the remaining vesting period in a manner similar to the original amount. If the modification occurs after the vesting period, the incremental amount is recognised immediately.
- If the fair value of the modified instruments is less than the fair value of the old instruments, the original fair value of the equity instruments granted should be expensed as if the modification never occurred. However, a reduction in the number of shares should be treated as a partial cancellation.

Illustration N – Modification of outstanding share options

Company N issued options with a 4-year vesting period to employees in 20X3. The options have a strike price of €10 per share and the fair value determined at the grant date was €100,000. In 20X5, Company N decided to reduce the strike price to €3 per share due to a prolonged decrease in Company N's share price. The fair value of the original share options at the date of the modification is €20,000, while the fair value of the modified share options at the date of the modification is €75,000.

Company N would continue to recognise the €100,000 over the remaining vesting period. Since the modification increases the fair value of the share options by €55,000 [€75,000-€20,000] determined at the modification date, Company N would also recognise that amount over the remaining vesting period. Therefore, a total of €155,000 would be recognised as an expense related to this option grant and the modification.

The cancellation or settlement of equity instruments is accounted for as an acceleration of the vesting period, and therefore any amount unrecognised should be recognised immediately. Any payments made with the cancellation or settlement (up to the fair value of the equity instruments) should be accounted for as the repurchase of an equity interest. Any payment in excess of the fair value of the equity instruments granted is recognised as an expense. Forfeitures as a result of failing a vesting condition are not considered a cancellation, but depending on the nature of the vesting condition (market or non-market) should be accounted for in accordance with the recognition guidance.

New equity instruments granted may be identified as a replacement of cancelled equity instruments. In those cases, the replacement equity instruments should be accounted for as a modification. The fair value of the replacement equity instruments is determined at their grant date, while the fair value of the cancelled instruments is determined at their date of cancellation, less any cash payments on cancellation.

Illustration O – Replacement of share options

Company O issued options with a 4-year vesting period to employees in 20X3. The options had a strike price of €10 per share and the fair value determined at the grant date was €100,000. In 20X5, Company O cancelled those shares and issued new shares with a strike price of €3 per share. The fair value of the new share options at the grant date is €75,000. If the new issuance of share options is not considered a replacement of the existing share options, the remaining portion of the original fair value of €100,000 should be expensed immediately and the fair value of the new issuance should be recognised over its vesting period. Therefore a total of €175,000 would be expensed related to these options, much of the expense in earlier periods.

However, if Company O identifies the new issuance of share options as a replacement of the cancelled share options, Company O accounts for the transaction similar to a modification. Therefore, Company O will continue to expense the portion of the €100,000 not yet recognised over the original vesting period. Additionally, Company O will expense the incremental fair value of the new instruments over the old instruments determined at the date of modification over the remaining vesting period. If the old share options had a fair value of €20,000 at the date they were cancelled, an incremental expense of €55,000 [75,000-20,000] should be recognised. Therefore, a total of €155,000 would be expensed related to these options.

D. Measurement

IFRS 2 requires share-based payment transactions be measured at fair value for both listed and unlisted entities. Depending on the type of share-based payment, fair value may be determined by the value of the shares or rights to shares given up, or by the value of the goods or services received. If the share-based payment transaction is with employees (or those similar to employees), the transaction should be measured by reference to the equity instrument granted. If the share-based payment is for goods or services, other than with employees, the fair value of the transaction is determined by reference to the fair value of the goods or services received – unless the fair value of the goods or services cannot be measured reliably. IFRS 2 provides an exemption from fair value when the fair value of the equity instruments issued cannot be reliably measured. In these rare cases, the grant is initially measured at its intrinsic value and adjusted at each reporting date for any change in intrinsic value until the options are either exercised, forfeited or lapse.

In order to determine when fair value should be measured, share-based payments should be categorised as one of three types: a) equity-settled, b) cash-settled, or c) cash or equity-settled. The following table summarises when share-based payment transactions should be measured:

	Fair value measurement date
Equity-settled	Grant date only.
Cash-settled	Each reporting date.
Cash Alternatives	Grant date only for equity component. Each reporting date for liability component.

Fair value by reference to the fair value of goods or services

When determining fair value by reference to the value of the goods or services, care should be taken to ensure that volume rebates or other discounts are considered. Where the value of the goods or services received is not commensurate with the value of the equity instruments issued, the difference may be due to volume rebates. If this is the case, the amount recorded should be the fair value net of any volume rebates. For example, assume Company A purchases 1,000 computers in return for 5,000 of Company A's common shares, trading at €100 each. The seller generally sells the same computers for €700 each. Company A currently trades several thousand shares a day, such that 5,000 shares would be readily convertible to cash by the seller. The difference between €500,000 [5,000 x €100] and €700,000 [1,000 x €700] may relate to a volume rebate that should be considered in the valuation. Therefore, €500,000 may be the more appropriate measure for the computers.

Illustration P – Issuance of shares for goods or services from non-employees

Company P (a private entity) issues shares to its lawyers for services related to the successful completion of a lawsuit that Company P is currently defending. Company P spent 100 hours working on the case. From recent invoices from the lawyers, Company P determined the fair value of the services received to be €300 per hour. Company P would record an expense for €30,000 [100 x €300] and would not be required to determine the fair value of the shares granted to the lawyers since the fair value of the services could be reliably measured.

Fair value by reference to the equity instruments

When share-based payment transactions are measured by reference to the fair value of the equity instruments granted, ideally that fair value should be determined by reference to market prices.

When market prices do not exist for shares or rights to shares with similar characteristics, the fair value should be determined by applying a valuation technique.

The valuation technique should not incorporate non-market vesting conditions or reload features. Options or shares issued through a reload feature would be considered a new grant of options at the date of exercise of the existing options (and therefore issuance of the new options). The fair value of the options (determined at the grant date) that vest is the total amount that will be recognised as an expense – unless market vesting conditions exist. The issuer of shares or rights to shares with vesting conditions should estimate actual forfeitures and initially record the expense based on this estimate. The estimate of forfeitures should be adjusted throughout the vesting period to end up with the actual forfeiture statistics at the end of the vesting period. No adjustments to the amount recognised are made after the vesting date.

Options or shares are often issued with a vesting condition based on meeting certain performance targets. IFRS 2 requires the fair value of the grant when the performance target is based on market conditions (e.g., share price growth) to be estimated at the date of grant, consistent with other options. When the performance target is not based on market conditions (e.g., revenue growth), the estimated vesting date and number of shares expected to be issued is continually revised.

The fair value of cash-settled share-based payments, such as SARs should be measured by using a model similar to one used for share options. That is, the effects of future share price increases and other variables have a similar effect on the fair value of share options and many forms of cash-settled share-based payment transactions. The measurement of the fair value of instruments similar to SARs is discussed more fully in Section IV.

Use of intrinsic value

In the rare case the fair value of the equity instruments cannot be measured reliably, IFRS 2 requires the use of the intrinsic value. Intrinsic value is the difference between the fair values of the shares the counterparty has the right to and the price (if any) the counterparty is required to pay for those shares. In many cases, transactions will have an intrinsic value of nil at the date of grant. Therefore, IFRS 2 requires that all share-based payments measured at intrinsic value be remeasured through profit or loss at each reporting date until the transaction is settled (e.g. the exercise of options granted). IG Example 10 of the Implementation guidance provides an illustration of the approach when share-based payments are measured at intrinsic value.

Selection of accounting policies

Adoption of IFRS 2 will require the selection of several new accounting policies regarding the measurement of share-based payments. Examples of the types of accounting policy decisions related to measurement that entities will be required to make, include:

Items to determine	Accounting policy options
Pricing Model	Black-Scholes, binomial model, etc.
Current Share Price	Closing price on the grant date, average daily price on the grant date, average for the week during the period of the grant date, etc.
Expected Volatility	There are various methods to calculate this amount (e.g., based on historical experience, implied volatility, or both).
Expected Dividends	There are various methods to calculate this amount (e.g., based on historical experience, expected future dividends, experience of competitors, or a combination of the above).
Risk-Free Interest Rate	Similar to the determination of the current share price, an entity should determine how it obtains this rate.

Guidance on how to determine these accounting policies can be found in Section IV.

E. Disclosure Requirements

IFRS 2 increases the level of disclosures previously required under IAS 19. Illustrative examples are provided in Appendix A. The following serves as a checklist and summary of the required disclosures:

IFRS 2 reference	IFRS 2 disclosure checklist	Yes/No/N/A
45(a)	<p>Has a description of each type of share-based payment arrangement that existed at any time during the period (including the general terms and conditions of each arrangement) been disclosed?</p> <p>Note: General terms may include vesting requirements, maximum term of the options granted, and the method of settlement (cash or equity or both).</p>	
45(b)	<p>Have the number and weighted average exercise prices of share options for each of the following groups of options been disclosed:</p> <ul style="list-style-type: none"> • Outstanding at the beginning of the period; • Granted during the period; • Forfeited during the period; • Exercised during the period; • Expired during the period; • Outstanding at the end of the period; and • Exercisable at the end of the period? 	
45(c)	<p>Has the weighted average share price at the date of exercise been disclosed for options exercised during the period?</p> <p>Note: If options were exercised on a regular basis throughout the period, the entity may instead disclose the weighted average share price during the period.</p>	
45(d)	<p>Have the range of exercise prices and weighted average remaining contractual life been disclosed for share options outstanding at the end of the period?</p> <p>Note: If the range of exercise prices is wide, the outstanding options should be presented into ranges that are meaningful for assessing the number and timing of additional shares that may be issued and the cash that may be received upon exercise of those options.</p>	

IFRS 2 reference	IFRS 2 disclosure checklist	Yes/No/N/A
47(a)	<p>Has the weighted average fair value of share options measured by reference to the fair value of the share options determined at their measurement date, been disclosed along with the following information:</p> <ul style="list-style-type: none"> • The option pricing model used and the inputs to that model, including: <ul style="list-style-type: none"> – Weighted average share price; – Exercise price; – Expected volatility; – Option life; – Expected dividends; – Risk-free interest rate; – Any other inputs to the model, including the method used and key assumptions made to incorporate the effects of early exercise; • How the expected volatility was determined, including an explanation of the extent to which expected volatility was based on historical volatility; and • Whether and how any other features of the option grant were incorporated into the measurement of fair value, such as a market condition. 	
47(b)	<p>Has the number and weighted average fair value of shares or other equity instruments (other than share options), determined at their measurement date been disclosed along with the following information:</p> <ul style="list-style-type: none"> • If the fair value was not measured on the basis of an observable market price, how that fair value was determined; • Whether and how expected dividends were incorporated into the measurement of fair value; and • Whether and how any other features of the shares or other equity instruments granted was incorporated into the measurement of fair value. 	

IFRS 2 reference	IFRS 2 disclosure checklist	Yes/No/N/A
47(c)	<p>Has the following information been provided for share-based payment arrangements that were modified during the period:</p> <ul style="list-style-type: none"> • An explanation of those modifications; • The incremental fair value granted as a result of those modifications; and • Information on how the incremental fair value granted was measured, consistently with the requirements set out in paragraphs 47(a) and 47(b). 	
48	<p>If share-based payments were measured by the fair value of goods or services received during the period, has the method to determine directly the fair value of goods or services been disclosed (e.g., measured at a market price for those goods and services)?</p>	
49	<p>If the presumption to measure the fair value of goods and services received directly by measuring the fair value of those goods and services was rebutted (that is, the goods and services were measured by reference to the equity instruments granted), has that fact and an explanation of why the presumption was rebutted been disclosed?</p>	
51(a)	<p>Has, at a minimum, the total expense recognised for the period arising from share-based payment transactions that did not qualify for recognition as assets been disclosed?</p>	
51(a)	<p>Has separate disclosure of the portion of the total expense that arises from transactions accounted for as equity-settled share-based payment transactions been disclosed?</p>	
51(b)(i)	<p>Has the total carrying amount at the end of the period for liabilities arising from share-based payments been disclosed?</p>	
51(b)(ii)	<p>Has the total intrinsic value at the end of the period for which the counterparty's right to cash or other assets had vested by the end of the period been disclosed?</p>	
60	<p>If IFRS 2 is applied prior to annual periods beginning on or after 1 January 2005, has this fact been disclosed?</p>	

F. Effective date and transition provisions

IFRS 2 is effective for annual periods beginning on or after 1 January 2005 (herein referred to as the “effective date”). Earlier application is encouraged. The provisions of IFRS 2 shall apply to all equity-settled share-based payments granted after 7 November 2002 that are not yet vested at the entity’s effective date of IFRS 2. The comparative information presented shall be restated for all grants of equity instruments to which the requirements of IFRS 2 are applied. The adjustment to reflect this change is presented in the opening balance of retained earnings for the earliest period presented in accordance with IAS 8.

Existing IFRS User – Equity-settled

Equity-settled share-based payments granted after 7 November 2002 and not yet vested at the effective date.

Apply IFRS 2 retrospectively. Restate comparatives and adjust opening retained earnings for the earliest period presented.

Equity-settled share-based payments that have vested as of the effective date and whose grant-date fair value has been disclosed publicly when originally determined.

Encouraged, but not required, to apply IFRS 2 retrospectively. Restate comparatives and adjust opening retained earnings for the earliest period presented.

All other equity-settled share-based payments.

Disclose information required by paragraphs 44 and 45.

The disclosures required in paragraphs 44 and 45 of IFRS 2 shall be presented for all grants of equity instruments regardless of whether the grants are accounted for under IFRS 2. Entities are encouraged, but not required, to apply this IFRS to other grants of equity instruments if (and only if) the entity has previously disclosed publicly the fair value of those equity instruments determined in accordance with IFRS 2.

Illustration Q – Transition for entities currently applying IFRS – Cliff vesting

Company Q (with a calendar year-end balance sheet date) issued share options on 1 January 2002 to employees that vest at the end of a 4-year vesting period. Company Q had a policy under IFRS, prior to the effective date of IFRS 2 of recognising share-based payment transactions as equity transactions (no expense was recorded). Since the grant of share options was prior to 7 November 2002, the entire grant is not required to be accounted for under IFRS 2. Company Q has the option, however, to account for these options under IFRS 2 if it had previously published the fair value of the options at the grant date.

Company Q also issued share options on 1 January 2003 to employees with a vesting date at the end of a 4-year period. Since the share options were granted after 7 November 2002, and since the shares have not vested at 1 January 2005 (effective date of IFRS 2 for Company Q), the entire grant would be within the scope of IFRS 2.

Illustration R – Transition for entities currently applying IFRS – Graded vesting

Company R (with a calendar year-end balance sheet date) issued share options on 1 January 2002 to employees that vest on a pro-rata basis over a 4-year vesting period. For example, if an employee left Company R after 2 years, that employee would still receive half of their share options. Company R had a policy under IFRS, prior to the effective date of IFRS 2 of recognising share-based payment transactions as equity transactions (no expense was recorded). Since the grant of share options was prior to 7 November 2002, the entire grant is not required to be accounted for under IFRS 2. Company R has the option, however, to account for these options under IFRS 2 if it had previously published the fair value of the options at the grant date.

Company R also issued share options on 1 January 2003 to employees that vest on a pro-rata basis over a 4-year vesting period. As of 1 January 2005 (effective date of IFRS 2 for Company R), half of the options have vested and half of the options remain unvested. Since the grant of share options was after 7 November 2002, the unvested options would be within the scope of IFRS 2.

Liabilities arising from share-based payment transactions existing at the effective date of IFRS 2 should be restated retrospectively. However, restatement of comparative information prior to 7 November 2002 is not required. An entity is encouraged to apply the requirements of IFRS 2 to liabilities arising from share-based payment transactions to all liabilities that were settled prior to the effective date of IFRS 2.

Existing IFRS User – Cash settled

Liabilities for share based payment outstanding at the effective date.

Apply IFRS 2 retrospectively. Restate comparatives and adjust opening retained earnings for the earliest period presented but not earlier than 7 November 2002.

Liabilities for share based payment settled prior to the effective date.

Encouraged, but not required, to apply IFRS 2 retrospectively.

First-time adoption of IFRS

IFRS 2 amends paragraph 13 of IFRS 1 **First-time Adoption of International Financial Reporting Standards**, to add an exemption for share-based payment transactions. Similar to entities already applying IFRS, first-time adopters will have the option to apply IFRS 2 for equity-settled share-based payments granted on or before 7 November 2002. Additionally, a first-time adopter is not required to apply IFRS 2 to share-based payments granted after 7 November 2002 that vested before the later of a) the date of transition to IFRS, or b) 1 January 2005. A first-time adopter may elect to apply IFRS 2 earlier only if it has publicly disclosed the fair value of the share-based payments determined at the measurement date, in accordance with IFRS 2.

First-time Adopter of IFRS – Equity-settled

Equity-settled share-based payments granted on or before 7 November 2002.	Encouraged, but not required, to apply IFRS 2 only if the fair value of the instruments has been disclosed publicly.
Equity-settled share-based payments granted after 7 November 2002 and vested before the later of (a) date of transition to IFRS and (b) 1 January 2005.	Encouraged, but not required, to apply IFRS 2 only if the fair value of the instruments has been disclosed publicly.
Equity-settled share-based payments granted after 7 November 2002 and not yet vested before the later of a) date of transition to IFRS and b) 1 January 2005.	Apply IFRS 2 retrospectively. Restate comparatives and adjust opening retained earnings for the earliest period presented in accordance with IFRS 1.
All other equity-settled share-based payments.	Disclose information required by paragraphs 44 and 45.

Illustration S – Transition for first-time adopters of IFRS

Company S is a first-time adopter of IFRS with a reporting date of 31 December 2005 and a date of transition of 1 January 2004. Company S must apply IFRS 2 fully for all share-based payment transactions that have not vested at 1 January 2005 and were granted after 7 November 2002. For share-based payment transactions granted after 7 November 2002, but vested as of 1 January 2005, Company S may only apply IFRS 2 if Company S previously disclosed the fair value of those share-based payments determined at the grant date, in accordance with IFRS 2. Therefore, a first-time adopter present results similar to an entity currently applying IFRS with an effective date of 1 January 2005.

Paragraph 25C was added to IFRS 1 to provide an exception from retrospective application for liabilities arising from share-based payment transactions similar to that provided for non-first-time adopters noted above.

A first-time adopter is required to apply IFRS 2 to liabilities arising from share-based payments that were not settled at the later of a) the date of transition to IFRS and b) 1 January 2005. However, an entity is encouraged to apply IFRS 2 to share-based payments that were settled prior to 1 January 2005. Comparative information after 7 November 2002 must be restated.

First-time Adopter of IFRS – Cash settled

Liabilities settled before date of transition to IFRS.	Encouraged, but not required, to apply IFRS 2.
Liabilities to which IFRS 2 is applied.	Apply IFRS 2 retrospectively. Restate comparatives and adjust opening retained earnings for the earliest period presented in accordance with IFRS 1. However, comparative information prior to 7 November 2002 is not required to be restated.

III. Questions and responses – Implementation

Question 1: Distinction between shares issued as compensation for services and shares issued as purchase price consideration

Facts

Company P purchased all the outstanding shares of Company S with a combination of cash and common shares of Company P. The acquisition was accounted for as a purchase combination. Company S was wholly owned by its management team immediately prior to the purchase by Company P. In addition to the consideration paid at the acquisition date, Company P agreed to pay contingent consideration (in the form of Company P's common shares) to the previous owners if revenues exceed 100 million over the next 12 months. However, each individual must be employed with the new company for the duration of the contingency period to receive their individual consideration.

Question

What factors should be considered to determine whether the agreement to issue fully vested shares at the end of the 12-month period is within the scope of IFRS 2 or subject to the scope exemption for shares issued in a business combination?

Response

The following criteria may be used to determine whether contingent consideration should be accounted for as (1) an adjustment of the purchase price of an acquired enterprise under IFRS 3 or (2) compensation for services or other in accordance with IFRS 2. This list of factors or indicators is not all-inclusive.

- Factors involving continued employment, such as:
 - **Linkage of continued employment and contingent consideration** – arrangements in which the contingent payments are not affected by employment termination may be a strong indicator that the contingent payments are additional purchase price rather than compensation.
 - **Duration of continued employment required** – If the length of time of required employment coincides with or is longer than the contingent payment period, that fact may indicate that the contingent payments are, in substance, compensation.
 - **Level of compensation** – Situations in which employee compensation other than the contingent payments is at a reasonable level in comparison to that of other key employees in the combined enterprise may indicate that the contingent payments are additional purchase price rather than compensation.

- Factors involving components of a shareholder group:
 - **Contingent payout is different for former shareholders based on whether they are employees** – The fact that selling shareholders who do not become employees receive lower contingent payments on a per share basis from what the previous owners who become employees of the combined enterprise receive, may indicate that the incremental amount of contingent payments to the selling shareholders who become employees is compensation.
 - **Relative amount of shares owned by the selling shareholders who remain as key employees** – If selling shareholders who owned substantially all of the shares in the acquired enterprise continue as key employees, that fact may indicate that the arrangement is, in substance, a profit-sharing arrangement intended to provide compensation for post combination services.

Understanding why the acquisition agreement includes a provision for contingent payments may be helpful in assessing the substance of the arrangement. For example, if the initial consideration paid at the acquisition date is based on the low end of a range established in the valuation of the acquired enterprise and the contingent formula relates to that valuation approach, that fact may suggest that the contingent payments are additional purchase price. Alternatively, if the contingent payment formula is consistent with prior profit-sharing arrangements, that fact may suggest that the substance of the arrangement is to provide compensation.

The formula used to determine the contingent payment might be helpful in assessing the substance of the arrangement. For example, a contingent payment of five times earnings may suggest that the formula is intended to establish or verify the fair value of the acquired enterprise, while a contingent payment of 10 percent of earnings may suggest a profit-sharing arrangement.

The determination of whether equity instruments issued for contingent consideration in a purchase combination are compensation to current employees or part of the purchase price to the former owners is a matter that requires a full assessment of the facts and careful judgement. The provision for payment only upon completion of an employment period is a strong indicator that the agreement should be accounted for as compensation, and therefore a presumption would exist that such an arrangement would be included within the scope of IFRS 2.



Question 2: Expense in subsidiary accounts

Facts

Company P is a publicly listed parent company that applies US GAAP. Company P has a majority owned subsidiary, Company S, which applies IFRS. Company P issues share options in Company P's ordinary shares to certain employees of Company S.

Question

Should Company S record an expense related to the options granted by Company P to Company S employees in its stand-alone financial statements?

Response

Yes. Company S receives the benefit of the services provided by its employees. As a result, Company S should record the expense related to the share-based payment, regardless of whether Company S, or another Group entity, issues the share options. If Company P issues the share options, there may also be a capital contribution to be recognised by Company P (depending on whether Company P receives any payment from Company S for the shares issued).

Question 3: Embedded foreign currency derivative

Facts

Company E is a European entity with the Euro as its functional currency. Company E is registered on the New York Stock Exchange with a current market price of \$15 per share. Company E issues 100 share options to its employees with a strike price of \$15 per share and a vesting period of 3 years. The share options can only be equity-settled.

Question

Does Company E have an embedded derivative in this share-based payment to employees that needs to be accounted for under IAS 39?

Response

No. Equity-settled share-based payments do not give rise to assets or liabilities that would be denominated in a currency other than the entity's functional currency. That is, the transaction is an equity transaction that should be denominated in Euro for Company E. For example, if the total fair value of the options was determined to be \$1,500 at the date of grant (and the exchange rate was \$1.5/€1), the total amount that could be expensed under IFRS 2 would be €1,000 [$1,500 / 1.5$] – or €10 per share option. This amount would not change over the life of the options even if the exchange rate fluctuates.

For cash-settled share options, the liability recorded would be considered a US\$ denominated liability and would need to be remeasured at each balance sheet date. Since the remeasurement is at fair value with changes recognised in profit or loss, no embedded derivative would need to be identified and separated.

Question 4: Determination of the measurement date

Facts

Company G is a start-up entity that wants to build a web site. Company G contacts Supplier W on 15 March and offers 100 shares in Company G if Supplier W builds a web site to Company G's specifications. The offer is valid for 6 months. Supplier W neither rejects nor accepts Company G's offer. On 30 June, Supplier W agrees to build Company G's web site for the 100 shares. On 30 October, the website is delivered to Company G. On the same date, Company G delivers the 100 shares to Supplier W.

Company G has determined that it cannot measure reliably the fair value of the services received and therefore measures the share-based payment by reference to the fair value of the shares issued.

Question

Which date is the measurement date under IFRS 2?

Response

30 October. For transactions with parties other than employees (and those providing similar services), the measurement date is defined as "...the date the entity obtains the goods or the counterparty renders service." Therefore, the 100 shares would be valued at 30 October based on current market prices. Since no further action is required by Supplier W and the shares issued are fully vested, the full fair value should be expensed (or capitalised as an intangible asset in accordance with IAS 38 **Intangible Assets**) immediately.

In certain jurisdictions Company G may be required to present interim financial statements at 30 June. Under IFRS 2, there is no requirement to recognise an interim expense for this transaction. Therefore, Company G would only need to provide the disclosures required for such commitments (if material).

Question 5: Balance sheet presentation

Facts

Company C issues 12 cash-settled share appreciation rights (SARs) to certain of its employees. The SARs vest over a 3-year period. At the end of the vesting period, Company C expects that 3 of the SARs will be exercised within one year and the remaining 9 SARs will be exercised after one year.

Question

How should Company C present the liability for share-based payments?

Response

IFRS 2 does not require a separate presentation of the carrying amount of liabilities relating to share-based payments in the balance sheet, but requires this information be disclosed in the financial statements. Liabilities arising from share-based payments are financial liabilities, although they are excluded from the scope of IAS 32 and IAS 39. Therefore, an entity may consider whether share-based payment liabilities shall be grouped with other financial liabilities on the face of the balance sheet. In any case, paragraphs 29 to 31 of IAS 1 **Presentation of Financial Statements** should be applied to determine if the liability should be presented separately on the face of the balance sheet.

Paragraph 51 of IAS 1 requires separate presentation on the face of the balance sheet for current and non-current liabilities. If Company C determines that presentation on a liquidity basis is more relevant, the current portion of the liability should be disclosed in accordance with paragraph 52 of IAS 1. In the above facts, since all SARs are exercisable within the next year, those liabilities should be presented as current liabilities.

Question 6: Interaction between an entity's share price and the expense recognised on share-based payments

Question

Could an entity record an increase in profit (or decrease in loss) related to equity-settled share-based payments because of subsequent decrease in the entity's share price?

Response

No – unless in the rare case that the share-based payment is measured at intrinsic value. The amount recognised as an expense is determined at the grant date for equity-settled share-based payments and is based on the number of instruments that will eventually vest. Therefore, the amount expensed does not take into consideration the expected forfeiture of the share options due to future declines in the entity's share price. Changes in share prices are included in the grant date fair value calculation through the expected volatility factor. The only cause of a decrease in the expense in any given period related to equity-settled share-based payments would be due to greater than expected forfeitures of share-based payments during the instruments vesting period.

On the other hand, cash-settled share-based payments are remeasured at each balance sheet date and therefore, an increase in profit (or decrease in loss) could be recorded as a result of the decline in the entity's share price.

Question 7: Determination of whether a new share-based payment is a replacement

Facts

IFRS 2 allows entities to deduct the fair value of the cancelled options (determined at the date of cancellation) from the fair value of new options issued – if the new options are considered replacement options. If the new options are not considered replacement options, then the entire fair value of the new options determined at their grant date must be expensed over the vesting period. That is, replacement options are accounted for as a modification of the cancelled options.

Question

What factors should be considered in determining whether the issuance of new options is a replacement of cancelled options?

Response

The determination of whether the issuance of new options is a replacement of cancelled options requires a careful assessment of the facts and circumstances surrounding those transactions. IFRS 2 does not provide specific guidance in this area.

Factors that may indicate the new issuance of options is a replacement of the cancelled options include:

- The entity has identified the new issuance as a replacement.
- The new share options are with the same individuals as the cancelled options.
- The new share options are issued at a fair value that is broadly consistent with the fair value of the cancelled options determined either at their original grant date or the cancellation date.
- The cancellation and issuance of new shares has the same substance of a repricing.
- The transactions to issue and cancel the options are part of the same arrangement.
- The cancellation of the options would not have occurred, unless the new options were issued.
- The cancellation of the options does not make commercial sense without the issuance of the new options (and vice versa).

Question 8: Distinction between individuals similar to employees and service providers

Question

What factors should be considered in determining whether share-based payments are to employees or non-employees?

Response

The determination of whether an individual is similar to an employee or is a non-employee is a matter of careful judgement. IFRS 2 defines “employees and others providing similar services” as:

Individuals who render personal services to the entity and either (a) the individuals are regarded as employees for legal or tax purposes, (b) the individuals work for the entity under its direction in the same way as individuals who are regarded as employees for legal or tax purposes, or (c) the services rendered are similar to those rendered by employees. For example, the term encompasses all management personnel, i.e., those persons having authority and responsibility for planning, directing and controlling the activities of the entity, including non-executive directors.

Some of the following factors may be considered as indicators of employees and others providing similar services:

- Purchasing company is paying for the right to use certain individuals and not the actual output from the individuals. That is, the purchasing company has the risk of downtime.
- The individuals are under the direct supervision of the purchasing company.
- The contract depends on the services from a specified individual.
- The purchasing company receives substantially all of the output from the individual for a specified period of time.
- The individuals perform services that are similar to services currently provided by employees.

Factors that would indicate an individual is not an employee or others providing similar services include:

- The individual performs services that cannot legally be provided by employees.
- The individual uses technology that is not legally available to the purchasing company to perform the services.

Question 9: Employee Share Purchase Plans (ESPPs)

Facts

Company P has an ESPP whereby certain of its employees can purchase shares in Company P at 85% of its current market value. This plan is used to compensate individuals and encourage employee ownership in Company P. Once issued, the employee must stay in Company P's employ for 3 years after the purchase date in order to vest in the shares.

Question

How should Company P account for this plan?

Response

The ESPP noted above would be considered an equity-settled share-based payment since it can only be settled in shares. Once shares are granted under the plan, the discount amount should be expensed over the vesting period based on the amount of shares expected to vest. The total expense recognised would equal the multiple of the per-share discount and the number of shares that vested.

Question 10: Employee Share Ownership Plans (ESOPs)

An ESOP is a unique form of a defined contribution plan designed to invest primarily in the equity instruments of the employer. There are two basic forms of ESOP: leveraged or nonleveraged. In a leveraged ESOP, the Plan borrows money to purchase shares from the employer. The Plan may borrow money from the employer, a related party or an unrelated financial institution. Generally, the borrowings are secured by the shares in the ESOP and guaranteed by the Plan sponsor. In a nonleveraged ESOP, the employer generally contributes its shares or cash to the Plan on behalf of its employees.

ESOPs may be used for a variety of reasons, other than furthering employee ownership. These include:

- To fund a matching programme for a sponsor's defined contribution plan or other employee benefits;
- To raise new capital or to create a marketplace for the existing shares;
- To replace lost benefits from the termination of other employee benefit plans or provide benefits under postretirement plans (particularly medical benefits);
- To be part of the financing package in leveraged buy-outs;
- To provide tax-advantaged means for owners to terminate their ownership;

- To be part of a long-term programme to restructure the equity section of a plan sponsor's balance sheet; or
- To defend the company against hostile takeovers.

Regardless of whether the ESOP is leveraged or nonleveraged, employers may give a put option to participants holding ESOP shares that are not readily tradable, which on exercise requires the employer to repurchase the shares at fair value. Furthermore, publicly listed companies often offer cash redemption options to participants who are eligible to withdraw traded shares from their account, which on exercise requires the employer to repurchase the shares at fair value.

Facts

Company P issues 100 shares to an ESOP to be used to fund share issuances to employees under the terms of the plan. That is, all of the shares have been allocated to individual employees and are not held in the suspense account. At the date of the contribution to the ESOP, the shares had a fair value of \$10 per share. Once received, employees must complete a vesting period of 3 years, at which time the employee can receive cash equal to the fair value of the shares through the exercise of a put option to the Plan Sponsor or withdraw the shares from the Plan. Company P has determined it should consolidate the ESOP in accordance with IAS 27 **Consolidated and Separate Financial Statements**.

Question

How should Company P account for the contribution to the ESOP?

Response

Company P has issued shares to its employees that vest over a 3-year term. The fair value of the shares, determined at the grant date, should be expensed over the vesting period. If the shares are subsequently purchased for cash in the future at or below fair value, that transaction should be accounted for as an acquisition of treasury shares. If shares are purchased at an amount above fair value, the premium paid should be recognised as an expense. Even though the ESOP is consolidated by Company P, the shares should be considered outstanding for the basic and diluted EPS calculation.



IV. Factors affecting the fair value measurement of share-based payments

A. Measurement of share-based payments

One of the most difficult issues in applying IFRS 2 will be determining the fair value of share-based payments. The determination of the fair value of share-based payment transactions requires numerous estimates, and the application of careful judgement. The measurement difficulties arise since the final value of the share-based payment transaction is determined when the transaction is settled at some point in the future, but an estimate of that value is required at the date of grant.

An option-pricing model should be used as the base of this fair value measurement for share options. However, option-pricing models can be used for share-based payments other than just share options. For example, the grant of rights to shares after the completion of a three-year vesting period could be viewed as a share option with a nil strike price. Similarly, the value of a share appreciation right that will be settled in cash will move parallel to (and potentially identical to) the value of a share option on the same shares. An option-pricing model would not be suitable, for example, in the case of an issuance of shares that must be forfeited if the employee leaves service over a 3-year period. This should be measured at the fair value of the shares at the date of grant. A share price or valuation of the entity at the date of grant would be sufficient to determine the fair value of those shares and it would not be necessary to recalculate this value unless, the grant was modified.

While significant research has been conducted regarding the measurement of share options, the application of fair value measurements to other types of share-based payments included in the scope of IFRS 2, such as share-based payments based on performance targets, will require significant judgement. In addition to estimates of the basic measurement factors discussed more fully in Part D of this Section for share options, the application of IFRS 2 may require entities to estimate:

- the fair value of non-traded shares and options or other rights on non-traded shares;
- the effect of market-based performance features on the fair value of the share-based payment at the grant date; or
- the fair value of goods or services received from non-employees where an active market may not exist for those goods and services.

IFRS 2 requires that valuation techniques be consistent with generally accepted valuation methodologies for pricing financial instruments and that the valuation technique incorporate all factors and assumptions that knowledgeable, willing market participants would consider in setting the price – except for non-market based vesting conditions and reload features.

The determination of the model an entity uses is an accounting policy choice and should be applied consistently to similar share-based payment transactions. While tweaks or improvements to a model would be considered a change in estimate, IAS 8 should be applied when an entity changes models (e.g. from Black-Scholes to a Binomial model). This section will provide information to assist companies in determining an appropriate model for an entity's share-based payment transactions whose fair value reacts similar to share options. The bottom line is; does the model used to estimate fair value represent the economics of the instrument and do the inputs represent the attributes of that being measured?

B. Black-Scholes model versus the Binomial model

The Black-Scholes model for valuing share options was first published in 1973 and has been used as the basis to value share options and other share-based payments whose fair value reacts similar to share options. The binomial method was introduced to provide a simplified explanation to the Black-Scholes method and to extend its usefulness beyond some of Black-Scholes narrow confines. This section will compare and contrast the Black-Scholes model with the Binomial model.

Application of the Black-Scholes model tends to be a straightforward calculation, which requires limited inputs based on estimation. Appendix B of this paper provides an example of the Black-Scholes calculation. The estimates in the Black-Scholes calculation tend to be incorporated by adjustments to either the expected life of the share-based payment or the volatility factor. If the inputs and assumptions used in the Black-Scholes and the binomial models were the same, the results would be similar. Most valuation experts agree that if the assumptions were the same, even individually tailored models would produce broadly similar results.

The binomial model breaks down the time to expiration into potentially a large number of time intervals or steps. A tree of share prices is initially produced working forward from the present to expiration. At each step it is assumed that the share price will move up or down by an amount calculated using volatility and time to expiration. This produces a binomial distribution, or tree, of underlying share prices. The tree represents all the possible paths that the share price could take during the life of the option. Factors that affect the share price, such as dividends are adjusted for at this stage. At the end of the tree – that is at expiration of the option – all the terminal option prices for each of the final possible share prices are known as they simply equal their intrinsic values.

Next, the option prices at each step of the tree are calculated working back from expiration to the present. The option prices at each step are used to derive the option prices at the next step of the tree using risk neutral valuation based on the probabilities of the share prices moving up or down, the risk-free rate and the time interval of each step. Any adjustments to option prices (e.g., market-based vesting features) are worked into the calculations at the required point in time. At the start of the tree you are left with one option price.

It is clear that the determination of fair value for an employee share option is anything but straightforward. Given the general uncertainty as to how to determine the fair value of a share option, only two models have received general acceptance for getting 'close enough' to fair value. The following discussion addresses some of the strengths and weaknesses of these models.

Strengths of the Black-Scholes model

The major strength of the Black-Scholes model is that it is a generally accepted method for valuing share options. It has gained wide acceptance from both regulators and users – a safe harbour of methods. Nearly all companies with share option plans use the Black-Scholes model to compute the fair value of their share options today. The consistent use of this model also enhances the comparability between entities.

Another strength is that the formula required to calculate the fair value is relatively straight-forward and can be easily included in spreadsheets.

Weaknesses of the Black-Scholes model

The Black-Scholes model is described as a 'closed form solution' in that inputs and assumptions are made to cover the entire period the option is outstanding. For example, there is evidence that the implied volatility of a share option changes as the intrinsic value of an option changes. The Black-Scholes model cannot take this into account. Similarly, it is not possible to adjust the Black-Scholes model to take account of market conditions. In addition, the Black-Scholes model cannot take into account the possibility of early exercises. However, this is less of an issue where options have to be exercised on or shortly after vesting.

Strengths of the Binomial model

The Binomial model is described as an 'open form solution' as it can incorporate different values for variables (such as volatility) over the term of the option. Therefore, many believe the inputs into the model are better reflective of an option with a longer term. The model can also be adjusted to take account of market conditions and other factors.

The Binomial model has also been generally accepted as a more flexible alternative to the Black-Scholes model.

Weaknesses of the Binomial model

The Black-Scholes model allows the value of an option to be calculated using a relatively simple spreadsheet. However, the Binomial model requires a considerably more complex spreadsheet or program to calculate the option value. In addition, it is necessary to make a number of judgemental decisions as to if, and if so, how various factors are to be taken into account. For example, if the "volatility smile" is to be taken into account.

As a result of the increased amount of inputs that need to be developed and the complexity of the Binomial model, historically, it has not been used much for financial purposes. However, this may well change in the future.

C. Basic factors affecting the valuation of share-based payments

Most share-based payments granted will not have an equivalent instrument traded in an active market and therefore, when the determination of their fair value is required by IFRS 2, valuation techniques will need to be applied. IFRS 2 requires, at a minimum, that all valuation models consider the following six basic inputs:

- the exercise price of the option;
- the current price of the underlying shares;
- the life of the option;
- the expected volatility of the share price;
- the dividends expected on the shares; and
- the risk-free interest rate for the life of the option.

These variables have been widely accepted as required inputs into the valuation of both non-traded and traded options. Therefore, it is useful first to review these basic inputs.

Exercise price and current share price

The exercise price should be determined from the agreement. The current share price should be determined in accordance with an entity's accounting policy. That policy may dictate the closing price or average price for a period of time – or some other method. Whichever method is chosen, that method constitutes an accounting policy and should be used consistently between periods and among plans.

IFRS 2 does not provide guidance on the determination of the exercise price or current share price.

Expected life of the share option

The expected life of an option that is traded is its contractual term since the holder of the option can realise its full fair value by selling the option at anytime during its life. When the option is not traded, the holder may be able to exercise it before maturity but loses any time value.

There are several factors that affect the expected life of a typical non-traded share option given to employees, such as vesting features and various behavioural considerations. These factors and others will be discussed in greater detail in Part D of this Section. There are two general views in practice on how to determine the expected life of a share option:

- Create a binomial lattice that includes all the appropriate factors and the lattice outcomes will determine when the exercise date is most likely to occur; or
- Taking factors such as non-transferability of an option, employee risk aversion and group behaviour into consideration and estimate an expected life that is then used in, for example, a Black-Scholes model.

Historical experience related to actual lives of share options should be considered in order to determine whether the estimate determined is reasonable.

IFRS 2 suggests that different groups of employees may have homogeneous exercise behaviours and therefore determining the expected life for each homogeneous group may be more accurate than an expected life for all recipients of an option grant. That is, one share option granted to the Chief Executive Officer may have a different value from one share option granted to a factory worker at the same date with the same terms. If the Black-Scholes method is used, IFRS 2 requires the use of the expected life of the option. Appendix C provides an illustration of how this approach can be applied in practice. Alternatively, exercise behaviours can be modelled into a binomial or similar option-pricing model that uses contractual life.

Expected volatility

Much of the concern about determining the fair value of non-traded employee share options relates to determining the estimate of expected volatility over the term of the option. Volatility is a measure of the amount by which a share price is expected to fluctuate during a period. The expected annualised volatility of a share is the range within which the continuously compounded annual rate of return is expected to fall approximately two-thirds of the time. For example, a share worth \$100, with a volatility of 40% would suggest that it will be worth between \$60 and \$140 approximately two-thirds of the time between the grant date and the exercise of the options.

Volatility may be measured by reference to the implied volatility in traded options. However, the trading of these options is quite thin and the terms are still much shorter than the term of most employee share options. There is also empirical evidence that options with the same term but different strike prices have different implied volatility. This is a factor that cannot be included in the Black-Scholes model, which assumes a constant volatility.

Historical volatility may be used as a rebuttable presumption for long-term options because there is evidence that volatilities are mean-reverting and, therefore, using the long-term average historical volatility for long-term options would be sufficient if there were no reason to assume that historical volatility would not generally be representative of future volatility. Some have suggested a blended approach utilising both implied volatility and historical volatility.

Many factors should be considered when estimating expected volatility. For example, the estimation of volatility might first focus on implied volatilities for the terms that were available in the market and compare the implied volatility to the long-term average historical volatility for reasonableness.

In addition to implied and historical volatility, IFRS 2 suggests the following factors be considered in estimating expected volatility:

- The length of time an entity's shares have been publicly traded;
- Appropriate and regular intervals for price observations; and
- Other factors indicating that expected future volatility might differ from past volatility (e.g., extraordinary volatility in historical share prices).

Expected dividends

The payment of dividends has the effect of reducing the share price on the ex-dividend date. The values of call (put) options are therefore negatively (positively) related to the sizes of any anticipated dividends. Whether expected dividends should be included in the measurement of share-based payments depends on whether the holder is entitled to dividends or dividend equivalents. If the holder of the option or share is entitled to dividends between the grant date and the exercise date, expected dividends should not be included in the fair value measurement.

IFRS 2 notes that assumptions about expected dividends should be based on publicly available information. Therefore, an entity that does not pay dividends and has no plans to do so should assume an expected dividend yield of zero. Conversely, an entity that expects to pay dividends in the future could use, for example, the mean dividend yield of an appropriate peer group.

Risk-free interest rate

The risk-free interest rate affects the price of an option in a less intuitive way than expected volatility or expected dividends. As interest rates increase, the value of a call option also increases. This is because the present value of the exercise price will decrease.

The determination of the risk-free interest rate can generally be derived from market yield curves for zero-coupon government issues. IFRS 2 requires use of the risk-free interest rate of the economy in whose currency the exercise price is expressed.

D. Other factors affecting the valuation of share-based payments

There are certain variables that impact the value of many employee share options that are not factored into the standardised Black-Scholes formula. The inability to incorporate these factors directly into the Black-Scholes model limits its usefulness in estimating the fair value of the options. While the approach in IFRS 2 attempts to 'fix' this fault through adjustments to the inputs to the Black-Scholes calculation (e.g., expected life versus contractual life), many believe these adjustments are just not enough. This paper will discuss in more detail some of these additional assumptions. However, depending upon materiality levels, the costs of preparing a model that involves these assumptions may not be worth the additional benefits derived from that model.

Vesting features (not performance-related)

Depending on how the entity is performing, employees can decide to stay or leave based on their alternative opportunities in the labour market. If an employee leaves the entity before vesting, the money 'left on the table' is a cost of leaving, which has to be weighed against the alternatives. This trade-off will influence their behaviour and will, in turn, be influenced both by the prosperity of the entity and of the market. These impacts can be quite important and should be estimated to determine the expected life of the option as well as under what circumstances the option will be exercised.

For example, while it might be thought that employees are more likely to stay to vest when the entity is performing well, this need not be the case if the entity performs well when the market performs well. In this case, while the cost of leaving has gone up, the opportunities in their sector may also have gone up. If employee turnover and the forfeiture of unvested options rise with good times and falls with bad times, this will increase the cost to companies when bad times come and that magnification will lower the value of the options.

IFRS 2 prohibits the grant date measurement from taking into account vesting features that are not market conditions since the actual expense will be adjusted based on the actual number of shares that vest.

Expected forfeitures

Expected forfeitures can be categorised as a) pre-vesting forfeitures, and b) post-vesting forfeitures. The impact of pre-vesting forfeiture on valuation is similar to that of vesting (as discussed above) and, again, its primary influence comes through its impact on employee behaviour. Post-vesting forfeitures reflect the employee's sacrifice of time value (and potentially intrinsic value) and should be correlated with share prices because an employee is less likely to forfeit the option as the share price increases. The effect of post-vesting forfeitures is expected to be significant in only rare situations.

IFRS 2 states that the fair value of restricted shares determined at the grant date should not be adjusted for pre-vesting conditions because those restrictions stem from the forfeitability of the instruments and the effects of forfeiture are dealt with via the modified grant date method. However, the measurement of fair value of restricted shares should take into account the effects of any post-vesting restrictions, if the effect is likely to be significant.

Vesting features (performance-related)

Examples of performance-related vesting features include; the vesting of options based upon meeting a specific target share price (market-based) or levels of revenues (non-market-based). As a result of those conditions, the holder of the right to an option or share will either receive the fully vested option or nothing.

Unlike non-performance-related vesting features, the meeting of performance related vesting features is largely out of the control of the option holder. For example, the price of an entity's share in the market is a consequence of many items from which the entity cannot control (e.g., interest rates, market mood-swings, results and prospects of the entity's peers). IFRS 2 requires that market-based performance related vesting features be included in the determination of the fair value at the date of grant. Additionally, IFRS 2 require the entity to estimate the vesting period at the date of grant and recognise the related expense over that period. There is no adjustment to the vesting period when the performance condition is market-based.

When the performance condition is not market-based, that performance condition should not be taken into account when estimating the fair value of the shares or options. However, IFRS 2 requires that the vesting term be revised as facts and circumstances change.

Non-transferability

Many believe non-transferability **after the vesting period** does not have a material impact on the valuation of an option from the perspective of the issuer. However, since the share holding is typically a disproportionate part of an employee's wealth, it may have a significant impact on their behaviour – and therefore the expected life of the option. Several valuation experts have stated that the inability to transfer an employee share option does not violate option pricing model assumptions because there is no assumption about the transferability of the option in the calculation.

When estimating the fair value of an employee share option at the grant date, IFRS 2 requires the use of expected life to exercise instead of the option's contractual life to expiration to take into account the option's non-transferability. However, valuation experts unanimously agree that use of an average expected life to exercise is not a theoretically accurate way to capture the option's non-transferability. They argue that only looking at the average expected life of the share option distribution could not capture information about that distribution. Therefore, some believe employee behaviours that result in early exercise should be explicitly modelled using a more dynamic option-pricing model – such as the binomial model.

Furthermore, many valuation experts now believe that no discount is warranted for non-transferability **during the vesting period**. If the premise of fair value as discussed above is to estimate the amount that a hypothetical market participant would pay for such an option, then the estimate should incorporate employee characteristics only to the extent that they would affect the amount and timing of cash flows of the option. The only alternatives facing the employee during the vesting period are to vest or not to vest – and those two alternatives are addressed under the modified grant-date approach in IFRS 2.

Stated exercise restrictions

Stated exercise restrictions (e.g. restrictions on exercise or sale of shares by employees) will affect the value both directly and through their impact on the behaviour of holders. The easiest way to see this is to note that employees may find themselves holding a large proportion of their wealth in the form of shares whereas, in the absence of such restrictions, they would hold a more diversified portfolio. This, in turn, will affect their behaviour and, generally, but not invariably, will cause them to exercise as early as possible so as to be out of the restricted period as fast as possible. A history of exercising options as early as possible demonstrates that the value given by the employer is less than the amount attributable to the full term of the option.

The effects of exercise restrictions will be similar to the effects of non-transferability features as discussed above. Therefore, stated exercise restrictions should be evaluated when estimating the fair value of employee share options based on their affect on the expected future cash flows from the options.

Behavioural considerations

As can be seen from the above discussion, there are many factors that affect the value of share options through their impact on employee behaviour. Behavioural considerations are critical and should be included in the valuation of share options. This is a familiar consideration in the financial markets. The entire mortgage market, for example, revolves around estimation of the behavioural influences on prepayments.

IFRS 2 requires behavioural considerations to be included in the model through an adjustment to the expected life of the option. Many believe, however, that this will generally be inadequate since the life of the option will depend on the returns for both the entity and for the market and the mechanism for this dependency will be determined by the group characteristics noted, such as risk aversion, diversification, and tax considerations. For example, as individuals grow wealthier in a rising market, the costs of poor diversification may decline and that will narrow the chances of early exercise of the share options.

Long-term nature

The long-term nature of employee share option grants is significant and will clearly impact valuation. The Black-Scholes model uses one set of assumptions at grant date that do not change during the expected life of the options, while a binomial model uses varying assumptions at grant date depending on expected changes to the inputs during the expected life. A typical employee share option can have a contractual life of 10 years. Therefore, the use of static model inputs is not grounded in reality. Because changes in those factors over time can have a significant impact on option value, failure to model such changes over the term of the option can result in overstating or understating the fair value of an option.

Based on the results of research and discussions with valuation experts, fair value for an employee share option should incorporate at the measurement date volatility factors for discrete time periods over the term of the option, interest and dividend rates and exercise patterns over the term of the option, to correspond with historical evidence and/or current expectations, to the extent material. It is to be expected that applying a more dynamic option pricing model with changing inputs will be more difficult and therefore a cost benefit analysis (taking into consideration materiality) should be completed.

Effects on the capital structure of an entity

Typically, the shares underlying traded options are acquired from existing shareholders, and therefore, have no dilutive effect.

Capital structure effects of non-traded options, such as dilution, can be significant and are generally anticipated by the market at the date of grant. Nevertheless, except in most unusual cases, they should have no impact on the individual employee's decision. The market's anticipation will depend among other matters, on whether the process of share returns is the same or is altered by the dilution and the cash infusion. In many situations the number of employee share options issued relative to the number of shares outstanding is not significant and, therefore, the effect of dilution on share price can be ignored.

IFRS 2 suggests that the issuer consider whether the possible dilutive effect of the future exercise of options granted has an effect on the fair value of those options at grant date by an adjustment to option pricing models.

E. Application of the factors affecting the value of share-based payments

Each of the factors noted in this section has some effect on the valuation of the share options. The significance of the effect will depend on the relevant facts and circumstances of each grant. The following table identifies the measurement factors and how these factors are incorporated into an option-pricing model for traditional share option plans.

Plan consideration	Adjustment to	Data required
Performance related vesting features – market related	Expected life	Historical behaviour and evidence supporting probability of meeting the performance target.
Performance related vesting features – not market related	Expense recognised	Historical behaviour and evidence supporting probability of meeting the performance target and revised estimates of the vesting period.
Expected forfeitures	Expense recognised	Historical behaviour and evidence supporting probability of meeting the performance target.
Non-transferability	Expected life	Historical behaviour.
Exercise restrictions	Expected life	Historical behaviour.
Behavioural considerations	Expected life	Historical behaviour and/ or actuarial assumptions.
Long-term nature	Expected life	None.
Effects on capital structure	Grant-date valuation	Evidence of effect on fair value of underlying shares.
Expected volatility	None	Historical share prices and implied volatility of traded options.

V. Benchmark study of key measurement variables

The measurement of share-based payment transactions measured at the fair value of the equity instruments granted will depend on the inputs into a pricing model. The results from those pricing models are dependent on the selection of a group of variables – the determination of each requiring significant professional judgement. Given the importance of these variables to the ultimate result from the model, the process by which these variables are determined must receive the appropriate level of attention from key management personnel.

Prior to the issuance of IFRS 2, few companies around the world were required, or had chosen to measure share-based payments at fair value and recognise that amount as an expense. While many companies have disclosed the fair value of share options granted, the estimates used to determine this amount have rarely been given the consideration received by other sensitive judgements – such as the selection of a discount rate for a pension obligation.

The following information was obtained from the review of over 200 publicly available documents and summarises the ranges of 3 key variables used in the measurement of equity instruments; expected volatility, expected life of the instrument, and the risk-free rate of interest. The population was primarily made up of companies listed in the European and American markets and therefore, this section should be viewed in that context.

Chart 1 – Range of expected volatility

Expected volatility (%)



Expected volatility

As noted in Part C of Section IV, the expected volatility of a share is the range within which the continuously compounded annual rate of return is expected to fall approximately two-thirds of the time. That is, the higher the volatility, the higher the possibility of a bigger return on the instrument. Chart 1 identifies the range (and concentration within that range) of expected volatility percentages chosen by the panel of companies selected:

The slope of the line in Chart 1 indicates the number of selections at that range. Therefore, the flatter the line, the more selections of expected volatility at that point. For example, a horizontal line at 40%, would indicate that 100% of the population chose a volatility of 40%.

The above chart indicates a line that is sloping upwards from about 15% through 70%. While the slope is flatter between about 25% and 50%, (indicating that about 75% of the panel chose an expected volatility factor in that range), there were a number of variables significantly outside this range.

Charts 2 to 9 present the same information considered above by industry.

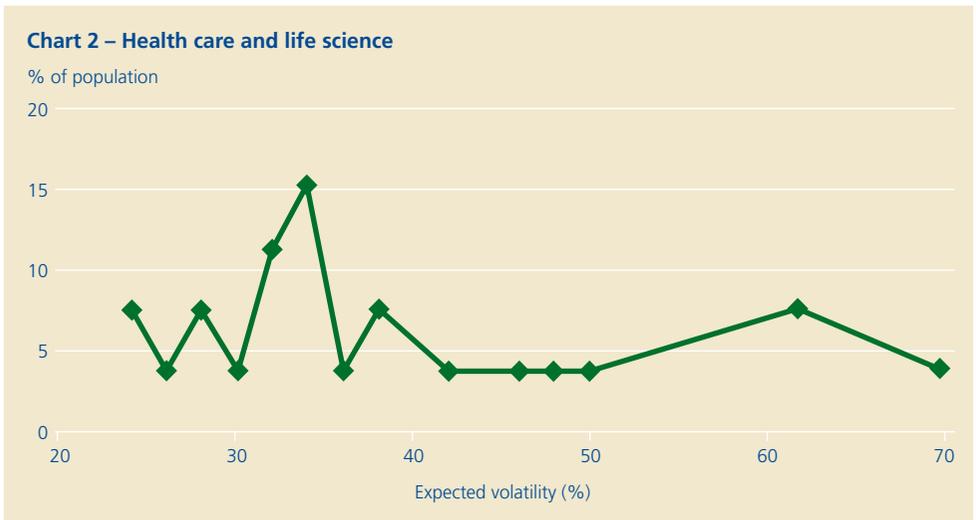


Chart 3 – Energy, infrastructure, utilities, oil, mining and metal

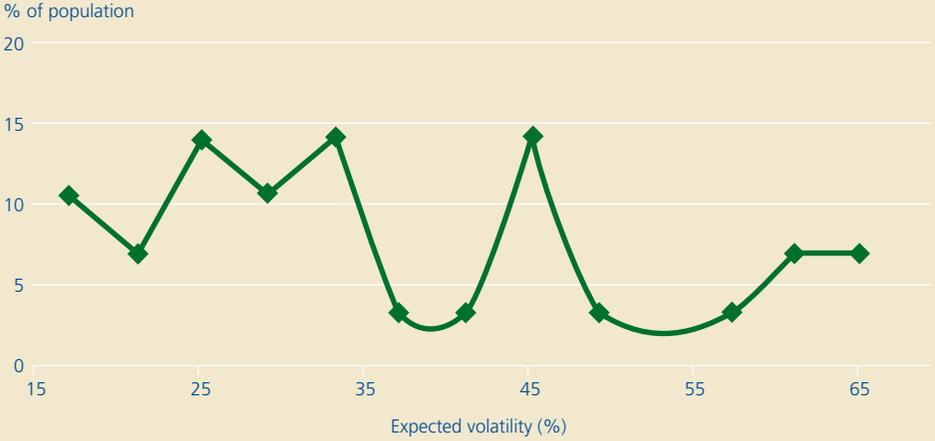


Chart 4 – Financial services



Chart 5 – Manufacturing



Chart 6 – Real estate



Chart 7 – Retail and customer products

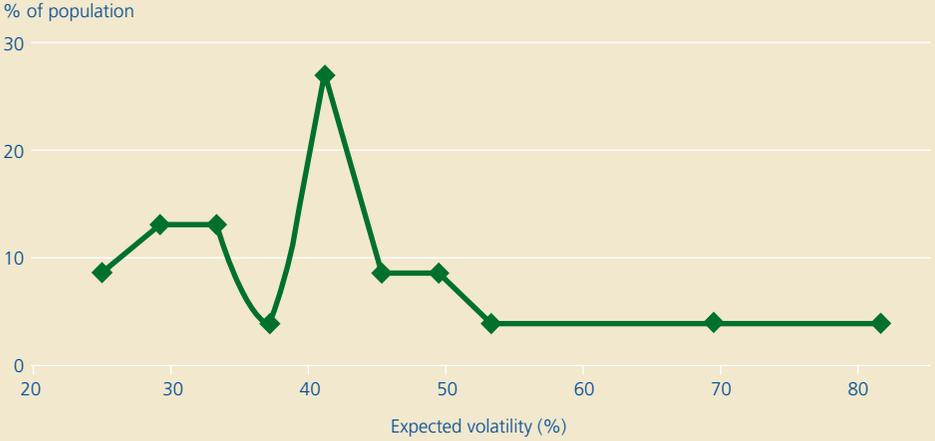


Chart 8 – Services



Chart 9 – Technology, media and telecommunications



Expected life of the instrument

The expected life used in the calculation of a share-based payment is the time from the date of grant the instrument is expected to be exercised. The contractual life (or expiration date) for an instrument would normally be the determinant of the life of the option, however several additional factors must be considered for non-traded share-based payment. These factors are further discussed in Parts C and D of Section IV.

Chart 10 – Expected life



The longer the expected life of the share-based payment beyond a certain point, generally the higher fair value of that instrument granted. Chart 10 identifies the range (and concentration within that range) of expected lives chosen by the population of companies selected:

Chart 10 shows a concentration of useful life selections at 4 years, 5 years, 6 years and 7 years. In fact, over 80% of the population has selected expected lives between 4 and 7 years. The expected life depends significantly on the volatility of the underlying shares and the characteristics of the individuals receiving the options. Charts 11 to 19 present the above information by industry:

Chart 11 – Health care and life science

% of population



Chart 12 – Energy, infrastructure, utilities, oil, mining and metal

% of population

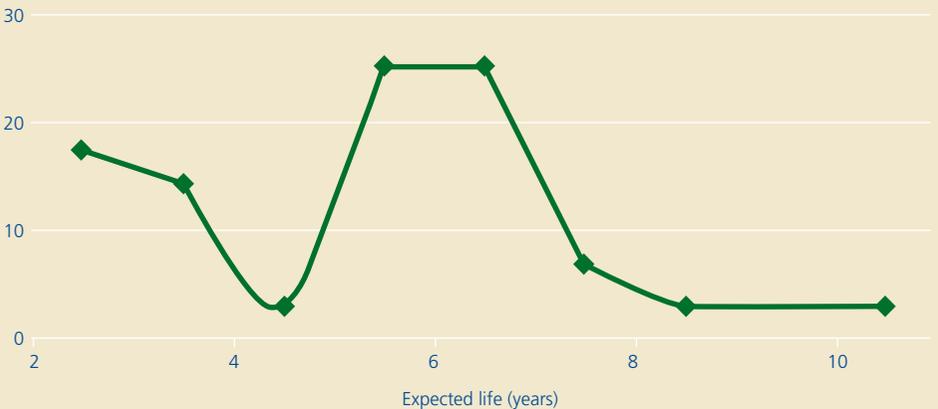


Chart 13 – Financial services

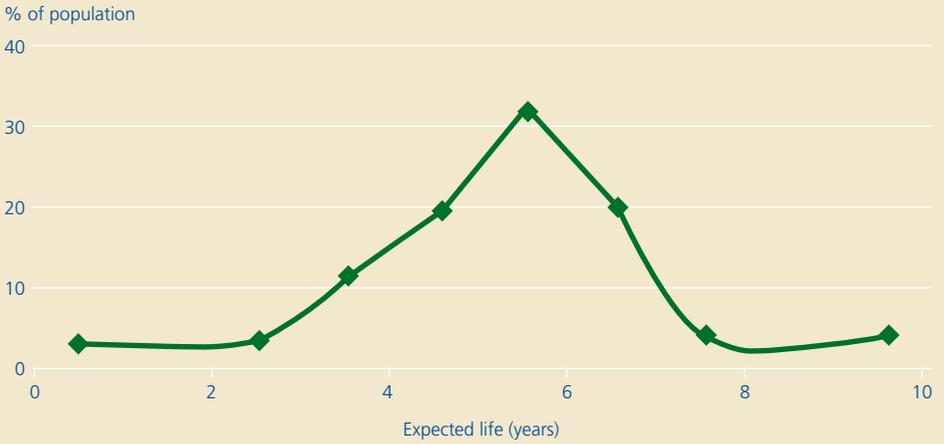


Chart 14 – Manufacturing

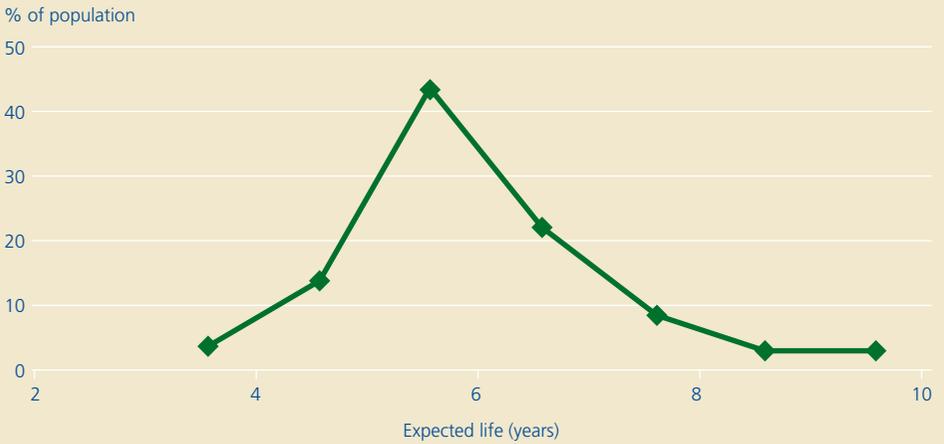


Chart 15 – Real estate

% of population

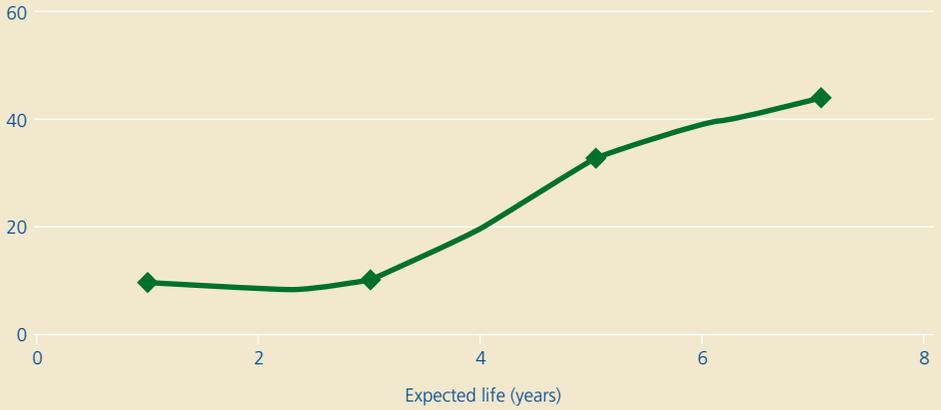


Chart 16 – Retail and customer products

% of population



Chart 17 – Services

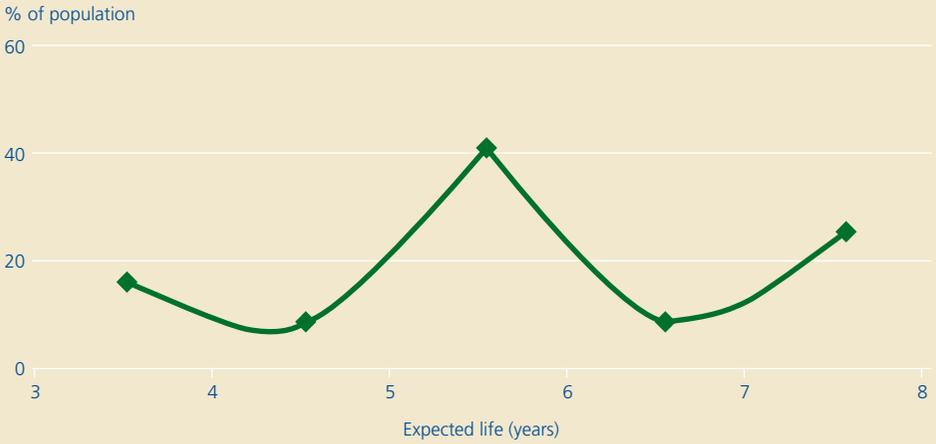


Chart 18 – Technology, media and telecommunications

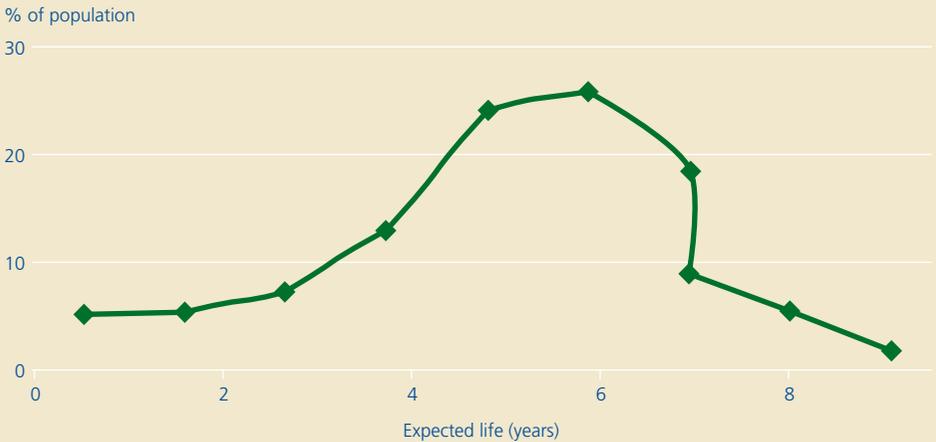


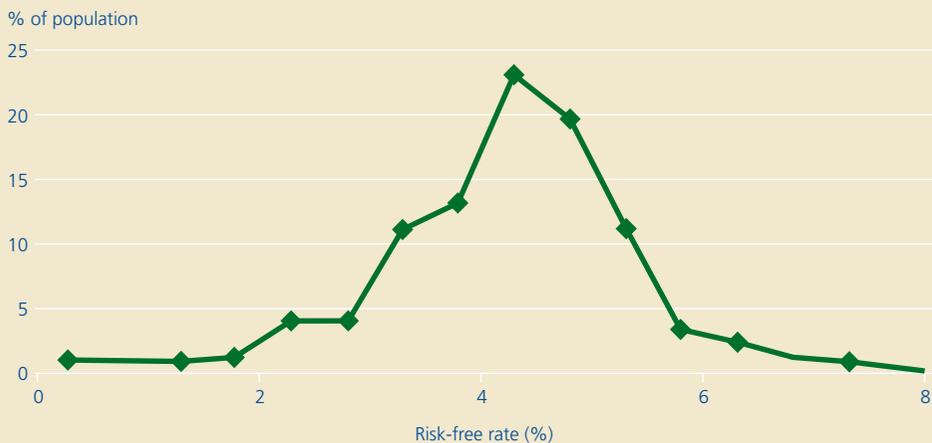
Chart 19 – Transport and leisure



Risk-free rate of interest

IFRS 2 requires use of the risk-free interest rate of the country in which the entity’s shares are principally traded with a remaining term equal to the expected life of the option. This should also be the risk-free interest rate of the country in whose currency the exercise price is expressed. As a result, timing of the share-based payment and the economy in which the payment is denominated will effect the measurement of the fair value of share-based payment. The following chart provides a summary of the risk-free rates of interest chosen by the population. The population was primarily made up of companies in the European and American markets and therefore, this chart should be viewed in that context.

Chart 20 – Risk-free rate



VI. Comparison of IFRS 2 and FASB Statement 123 Accounting for Stock-Based Compensation

Of the major accounting frameworks used around the world, IFRS and U.S. GAAP are the only two that have recognition and measurement standards on share-based payments. U.S. GAAP, depending on the terms of the share-based payment, allows a choice between different accounting models – the APB 25 **Accounting for Stock Issued to Employees** model, which requires share-based payments to be accounted for with intrinsic value at grant date as the measure of compensation expense. The SFAS 123 model requires share-based payments to be accounted for with fair value as the measure of compensation. Because of this choice in U.S. GAAP, this Section is not a complete comparison of IFRS and U.S. GAAP, but a comparison of the standard in U.S. GAAP that most closely resembles IFRS 2 – SFAS 123.

While the guidance in IFRS 2 and SFAS 123 are similar, there will remain differences between the two standards. The FASB is currently undertaking a project that will result in the replacement of SFAS 123; however, this project will attract considerable debate and therefore its final issuance is uncertain. In addition, based on current tentative decisions by the FASB, this project may still give different results. The IASB and the FASB have agreed that after the FASB project is completed, both Boards will undertake a project to eliminate the remaining differences. Therefore, some of the differences noted below may be removed at some point in the future either by an amendment to IFRS 2 or to U.S. GAAP.

A. Scope

SFAS 123 does not include Employee Share Ownership Plans (ESOP) in its scope as these are covered in AICPA SOP 93-6 **Employers' Accounting for Employee Stock Ownership Plans**. SOP 93-6 generally requires the recognition of shares contributed to an ESOP as an expense measured at fair value. Therefore, in practice, there should not be a difference in the accounting for ESOPs between IFRS and U.S. GAAP.

B. Recognition

Both SFAS 123 and IFRS 2 distinguish the measurement and recognition of compensation cost for share-based payments, depending upon whether an award qualifies as a liability or an equity instrument at the grant date. If the share-based payment is expected to be settled by the issuance of equity instruments, compensation cost is based on the fair value at the grant date. Conversely, if the share-based payment is expected to be settled in cash, the liability is remeasured each period.

IFRS 2 requires entities to base the recognition of the provision for compensation cost on the best available estimate of the number of share-based payment transactions that are expected to vest. That estimate should be revised if subsequent information indicates that actual forfeitures during the vesting period are likely to differ from initial estimates. SFAS 123 allows companies an alternative to the approach in IFRS 2 – to begin accruing compensation cost as if all share-based payments are expected to vest and to recognise forfeitures when they actually occur.

The recognition of the incremental fair value of a modification of outstanding awards is similar between IFRS 2 and SFAS 123. However, the measure of this modification could be different in that SFAS 123 requires the life of the old option immediately before the modification to be determined as the shorter of (1) its remaining expected life, or (2) the expected life of the modified option. IFRS 2 refers only to the fair value of the instrument, which (in accordance with the guidance in IFRS 2) would be determined by reference only to the remaining expected life of that instrument.

IFRS 2 requires that an entity separately measure the equity and debt components of a share-based payment transaction that allows the holder the choice of settlement in shares or other assets (e.g., cash). Therefore, the transaction could have an effect on both debt and equity balances. On the other hand, SFAS 123 requires that when the holder of the instrument has the choice of settlement, the entity should assume settlement is in cash and a liability should be recognised.

SFAS 123 provides an exemption from recording the discount on the sale of shares through an employee share purchase plan in income if the plan meets certain criteria. IFRS 2 does not provide such an exception.

IFRS 2 distinguishes performance-based awards on whether the performance measure is based on a market measurement or not. If the performance is market-based (e.g., based on target share price), compensation cost is recognised if all other vesting conditions are met, regardless of whether the market-based performance condition is met. SFAS 123 provides a similar requirement; however, the requirement is limited to a target share price and not whether the performance target is under the broader umbrella of being market-based. Additionally, IFRS 2 requires that the vesting date of share-based payment transactions, whose vesting is based on performance targets that are not market-based, be continuously adjusted to reflect the best estimate of the vesting date. SFAS 123 provides no guidance on performance targets that are not based on market conditions.

C. Measurement

Both SFAS 123 and IFRS 2 prescribe – as a general principle – the measurement of share-based payments at fair value. U.S. GAAP provides an exemption from a true fair value measurement for companies that are not publicly traded. An entity that is not publicly traded can use minimum value – assuming an expected volatility of zero.

IFRS 2 requires that when the fair value of equity instruments cannot be estimated reliably, the equity instruments first be measured at their intrinsic value at the date the goods and/or services are received. The instruments are then remeasured at their intrinsic value until the instruments are ultimately exercised. SFAS 123 requires that fair value be determined at the first date at which it is possible to reasonably estimate fair value (and not remeasured, or remeasured to intrinsic value).

IFRS 2 requires that the liability related to cash-settled share-based payments be measured at fair value. SFAS 123 and FASB Interpretation No. 28 **Accounting for Stock Appreciation Rights and Other Variable Stock Option or Award Plans** requires that the liability be based on the entity's share price at the end of each reporting period.

IFRS 2 states that if share-based payment transactions are for the receipt of goods or services with non-employees (or those acting as employees), there is a rebuttable presumption that the fair value of the goods or services is more reliable than the fair value of the equity instruments. U.S. GAAP provides no rebuttable presumption, but requires the use of the more reliable measurement – which may be the fair value of the goods or services.

IFRS 2 requires share-based payment transactions with parties other than employees to be measured at fair value at the date the entity obtains the goods or the counterparty renders service. EITF 96-18 **Accounting for Equity Instruments that are Issued to Other than Employees for Acquiring, or in Conjunction with Selling, Goods or Services** requires that the measurement date be the earlier of the date the commitment to perform was received or the date the performance was completed.

Both SFAS 123 and IFRS 2 provide guidance on when expected dividends should be included in the grant date measurement of fair value. However, IFRS 2 does not provide guidance on how those dividends should be accounted for when issued. SFAS 123 provides guidance that requires dividends paid on shares that vest to be included in retained earnings, while nonforfeitable dividends paid on forfeited shares should be recognised as additional compensation expense.

D. Disclosure

IFRS 2 requires the following disclosures in addition to those currently required in SFAS 123:

- The weighted average share price at the date of exercise for options exercised during the period.
- For the measurement of share options:
 - The weighted average share price and exercise price used in the valuation of share options;
 - Any other inputs to the option pricing model, including the method used and key assumptions made to incorporate the effects of expected early exercise behaviours;
 - How the expected volatility was determined, including an explanation of the extent to which expected volatility was based on historical volatility; and
 - Whether, and how, any other features of the option grant were incorporated into the measurement of fair value, such as a market condition.

- For the measurement of shares or other equity instruments other than share options:
 - If the fair value was not measured on the basis of an observable market price, how that fair value was determined;
 - Whether, and how, expected dividends were incorporated into the measurement of fair value; and
 - Whether, and how, any other features of the shares or other equity instruments granted were incorporated into the measurement of fair value.
- For share-based payment transactions that were modified:
 - The incremental fair value granted as a result of those modifications; and
 - Information on how the incremental fair value granted was measured consistent with the information required for share options, shares, or other equity instruments.
- The method to determine directly the fair value of goods or services.
- If the presumption to measure the fair value of goods and services received directly by measuring the fair value of those goods and services was rebutted (that is, the goods and services were measured by reference to the equity instruments granted), that fact, and an explanation of why the presumption was rebutted must be disclosed.

On the other hand, SFAS 123 requires the separate disclosure of the weighted average exercise prices and weighted average fair values of options granted with exercise prices (1) equal to, (2) exceeding or (3) less than the market price of the shares on the grant date. IFRS 2 does not require this disclosure.



Appendix A – Illustrative disclosure

Summary of significant accounting policies

Share-based payments

On 1 January 2005, the Group applied the requirements of IFRS 2 Share-based Payments. In accordance with the transition provisions, IFRS 2 has been applied to all grants after 7 November 2002 that were unvested as of 1 January 2005.

The Group issues equity-settled and cash-settled share-based payments to certain employees. Equity-settled share-based payments are measured at fair value at the date of grant. The fair value determined at the grant date of the equity-settled share-based payments is expensed on a straight-line basis over the vesting period, based on the Group's estimate of shares that will eventually vest. A liability equal to the portion of the goods or services received is recognised at the current fair value determined at each balance sheet for cash-settled share-based payments.

Fair value is measured by use of the Black-Scholes pricing model. The expected life used in the model has been adjusted, based on management's best estimate, for the effects of non-transferability, exercise restrictions, and behavioural considerations.

The Group also provides employees the ability to purchase the Group's ordinary shares at 85 percent of the current market value. The group records an expense, based on its best estimate of the 15 percent discount related to shares expected to vest on a straight-line basis over the vesting period.

See Note 20 for further description of the share-based payment plans.

Note 20: Share-based payments

Equity-settled share option plan

The Group plan provides for a grant price equal to the average quoted market price of the Group shares on the date of grant. The vesting period is generally 3 to 4 years. If the options remain unexercised after a period of 10 years from the date of grant, the options expire. Furthermore, options are forfeited if the employee leaves the Group before the options vest.

	20X4		20X5	
	Options	Weighted average exercise price (in €)	Options	Weighted average exercise price (in €)
Outstanding at beginning of period	42,125	64.26	44,440	65.75
Granted during the period	11,135	68.34	12,120	69.68
Forfeited during the period	(2,000)	65.67	(1,000)	66.53
Exercised during the period	(5,575)	45.32	(8,300)	53.69
Expired during the period	(1,245)	82.93	(750)	82.93
Outstanding at the end of the period	44,440	65.75	46,510	66.33
Exercisable at the end of the period	23,575	46.47	24,650	52.98

The weighted average share price at the date of exercise for share options exercised during the period was €53.69. The options outstanding at 31 December 20X5 had a weighted average exercise price of €66.33, and a weighted average remaining contractual life of 8.64 years.

The inputs into the Black-Scholes model were as follows:

	20X4	20X5
Weighted average share price	68.34	69.68
Weighted average exercise price	68.34	69.68
Expected volatility	40%	35%
Expected life	3-8 years	4-9 years
Risk free rate	3%	3%
Expected dividends	None	None

Expected volatility was determined by calculating the historical volatility of the Group's share price over the previous 9 years. The expected life used in the model has been adjusted, based on management's best estimate, for the effects of non-transferability, exercise restrictions, and behavioural considerations.

During 20X5, the Group re-priced certain of its outstanding options. The strike price was reduced from €82.93 to the then current market price of €69.22. The incremental fair value of €125,000 will be expensed over the remaining vesting period (2 years). The Group used the inputs noted above to measure the fair value of the old and new shares.

The Group recognised total expenses of €775,000 and €750,000 related to equity-settled share-based payment transactions in 20X4 and 20X5, respectively.

Cash-settled share-based payments

The Group issues to certain employees share appreciation rights (SARs) that require the Group to pay the intrinsic value of the SAR to the employee at the date of exercise. The Group has recorded liabilities of €1,325,000 and €1,435,000 in 20X4 and 20X5. Fair value of the SARs is determined by using the Black-Scholes model using the assumptions noted in the above table. The Group recorded total expenses of €325,000 and €110,000 in 20X4 and 20X5, respectively. The total intrinsic value at 20X4 and 20X5 was €1,150,000 and €1,275,000, respectively.

Other share-based payment plans

The employee share purchase plans are open to almost all employees and provide for a purchase price equal to the daily average market price on the date of grant, less 15 percent. The shares can be purchased during a two-week period each year. The shares so purchased are generally placed in the employee share savings plan for a 5-year period. Pursuant to these plans, the Group issued 2,123,073 ordinary shares in 20X5, at weighted average share prices of €64.35.

Appendix B – Illustration of the Black-Scholes calculation

The following facts will be used to illustrate the Black-Scholes calculation:

Grant date	1 January 2003	
Strike price (x)	100	$C = Se^{-yt}N(d_1) - Xe^{-rt}N(d_2).$
Current share price (s)	100	
Expected option life (t)	5	$d_2 = d_1 - \sigma\sqrt{t}$
Volatility (σ)	30.0%	$d_1 = \frac{\ln(\frac{s}{x}) + (r - y + \frac{\sigma^2}{2})t}{\sigma\sqrt{t}}$
Risk free rate (r)	3.0%	
Dividend yield (y)	1.0%	

The Black-Scholes formula can be broken down into the following 9 steps:

Step 1		
Current share price	100	
Divided by strike price	<u>100</u>	$\ln(\frac{s}{x})$
Result	1	
Natural logarithm of result	<u>0</u>	A
Step 2		
Square of the volatility	9.0%	
Divided by 2	<u>2</u>	$(r - y + \frac{\sigma^2}{2})t$
Result	4.5%	
Minus dividend yield	-1.0%	
Plus risk free rate	<u>3.0%</u>	
Result	6.5%	
Times expected life	5	
Result	<u>0.325</u>	B
Step 3		
Square root of expected life	2.236	
Times volatility	30.0%	$\sigma\sqrt{t}$
Result	<u>0.671</u>	

Step 4		$(A + B)/C =$	<u>0.484</u>	D	d_1
Step 5					
Result from D			0.484		$d_2 = d_1 - \sigma\sqrt{t}$
Minus result from C			0.671		
Result			<u>-0.186</u>	E	
Step 6					
Normal distribution of D			<u>0.686</u>	F	$N(d_1)$
Step 7					
Current share price			100		$Se^{-rt} N(d_1)$
Times dividend effect			<u>0.95</u>		
Result			95.10		
Times F			0.686		
Result			<u>65.24</u>	G	
Step 8					
Risk free rate			3.0%		$Xe^{-rt} N(d_2)$
Times expected life			5		
Times negative 1			<u>-1</u>		
Result			-0.15		
Exponential of result			<u>0.861</u>		
Times strike price			100		
Result			86.07		
Times normal distribution of E			0.426		
Result			<u>36.67</u>	H	
Step 9					
		$G - H =$	<u>28.56</u>	I	C

The results show that the fair value of each option from the Black-Scholes calculation is 28.56 per option. As a rule of thumb, the Black-Scholes model produces a result that is usually between 20 and 40 percent of the share price. The expected life and volatility inputs require considerable judgement in the model and have a significant effect on the result. The following matrix depicts a sensitivity analysis of the results from the Black-Scholes model had each end of the ranges been used. With everything else being static, the result from the above calculation could have ranged between 10.81 and 72.07 per share option, depending on the inputs related to volatility and expected life.

Volatility	Expected life			
	1.50	3.00	7.00	10.00
24.0	10.81	17.26	29.62	36.74
40.0	18.15	27.15	42.90	51.16
50.0	22.65	33.11	50.59	59.26
69.0	30.94	43.82	63.43	72.07

Appendix C – Illustration of the measurement of employee share options

The following illustration provides an example of one way to summarise the calculation and allocation of the total expense to employee groups for a grant of share options that cliff vest at the end of three years. Following this illustration is a sample calculation of the appropriate expense amount under the true-up method.

Cliff vesting

Grant date	1 January 2003
Strike price	100
Current share price	100
Volatility	30.0%
Risk free rate	3.0%
Dividend yield	1.0%

Employee category	No. options granted	Expected life	Details	Maximum potential expense
Executive team	100,000	6.5	Option value 33.27 Total expense 3,327,000	3,327,000
Senior managers	75,000	6	Option value 31.77 Total expense 2,382,750	2,382,750
Managers	75,000	5	Option value 28.56 Total expense 2,142,000	2,142,000
Professional staff	50,000	4	Option value 25.01 Total expense 1,250,500	1,250,500
Other staff	25,000	3	Option value 21.01 Total expense 525,250	525,250
Total options granted	325,000		Maximum potential expense for grant	9,627,500

The following table is an example of one way to calculate the expense for the fourth of the six vesting periods. For simplicity, this illustration assumes 100% of outstanding options are expected to vest.

Period 4 expense – Cliff vesting

Employee description	Options O/S beginning	Forfeiture	Options O/S end	Per option grant date value	Current period expense (1/6th)	Reversal (3/6th)	Period 4 expense
Executive team	100,000	–	100,000	33.27	554,500	–	554,500
Senior managers	75,000	5,000	70,000	31.77	370,650	79,425	291,225
Managers	60,000	10,000	50,000	28.56	238,000	142,800	95,200
Professional staff	30,000	10,000	20,000	25.01	83,367	125,050	-41,683
Other staff	10,000	2,000	8,000	21.01	28,013	21,010	7,003
							906,245

Employee share option plan – Graded vesting

The following illustration provides an example of one way to summarise the calculation and allocation of the total expense to employee groups for a share option that has **graded vesting**. Under a graded vesting plan, the share options are assigned to the period in which they vest. Therefore, the options that vest in year two are presumed to have a two-year vesting period.

Graded vesting

Grant date	1 January 2003
Strike price	100
Current share price	100
Volatility	30.0%
Risk free rate	3.0%
Dividend yield	1.0%

Employee category	No. options granted	Expected life	Vesting schedule			Maximum expense		
			Vesting period (years):					
			1	2	3			
			Details by vesting period					
Executive team	100,000	6.5	Option value	33.27	30.20	26.84	3,010,333	
			Total expense	1,109,000	1,006,667	894,667		
Senior managers	75,000	6	Option value	31.77	28.56	25.01	2,133,500	
			Total expense	794,250	714,000	625,250		
Managers	75,000	5	Option value	28.56	25.01	21.01	1,864,500	
			Total expense	714,000	625,250	525,250		
Professional staff	50,000	4	Option value	25.01	21.01	16.32	1,039,000	
			Total expense	416,833	350,167	272,000		
Other staff	25,000	3	Option value	21.01	16.32	10.41	397,833	
			Total expense	175,083	136,000	86,750		
Total options granted	325,000						Maximum expense for this grant	8,445,167

Notes

Notes

Notes

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