

Accounting for Employee Stock Options: Recent FASB and IASB Actions, Part II

At recent meetings, FASB and IASB have both emphasized how important they believe accounting convergence to be and, in furtherance of that goal, have resolved many of their previous differences.

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In July 2003, FASB and the IASB reached different tentative decisions on how to account for the income tax effects of stock-based compensation. FASB voted to retain the existing rule of FAS 123, under which the tax effects are allocated between income and equity. The IASB reaffirmed the approach of the proposed IFRS, under which companies must take into income all tax effects related to equity instruments.

The FASB decision was taken to maintain consistency with core concepts that underlie other FASB standards. There was also concern that IASB's approach could cause counterintuitive results, such as creating income for companies when employees exercise stock options.¹ Given the nonsensical results under FAS 87, which allowed companies to report massive amounts of pension income throughout the 1990s, this is an important issue.²

Under Statement 123, excess tax benefits (tax benefits in excess of those associated with the cumulative recognized compensation expense) are treated as additional paid-in capital.³ If the realized tax benefits are less than the recorded tax benefits (based on the cumulative amount of stock-based compensation expense recognized), the difference (that is, the excess deferred tax asset) is written off to the income statement, to the extent that it cannot be offset by excess tax benefits previously recorded as additional paid-in capital from other equity awards.

Under the Proposed IFRS, all tax benefits are recognized in the income statement.⁴ The IASB con-

cluded that issuing equity instruments in exchange for services generates compensation expense, an income statement item; consequently, tax benefits received relate to an income statement item, not an equity item.⁵ This approach might result in an entity recognizing income in excess of the cumulative compensation expense. The Invitation to Comment gives the following example:

Company A has a 35% effective tax rate. It recognizes \$1,000,000 in cumulative pretax compensation expense over the 3-year service period prior to vesting for 200,000 stock options issued to certain officers, based on an exercise price of \$10. Five years after the grant date, and 2 years after the award is accounted for as compensation, the market price of Company A stock is \$60. Option holders exercise 100,000 stock options, which results in tax benefits of \$1,750,000 $(\$60 - \$10) * 100,000 * 35%$ to Company A (assuming that the options exercised were not incentive stock options).

Under Statement 123, \$1,575,000⁶ of the tax benefit is credited directly to equity. Under the Proposed IFRS, \$1,750,000 of the tax benefit is credited to the income statement. Hence, the cumulative after-tax effect from the issuance of stock options results in income.

FASB commented that this difference was perhaps the most significant between the two standards. At the joint meeting with FASB on October 22, 2003, the IASB members voted to follow the FASB approach, so this difference has now been resolved.

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Scope of the Standards. The scope of the standards is different in three principal areas:⁷

1. Employee Stock Ownership Plans (ESOPs).⁸ In the U.S., ESOPs are accounted for in accordance with AICPA Statement of Position (SOP) 93-6 and are excluded from the scope of Statement 123. ESOPs are included in the scope of the Proposed IFRS.⁹ The IASB concluded that, in principle, there is no reason to treat different types of employee stock purchase plans (which would include ESOPs) differently.¹⁰

2. Employee Stock Purchase Plans (ESPPs).¹¹ In Statement 123, FASB determined that certain ESPPs are not

compensatory.¹² The IASB rejected an exclusion for plans in which the discount offered is small.¹³ The IASB noted that defining the meaning of small in this context is problematic; in addition, it noted that an argument could be made that rights given to employees with no significant value would likely be immaterial and, thus, would not need a specific exclusion.¹⁴

At its meeting on September 10, 2003, FASB decided that an ESPP is not compensatory only if the terms of the plan are the same as those available to all holders of that class of equity. The IASB has also tentatively decided that the IFRS should not contain exemptions for types of employee share plans,

¹ IASB AND FASB Disagree on Accounting for Tax Effects of Stock Options, *Tax Notes Today*, July 25, 2003, 2003 TNT 143-6.

² As one commentator noted: "We believe that tax benefits derived from stock-based compensation should be recognized in the income statement, to the extent that the cost of that compensation has previously been recognized. This approach is consistent with Statement 123's philosophical focus on the issuance of equity awards. Since the tax benefit is not realized until after the awards are issued, it would appear to be a capital transaction, to the extent that the benefit exceeds the compensation cost incurred in connection with the award. Any excess associated tax consequences should be allocated to contributed capital, not to the income statement. The IFRS alternative is complicated; its requisite use of intrinsic value to report US tax benefits would be inconsistent with the use of fair value to recognize cost in the financial statements. Accounting for taxes is an area that is challenging even for experienced practitioners, and the IFRS approach would further hamper the transparency of financial statements." [Mercer letter, n. 53 above]

³ Paragraph 143 of Statement 109, "Accounting for Income Taxes", states that "The Board believes that the tax consequences of an event that increases or decreases contributed capital should be allocated directly to contributed capital". Upon exercise of the option, the issuing entity receives cash to convert one form of equity interest to another. The last event is between the issuing entity and an equity interest holder, but may result in excess tax benefits received from the taxing authority. As a result, excess tax benefits received from this last event represent tax consequences that should be allocated directly to contributed capital.

⁴ See ¶¶ 79-82 of the Invitation to Comment.

⁵ See ¶¶ BC295 through BC305 and E5 of Appendix E of the Proposed IFRS.

⁶ $\{[(\$60 - \$10) \times 100,000] - \$1,000,000 \div (100,000/200,000)\} \div 35\%$.

⁷ Invitation to Comment, ¶ 14. Under current U.S. accounting standards, stock-based compensation (SBC) transactions with employees and non-employees are accounted for under various standards, including Statement 123; APB Opinion No. 25; AICPA Statement of Position 93-6 (ESOPs); and EITF Issue No. 96-18 (non-employees). The result is that similar SBC transactions can be accounted for differently, so there is a lack of comparability among enterprises that use SBC. A further area of disagreement has emerged recently: for arrangements with cash alternatives, the IASB tentatively agreed to align the requirements of the IFRS with IAS 32. Thus, irrespective of whether the entity or

the other party has the choice of settlement, the transaction is accounted for as a cash-settled transaction to the extent of the cash alternative, with the equity component (if any) accounted for as an equity-settled transaction. The Board noted that this approach differs from the approach applied in FAS 123, which FASB recently tentatively agreed to retain. Therefore, this issue was to be discussed at the joint meeting with FASB to be held in October, 2003.

⁸ Invitation to Comment ¶15.

⁹ See ¶ 15 of the Invitation to Comment.

¹⁰ See ¶¶ BC8-BC15 of the Proposed IFRS. At its meeting on September 10, 2003, FASB decided that ESOPs would be addressed in a subsequent phase of the project that would result in a separate Exposure Draft, so the current accounting treatment for ESOPs will be continued for the time being (FASB Project Updates, November 24, 2003, www.fasb.org).

¹¹ Invitation to Comment ¶16.

¹² In order for an ESPP not to be compensatory it must satisfy various requirements. The discount from market price may not exceed the greater of (1) a per-share discount that would be reasonable in a recurring offer of stock to stockholders or others or (2) the per-share amount of stock issuance costs avoided by not having to raise a significant amount of capital by a public offering. A discount of 5% or less is considered to comply with this criterion. If the price is based on the lesser of market price at the date of grant or market price at the date of purchase, this causes the plan to be compensatory. See ¶¶ 23 and 24 of FAS 123. Some ESPPs that qualify for tax-favored treatment under section 423 of the Internal Revenue Code will not satisfy these requirements: for example, a plan under which the option price is 85 percent of the lesser of (1) the market price when the option is granted or (2) the market price when the option is exercised, which may be up to 27 months from the grant date. FASB issued additional guidance on determining the compensatory value of several variations of look-back options in Technical Bulletin 97-1. If an ESPP includes an excessive discount that cannot be justified under the criteria in ¶ 23(b) of FAS 123, the plan is compensatory and the entire discount must be used in determining compensation cost. An ESPP may not be accounted for as partially compensatory and partially noncompensatory. [FAS 123, ¶ 238]

¹³ See ¶¶ BC8-BC15 of the Basis of Conclusions for the Proposed IFRS.

including broad-based plans, i.e., the approach proposed in the proposed IFRS should be retained.¹⁵

Most commentators supported a specific exclusion for ESPPs.¹⁶ At its meeting in September, 2003, the IASB rejected pleas to exempt ESPPs.¹⁷

Given the number of shares distributed under broad-based ESPPs, the amount of compensation expense can be significant. Some companies are already cutting back their ESPPs in anticipation of a mandated expense, and the number of companies

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adopting new plans has stalled. In March, 2003, Mellon Financial Corp. reduced the discount from 15% to 5%; Citigroup has reduced the maximum employee contribution from \$75,000 over two years to \$15,000.¹⁸ According to a recent survey, nearly 75% of employers said they would cut stock-option awards to rank and file employees, if they were

required to expense options, whereas only 20% would cut awards to their top executives.¹⁹

3. APB Opinion 25.²⁰ Opinion 25 specifies that stock-based compensation transactions with employees be measured at their intrinsic value on the date at which both (a) the number of equity instruments the employee is entitled to and (b) the option or stock price are known. Statement 123 permits an entity to account for those arrangements under Opinion 25.²¹ The proposed IFRS has no corresponding provision.

Issuance and Forfeitures. Under FAS 123, equity instruments are issued only when valuable consideration has been exchanged.²² As a result, equity instruments subject to service or performance conditions are granted but not issued: they represent a conditional obligation to issue equity instruments in exchange for valuable consideration at a later date.²³ This provides the conceptual basis for (a) the method used by Statement 123 to account for forfeitures, (b) the method used by Statement 123 to account for performance-based awards and (c) the modified grant-date method used

¹⁴ "... even if one accepts that an exemption is appropriate, specifying its scope is problematic, e.g. deciding what constitutes a 'small' discount. Some argue that a 5 per cent discount from the market price (as specified in SFAS 123) is too high, noting that a block of shares can be sold on the market at a price close to the current share price. Furthermore, it could be argued that it is unnecessary to exempt these plans from the standard. If the rights given to the employees do not have a significant value, this suggests that the amounts involved are immaterial. Because it is not necessary to include immaterial information in the financial statements, there is no need for a specific exclusion in an accounting standard." [¶ BC 14 of the Basis of Conclusions for the Proposed IFRS]

¹⁵ FASB Project Updates, November 24, 2003, www.fasb.org; IASB Update, September, 2003, www.iasb.org; IASB To Allow No Exceptions to Share-Based Payment Rule, BNA Pension & Benefits Reporter, September 30, 2003, at 2119. However, if an employee were also a shareholder, then any benefits made available to all shareholders, such as the right to acquire the entity's shares at a discounted price, would not be within the scope of the IFRS. The IASB also tentatively agreed to ask the IFRIC to consider whether SIC-12 "Consolidation - Special Purpose Entities" should be amended to remove the scope exclusion for equity compensation plans.

¹⁶ For instance, see the Mercer letter, n. 53 above: "We support a safe harbor approach that would treat as noncompensatory all broad-based, tax-favored equity plans, such as Section 423 plans in the US and Save-As-You-Earn plans in the UK. It would encourage companies to provide equity ownership opportunities to rank and file employees, without the potential for adverse accounting consequences. And it would not compromise accounting principles applicable to other types of plans since it establishes a 'bright line' standard.... If the exclusion for ESPPs remains narrow, or is eliminated, we would like to see accounting for look-back plans

simplified. Certain provisions of FASB Technical Bulletin 97-1 are highly impractical. For example, plan types g and h require a company to calculate the cost of a modification each time an employee changes his or her withholdings. For companies with thousands of participants, this is costly and time-consuming- and the result is generally not material." See also The Financial Executives International and Institute of Management Accountants comments to FASB, January 31, 2003, available at www.fei.org: "The Committees believe that some form of scope exclusion is appropriate for ESPPs that provide a de minimus discount from market price.... we believe it is better to have an explicit exclusion, as provided for in FAS 123, rather than to rely on an implied exclusion on the basis of materiality, as the IASB ED provides. The latter requires an annual analysis to be performed and is less likely to be consistently applied."

¹⁷ Paul Grant, No Exemptions for Share Plans, Says IASB, Sept. 22, 2003, www.accountancy.com; IASB To Allow No Exemptions to Share-Based Payment Rule, BNA Pension & Benefits Reporter, Sept. 30, 2003, at 2119.

¹⁸ Ruth Simon, Popular Stock Perk Faces Cutbacks, Wall Street Journal, Sept. 4, 2003, at D1. On June 9, 2003, IRS issued new proposed regulations on Incentive Stock Options (ISOs) and ESPPs [REG-12917-02]. The new rules would be effective 180 days after final regulations are published, for ISOs and ESPP options granted after that date. Meanwhile, taxpayers may rely on the proposed regulations for options granted after June 9, 2003.

¹⁹ Ruth Simon, Employers May Cut Stock Awards, Wall Street Journal, October 7, 2003, at D2.

²⁰ Invitation to Comment ¶17.

²¹ See discussion above.

²² Invitation to Comment ¶30.

²³ See footnote 4 of Statement 123 for further discussion of the notion of issuance.

in Statement 123, which is a hybrid of grant-date and vesting-date measurement methods.²⁴

Forfeitures are options granted that do not vest for failure to achieve service or performance conditions. Statement 123 does not permit an entity to consider the effect of forfeiture when estimating the fair value of an equity instrument, because forfeiture does not affect the value of an equity instrument at issuance.²⁵ Statement 123 permits a choice between two methods of accounting for forfeitures: (1) At grant date, an entity can estimate the amount of equity instruments expected to be forfeited and true up that estimate based on actual forfeitures, or (2) an entity may decide not to estimate expected forfeitures but to recognize forfeitures as they occur. The same aggregate compensation cost is recognized under both methods, but the amounts recognized in any single period will differ.

Under the Proposed IFRS, issuance has no effect on its conclusions, regardless of how it is defined,²⁶ and the method of treating forfeitures is based on an entirely different rationale. The IASB concluded that vesting conditions (regardless of type) impact the fair value of rights to equity instruments; therefore, the grant-date fair value of equity instruments should take into account the possibility of forfeiture.²⁷ An entity must consider the effect of forfeiture by incorporating it into the option-pricing model or by adjusting the model's output in estimating the fair value of each option at grant date. By contrast, Statement 123 notes that the possibility of forfeiture does not

impact the valuation of equity instruments when they are issued.

The effect of forfeiture is also incorporated into the Proposed IFRS's attribution method, which takes into account expected forfeitures in calculating the grant-date fair value of services to be received during the vesting period. In other words, if employee compensation expense under the Proposed IFRS is a function of price (the grant-date fair value of equity instruments) and quantity (the amount of services to be received during the vesting period), both price and quantity are adjusted for the effect of forfeiture.²⁸

Under Statement 123, excess tax benefits (tax benefits in excess of those associated with the cumulative recognized compensation expense) are treated as additional paid-in capital.

This difference results in forfeitures being accounted for in two distinct manners under the two standards.²⁹ For example, the Proposed IFRS does not reverse compensation expense for options that are forfeited.³⁰

Consistent with its measurement objective, the Proposed IFRS requires that services be accounted for when received (that is, when changes in net assets occur). Thus, compensation expense is recognized as services are received and consumed, under a "units of service" approach.³¹ The Proposed IFRS states that

²⁴ See ¶¶ 96 and 158 of, and the dissents to, Statement 123. As implied by the dissent, Statement 123 uses a notion of issuance that is consistent with a vesting-date measurement method, not a grant-date measurement method.

²⁵ See ¶¶ 17 and 166-168 of Statement 123.

²⁶ "The word 'issue' is used in a broad sense. For example, a transfer of shares held in treasury (own shares held) to another party is regarded as an 'issue' of equity instruments. Some argue that if options or shares are granted with vesting conditions, they are not 'issued' until those vesting conditions have been satisfied. However, even if this argument is accepted, it does not change the Board's conclusions on the proposals in the draft IFRS, and therefore the word 'issue' is used broadly, to include situations in which equity instruments are conditionally transferred to the counterparty, subject to the satisfaction of specified vesting conditions." [IASB Basis for Conclusions, note to ¶ BC 1] See also IASB Basis for Conclusions, note to ¶ BC 14 ("even if one accepts that the option is not issued until vesting date, this does not mean that there is no equity interest until then. If an equity interest exists before vesting date, that interest should not be remeasured. Moreover, the conversion of one type of equity interest into another should not, in itself, cause a change in total equity, because no change in net assets has occurred.")

²⁷ See ¶ BC171 of the Basis of Conclusions for the Proposed IFRS.

²⁸ This is fully discussed in ¶¶ 39-60 of the Invitation to Comment.

²⁹ See ¶¶ 30-37 of the Invitation to Comment.

³⁰ See ¶¶ 30-37 of the Invitation to Comment; see also IASB Basis for Conclusions, ¶¶ BC205, BC207 ("The lapse of an option at the end of the exercise period does not change the fact that the original transaction occurred, i.e. goods or services were received as consideration for the issue of an equity instrument (the share option). The lapsing of the option does not represent a gain to the entity, because there is no change to the entity's net assets. In other words, although some might see such an event as being a benefit to the remaining shareholders, it has no effect on the entity's financial position. In effect, one type of equity interest (the option holders' interest) becomes part of another type of equity interest (the shareholders' interest). The Board therefore concluded that the only accounting entry that might be required is a movement within equity, to reflect that the options are no longer outstanding (i.e. as a transfer from one type of equity interest to another)... The same analysis applies to equity instruments that are forfeited, i.e. do not vest because of failure to meet the vesting conditions.")

forfeitures do not alter the fact that an entity has received (and consumed) services as consideration for an equity instrument.³² In addition, forfeitures do not represent a change in net assets. Thus, compensation expense recognized by an entity related to forfeited equity instruments is not reversed under the Proposed IFRS. This conclusion is fundamentally different from Statement 123, in which such compensation expense is reversed because the equity instruments are considered not to have been issued for accounting purposes.

Example.³³ An entity grants ten stock options, which vest at the end of three years of service, to each of ten employees (100 stock options in total), and the entity uses an option-pricing model to determine the grant-date fair value per option of \$12 (this value has not been adjusted for the possibility of forfeiture). The entity expects that 20% of the options will not vest.

In the U.S., ESOPs are accounted for in accordance with AICPA Statement of Position (SOP) 93-6 and are excluded from the scope of Statement 123.

Ultimately, 50% of the options do not vest due to unusual turnover.

Under Statement 123, the entity must use the grant-date fair value of \$12 to determine the total cost of the award. The entity elects to estimate at the grant date the effect of forfeitures on compensation cost. The total value of the award at grant date is \$960 (\$12 fair value per option x 80 options expected to

vest). No compensation cost is recognized for options that are expected to be forfeited. Because only 50 of the options ultimately vest, the entity recognizes cumulative compensation expense of \$600 (\$12 fair value per option x 50 options that actually vest).

Under the Proposed IFRS, the entity must consider the effect of forfeiture on the grant-date fair value; therefore, the entity calculates that the fair value of each option is \$9.60 (\$12 x (100% - 20%)). Note that the fair value per option under Statement 123 is \$12, but \$9.60 under the Proposed IFRS. The fair value of the award at grant date is \$960 (\$9.60 fair value per option * total options in the award). No further adjustment to the option's grant-date fair value is made for actual forfeitures; however, actual forfeitures can indirectly affect the compensation recognized through the Proposed IFRS's units-of-service attribution model. Compensation cost is recognized for services received in the period prior to forfeiture. Consequently, the number of options that actually vest has no impact on the amount of compensation for each unit-of-service received that is recognized in the income statement under the Proposed IFRS, and recognized compensation expense related to services received is not reversed under the Proposed IFRS if options are forfeited. Effectively, the units-of-service received from employees that vest and those that do not vest are considered of equal value.³⁴ Therefore, the fact that 50% of the options do not vest does not affect the amount of compensation recognized for each unit-of-service received. If the entity receives all of the units-of-service it expected to receive, it would recognize cumulative compensation expense of \$960. If the entity did not receive all of the units-of-service that it expected to receive (because there was unusual employee turnover, as in the example

³¹ "If the services received are measured by reference to the fair value of the equity instruments granted, the entity shall determine the amount to attribute to each unit of service received. To determine this amount, the entity shall: (a) presume that at grant date the total fair value of the equity instruments granted to the counterparty (or counterparties), determined in accordance with paragraphs 17-25, equals the total fair value of the services the entity expects to receive during the vesting period from that counterparty (or counterparties); (b) estimate at grant date the number of units of service it expects to receive during the vesting period from the counterparty (or counterparties). To make this estimate, the entity shall estimate the extent to which the counterparty (or counterparties) is (are) expected to complete the specified period of service; (c) divide the fair value of the equity instruments granted by the number of units of service expected to be received during the vesting period. This amount is the deemed fair value of each unit of service subsequently received.

"The entity shall measure the services received in each period by multiplying the number of units of service received from

the counterparty (or counterparties) during that period by the deemed fair value per unit of service. If a counterparty ceases to render service during the period (e.g. an employee leaves), the entity shall include the services received from that counterparty before cessation of service in determining the number of units of service received during the period, but shall not recognise any further amounts in respect of that counterparty. This accounting method is illustrated in Appendix B.

"Having recognised the services received and a corresponding increase in equity, the entity shall make no subsequent adjustment to total equity, even if the equity instruments granted are later forfeited or, in the case of options, the options are not exercised." [¶¶ 15 and 16 of the proposed IFRS]

³² See ¶ BC207 of the Basis of Conclusions for the Proposed IFRS.

³³ This example is taken from the Invitation to Comment, ¶¶ 34-36.

³⁴ This, however, may not always be the case (see ¶ 48 of the Invitation to Comment).

presented), it would recognize some amount of cumulative compensation expense (related to the units-of-service actually received) that would be less than \$960, for example, \$850.³⁵ The difference of \$110 (\$960 - \$850) represents the deemed fair value of services expected to be received that were not actually received.

Measurement Date for Transactions with Non-Employees.

The standards prescribe different dates to measure the fair value of equity instruments granted for transactions with non-employees, when the fair value of the equity instruments issued is more reliably measurable than the fair value of the goods or services received.³⁶

Statement 123 does not prescribe the measurement date to be used in non-employee transactions.³⁷ EITF Issue No. 96-18³⁸ provides that the stock price of an equity award is fixed on the earlier of (a) the date a performance commitment is reached or (b) the date performance is complete. This method is referred to as the modified vesting-date approach in the Invitation to Comment (in contrast to the modified grant-date approach established in Statement 123 for employee transactions). At its meeting on September 10, 2003, FASB decided that these rules would be addressed in a subsequent phase of the project that would result in a separate Exposure Draft, so the current accounting treatment will be continued for the time being.

The IASB saw no conceptual difference between employee and non-employee transactions; in either case, an entity receives goods or services in exchange for granting equity instruments.³⁹ Accordingly, the IASB determined that employee and non-employee transactions should be recognized and measured in the same manner.

ATTRIBUTION OF COMPENSATION COST⁴⁰— SERVICE BASED AWARDS

Statement 123. The attribution method prescribed by Statement 123 is based on the principle that compensation cost is attributed to expense over the period in which the employee provides service to earn the related benefit:

This Statement continues the provisions of Opinion 25 and Interpretation 28 that stock-based compensation cost is to be recognized over the period or periods during which the employee performs the related services. If the service period is not defined as an earlier or shorter period, the service period is presumed to be the vesting period. If the award is for past service, compensation cost is recognized when the award is granted.⁴¹

Under FAS 123, options are not issued to employees until the vesting date. As with services received

The attribution method prescribed by Statement 123 is based on the principle that compensation cost is attributed to expense over the period in which the employee provides service to earn the related benefit.

in exchange for other employee benefits with a vesting period, such as pensions and retiree health benefits, generally the cost is recognized in the periods in which the services are received even if the benefits are not yet vested.⁴²

If equity instruments are granted to employees and no service period is defined, the service period is presumed to be the period from grant date to vesting date.

³⁵ ¶¶ 39-78 of the Invitation to Comment explain how the Proposed IFRS's attribution method functions, including how units-of-service are calculated.

³⁶ See ¶¶ 23-29 of the Invitation to Comment.

³⁷ Invitation to Comment ¶¶ 23 through 29.

³⁸ EITF Issue No. 96-18, "Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services".

³⁹ See ¶¶ BC98 through BC104 and BC122 through BC128 of the Basis of Conclusions for the Proposed IFRS; see also ¶ BC48 ("The rationale for recognizing all types of share-based payment transactions—irrespective of whether the equity instrument is a share or a share option, and irrespective of whether the equity instrument is granted to an employee or to some other party—is that the entity has engaged in a transaction that is in essence the same as any other issue of equity instruments. In other words, the

entity has received resources (goods or services) as consideration for the issue of shares, options or other equity instruments. It should therefore account for the inflow of resources (goods or services) and the increase in equity. Subsequently, either at the time of receipt of the goods or services or at some later date, the entity should also account for the expense arising from the consumption of those resources."); see also ¶ BC122 ("The basic transaction is the same, namely the receipt of goods or services as consideration for the issue of shares or share options. Therefore, any conclusions about which measurement basis and measurement date should be applied are, in principle, equally applicable to share-based payment transactions with parties other than employees.")

⁴⁰ See the Invitation to Comment, ¶¶ 39 through 49 (service-based awards).

⁴¹ FAS 123, ¶ 196.

⁴² FAS 123, ¶ 200.

For cliff-vesting equity instruments, compensation expense is spread over the service period on a straight-line basis. For graded-vesting equity instruments, Statement 123 gives a choice of two methods, based on whether the entity values the equity instruments (1) as a single award using an average estimated life or (2) as a series of awards and each award in the series is valued using its estimated life.⁴³ Regardless of which method is used, the compensation expense recognized at any date must be at least equal to the total compensation cost related to vested equity instruments at that date.

Proposed IFRS.⁴⁴ The Proposed IFRS is based on a similar premise: an entity recognizes assets (goods or services) when received. Effectively, this is equivalent to the Statement 123 approach to recognizing compensation expense over the period in which the employee performs services to earn the related benefit.⁴⁵ The

Statement 123 allows a nonpublic entity the choice of measuring the value of equity instruments granted to employees at (1) the fair value or (2) the minimum value, which does not take into account expected volatility.

standards share this general principle, but the Proposed IFRS requires that attribution be based on the units-of-service method. A unit-of-service is a standard amount used to measure the economic benefits from services received, stated in terms of a particular length of time.

The Proposed IFRS requires that the fair value of equity instruments granted be divided by the total units-of-service expected to be received, to obtain a deemed fair value per unit-of-service. In order to calculate the total units-of-service expected to be received, an entity must estimate the number of units-of-service that will not be received because of forfeitures. Attribution of compensation cost occurs as

the entity receives units-of-service (that is, valuable consideration). Appendix B of the Proposed IFRS illustrates the application of the units-of-service method.⁴⁶

Once calculated, the deemed fair value per unit-of-service is fixed and does not change. It is not adjusted for forfeitures or any other events that occur subsequent to the measurement date (grant date):⁴⁷ the Proposed IFRS's grant-date fair value measurement method already incorporates the possibility of forfeiture. Also, if the actual units-of-service received differ from the amount estimated at grant date, the amount of compensation actually recognized will be affected by the actual units-of-service received by the entity.

Statement 123 does not strictly adopt the conceptual ramifications of grant-date measurement in this regard; rather, it adopts a modified grant-date approach. That is, it permits an entity to adjust recognized compensation expense for the impact of forfeitures during the vesting period, which is a concept borrowed from the vesting-date measurement approach. The results under Statement 123 are consistent with its explicit notion that issuance does not occur until the exchange of all required valuable consideration has taken place (generally, at vesting date). The IASB recently decided to replace the units of service method with the modified grant date applied in FAS 123.

Attribution of Compensation Cost-Performance-Based Awards⁴⁸

Statement 123. The attribution method prescribed by Statement 123 for performance awards is based on the premise that compensation cost is attributed to expense over the period in which the employee provides services to earn the related benefit. Generally, this is the period inherent in the performance-based award. The initial accrual of compensation cost, for an award with a performance condition that determines the number of options or shares to be issued, or the exercise price or exercise date, will be based on the

⁴³ See ¶¶ 30 and 31 and 201-203 of Statement 123.

⁴⁴ Invitation to Comment ¶¶ 40-49.

⁴⁵ See the IASB's Basis for Conclusions, ¶ BC193 ("the entity should presume that the services are received during the vesting period. If the shares or options vest immediately, it should be presumed that the entity has already received the services, in the absence of evidence to the contrary. An example of when immediately vested shares or options are not for past services is when the employee concerned has only recently begun working for the entity, and the shares or options are granted as a 'signing bonus'. But in this situation, it might nevertheless be necessary to recognise an expense immediately, if the future employ-

ee services do not meet the definition of an asset.")

⁴⁶ See the full discussion of the units-of-service method in ¶¶ 13 through 15, B1 and B2 and Example 1 of Appendix B of the Proposed IFRS, and ¶¶ BC191 through BC203 of the IASB's Basis for Conclusions. In addition, Appendix H of the Invitation to Comment provides a comparative analysis of how those illustrations would be different if FAS 123 were applied to the same facts.

⁴⁷ However, if an employee quits prior to vesting date, no more units-of-service are received and, therefore, no more compensation expense is recognized.

⁴⁸ Invitation to Comment ¶¶ 50 through 60.

best estimate of the outcome of the performance condition.⁴⁹ Thereafter, compensation cost will be adjusted for changes in the expected or actual outcome, until the vesting date. Since the equity instruments are not issued until the vesting date, changes that effect the fair value and quantity of the equity instruments issued should be recognized.

Proposed IFRS. The Proposed IFRS decouples the actual outcomes of performance incentives from the service condition: compensation cost is attributed as if the award was service based rather than performance based. This is consistent with the Proposed IFRS's conclusion that the possibility of forfeiture affects the value of the equity instruments granted and, therefore should be taken into account when measuring the fair value of those instruments. Consequently, compensation cost is recorded regardless of the actual outcome.⁵⁰

Nonpublic Entities. Statement 123 allows a nonpublic entity the choice of measuring the value of equity instruments granted to employees at (1) the fair value or (2) the minimum value, which does not take into account expected volatility. At its November 11, 2003 meeting, FASB decided to allow nonpublic entities to make a one-time choice between a fair value based method or an intrinsic value based method.⁵¹

The Proposed IFRS requires all entities, public or private, to measure equity instruments at fair value for transactions with employees. The main principle of the Proposed IFRS is that stock-based compensation should be measured at its fair value. Because the minimum value does not take into account expected volatility, it is not fair value. The IASB concluded that

it is feasible to estimate expected volatility of the stock of a nonpublic entity and suggests several methods of estimation. The IASB acknowledges that such estimates are subjective and would likely understate volatility estimates; however, it believes that the resulting measure would be closer to fair value than alternative measurements such as minimum value. Some commentators, while accepting this view, questioned whether the increased accuracy would justify the additional cost and complexity.⁵²

A separate argument for different rules for nonpublic entities stresses the qualitative differences between options granted by start-up companies and

At a recent meeting, the IASB tentatively agreed that, for transactions measured at the fair value of the equity instruments granted, if the entity could not estimate reliably the grant date fair value of the equity instruments granted, the entity should measure the equity instruments at their intrinsic value, and remeasure intrinsic value until exercise date.

those granted by long-established public companies. In a start-up, options

represent a significant gamble for the recipient, who doesn't know how much they'll be worth- if anything. This is vastly different from the options granted by an established publicly traded company. In this case, it's a pretty sure bet that these options are going to be worth something. The options they grant are of an entirely different type. They are an incentive used by an established, ongoing concern. As we know from

⁴⁹ See ¶¶ 26-30 of Statement 123.

⁵⁰ Paragraphs 52-60 of the Invitation to Comment provide three examples to illustrate how the attribution model functions with respect to performance-based awards. See also Example 2 of Appendix B of the Proposed IFRS.

⁵¹ See FASB Project Updates, November 24, 2003, www.fasb.org.; see also ¶¶ 20 and 174-178 of Statement 123. "An emerging entity whose stock is not yet publicly traded may offer stock options to its employees. In concept, those options also should be measured at fair value at the grant date. However, the Board recognizes that estimating expected volatility for the stock of a newly formed entity that is rarely traded, even privately, is not feasible. The Board therefore decided to permit a nonpublic entity to omit expected volatility in determining a value for its options. The result is that a nonpublic entity may use the minimum value method discussed and illustrated in paragraphs 139-142." [FAS 123, ¶ 174] See also ¶ 38 of the Invitation to Comment; ¶ BC75 of the IASB's Basis for Conclusions: "An option could be measured at its minimum value. Minimum value is based on the premise that someone who wants to buy a call option on a share would

be willing to pay at least (and the option writer would demand at least) the value of the right to defer payment of the exercise price until the end of the option's term. Therefore, minimum value can be calculated using a present value technique. For a dividend-paying share, the calculation is: (a) the current price of the share, minus (b) the present value of expected dividends on that share during the option term (if the option holder does not receive dividends), minus (c) the present value of the exercise price."

⁵² See, for instance, the Mercer letter, n. 53 above: We believe that the IASB's approach to valuing equity instruments of nonpublic entities may result in a value that is closer to fair value than Statement 123's minimum value approach. However, we believe that the IASB's approach is less desirable than minimum value. It is likely to overstate the volatility of private companies, reducing the credibility of their financial statements (and placing them at a disadvantage relative to public companies regarding the reported cost of equity awards). In addition, it is more complex to implement than minimum value. This may present a hardship for smaller, private companies, and the cost of implementation would far exceed the incremental benefit of accuracy that might be obtained."

EXHIBIT: VALUATION OF OPTIONS

AMY MAGGS

The intrinsic value of an option is determined by the degree that the option is "in the money," aggregated with the remaining time value for the option. The value of the time remaining to the end of the exercise period is affected in turn by the volatility of the price of the underlying instrument, the remaining option term and other economic factors.

The amount that an option is "in the money" is called its intrinsic value. The total cost of an option is the premium. The price of the premium depends on many factors including the stock price, strike price, the time remaining until expiration and volatility. (Calculators can be found at www.hoadley.net/options/optiongraphs.aspx? and www.hoadley.net/options/binomial-tree.aspx?tree=B.)

Option Example with Premium

Assumptions:

On May 1 the stock price for Excel-sior Co. is \$67 and the premium (cost) is \$3.15 for a July 70 Call. This means that the option will expire on the third Friday in July and the strike price is \$70. The total cost of the contract is $\$3.15 \times 100 = \315 . (There also would be commissions added in the real world but we will leave them out for simplicity's sake). In order to make a profit, the price per share must go over \$73.15.

One month later the stock is worth \$78.25. The option contract is now worth the increase in the value of the stock over the strike price minus what you paid: $(\$8.25 - \$3.15) \times 100 = \$510$. You can sell you option now (close your position), and make a tidy profit. However, you decide to stick it out and see if the market continues to move in your favor.

On the third Friday of July the stock takes an unexpected plunge after having climbed to a value of \$86 and is now worth \$61. Because this

is less than both the strike price of \$70, and the break even price of \$73.15, it would be foolish to exercise the option and the contract is not exercised. You are now left holding a worthless option contract that is out of time, with a loss of \$315.00 that was paid as a premium to the option writer.

Option Pricing Models

The basic factors that affect the prices of call options,** and the direction of those influences, as they increase, on the value of the option are:

| | | |
|---|-------------------------------|----------------|
| + | Stock Price | S |
| - | Exercise Price | E |
| + | Time to Expiration | T |
| + | Risk Free Interest Rate | R _f |
| + | Variability of Stock's Return | σ |

In 1974 Fischer Black and Myron Scholes published "The Pricing of Options and Corporate Liabilities," in the Journal of Political Economy, 1973 (pp. 637 - 654). Through their research, they were able to determine that stocks followed a certain path through time called a stochastic process. A stochastic process is a mathematical description of the change in value of some variable through time. The type of stochastic process utilized was a Weiner process, that allows for constant changes to the variable over time, and such changes that are made over any interval have a normal distribution.

The formula for the Black-Scholes OPM is:

$$C = S_0 N(d_1) - Xe^{-rT} N(d_2)$$

$$\text{Where: } d_1 = \frac{\ln(S_0/X) + (r + \frac{\sigma^2}{2}) T}{\sigma \sqrt{T}}$$

$$d_2 = d_1 - \sigma \sqrt{T}$$

$N(d_1)$, $N(d_2)$ = cumulative normal probability values of d_1 and d_2

Example:

| | |
|------------|---|
| S = 100 | Stock Price |
| E = 95 | Exercise Price |
| r = 10% | the risk-free rate of interest |
| σ = 50% | the instantaneous variance rate of the stock's return |
| T = .25 yr | time to the expiration of the option |

The first step is to calculate values for d_1 and d_2 :

$$d_1 = \frac{\ln(S/E) + [r + \frac{\sigma^2}{2}] T}{\sigma \sqrt{T}}$$

$$= \frac{\ln(100/95) + [.10 + .50^2/2].25}{0.5 \sqrt{0.25}} = 0.43$$

$$d_2 = 0.43 - 0.5 \sqrt{0.25} = 0.18$$

From a table of standard distributions, we get:

$$N(.43) = 0.6664, N(0.18) = 0.5714$$

To find the call price:

$$C = 100 \times 0.664 - 95e^{-0.10 \times 0.25} \times 0.5714 = \$13.70$$

Therefore, according to the Black-Scholes OPM, the value of an option on a stock where the strike price is \$95 and the current stock price is \$100 and the option will expire in 3 months is: \$13.70.

Binomial Option Pricing Model

This model is used to compute the value of an option and uses the concepts of Stochastic Calculus to compute value as the option moves through time. The necessary elements for these calculations include:

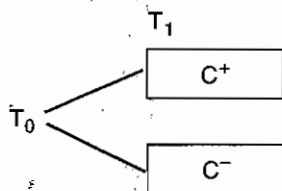
1. The life, T (time to expiration) of the option; typically, 1 = one year
2. The number n of equal length periods into which T is divided. Each

period has a length $\Delta t = T/n$ for $k = 0, 1, 2 \dots n$ discrete time k will refer to continuous time, $k \Delta t = kT/n$. Typical value of $n = 10, 20, 30, 60$

- The continuously compounded annualized risk free interest rate r . A dollar invested at time 0 would be worth $R = e^{r\Delta t}$ at time Δt years. Typical value of $r = .05 - .08$
- The annual volatility σ of the stock price. Typically, $\sigma = 0.3, 0.1$

At maturity a call option has two possible values at expiration ($T = 1$), up tick factor u and the down tick factor $1/u$ is calculated for each discrete time period k .

Therefore, at each discrete time k , with a strike price of X , a call option is worth either:



$$C^+ = \max(S^+ - X, 0)$$

$$C^- = \max(S^- - X, 0)$$

Example: Assume that $S = 30$

$$S^+ = 40$$

$$S^- = 28$$

Strike Price $X = 35$

Then at T_1 , $C^+ = 5$ and $C^- = 0$

The next step involves calculating the payoffs of the call option buying H Stocks and borrowing L stocks. In the up state, the formula is:

$$C^+ = H \times S^+ - L \times (1 + r)$$

In the down state, the formula is:

$$C^- = H \times S^- - L \times (1 + r)$$

Combining both formulas:

$$H^* = \frac{C^+ - C^-}{S^+ - S^-}$$

Therefore:

$$L^* = \frac{(H^* \times S^+ - C^+)}{(1 + r)}$$

$$= \frac{(H^* \times S^- - C^-)}{(1 + r)}$$

If there is no arbitrage, the price of the call at this time is: $C = H^* \times S - L^*$

Returning to the original calculations for both values of C , assuming a risk free interest rate of 8%:

$$H^* = \frac{5 - 0}{40 - 28} = 5/12 = .416$$

$$L^* = \frac{(.416 \times 40 - 5)/1.08}{1.08} = 10.78$$

The price of the call is:

$$C = .416 \times 30 - 10.78 = 1.70$$

H^* is also the hedge ratio: the number of stocks needed to purchase to hedge a short position in the call.

Also, according to the binomial model:

$$\frac{dC}{dS} = H^*$$

The hedge ratio tells us how sensitive the option price is to changes in the underlying spot rate. This formula is repeated at each node of the binomial

lattice, with each level representing a discrete period of time. The assumptions of the tables below are:

Strike price: \$95.00

Market price: \$100.00

Volatility: 30%

Interest Rate: 5%

Binomial Model uses default settings:

dividend = 2.50

days to ex-dividend = 25

The following table compares option valuation methods over time.

| Days | Black-Scholes | Binomial | Volatility |
|------|---------------|----------|------------|
| 365 | 9.633 | 7.141 | 1% |
| 365 | 9.671 | 7.277 | 5% |
| 365 | 10.405 | 8.398 | 10% |
| 365 | 11.754 | 9.924 | 15% |
| 365 | 13.346 | 11.572 | 20% |
| 365 | 15.047 | 13.271 | 25% |
| 365 | 16.801 | 14.991 | 30% |
| 365 | 27.572 | 25.335 | 60% |

The following table compares the option valuation methods against changing volatility.

| Time | Days | Black-Scholes | Binomial |
|----------|------|---------------|----------|
| 6 Months | 183 | 12.342 | 12.53 |
| 1 Year | 365 | 16.801 | 14.991 |
| 2 Years | 730 | 23.606 | 21.527 |
| 3 Years | 1095 | 29.091 | 28,879 |
| 4 Years | 1460 | 33.819 | 33.485 |
| 5 Years | 1825 | 38.021 | 37.58 |
| 6 Years | 2190 | 41.819 | 41.285 |
| 7 Years | 2555 | 45.288 | 42.432 |
| 8 Years | 2920 | 48.481 | 45.527 |
| 9 Years | 3285 | 51.435 | 48.396 |
| 10 Years | 3650 | 54.179 | 51.065 |
| 20 Years | 7300 | 73.665 | 70.183 |

historic stock market performance from the 1920s through 2000, on average equities produce a 10 percent to 14 percent annual return over the long haul (bear market corrections included). Thus, an option granted by an established company has a far greater chance of turning into something than the options granted by a startup.⁵³

At a recent meeting, the IASB tentatively agreed that, for transactions measured at the fair value of the equity instruments granted, if the entity could not estimate

Despite continued opposition from the high-tech sector, there has arisen a general consensus that stock options should be expensed.

reliably the grant date fair value of the equity instruments granted, the entity should measure the equity instruments at their intrinsic value, and remeasure intrinsic value until exercise date. This requirement will apply to both listed and unlisted entities.

EFFECTIVE DATE AND TRANSITION⁵⁴

At a recent meeting, the IASB tentatively agreed that the IFRS should become effective from January 1, 2005.⁵⁵ On October 29, 2003, FASB also decided

that, for public companies, the proposed new standard would be effective for fiscal years beginning after December 15, 2004. Earlier adoption would be encouraged. FASB now expects to issue an exposure draft in February 2004 and a final rule in the second half of 2004. FASB also decided to require the use of one of the three currently permissible transition methods, the "modified prospective" method.

CONCLUSION

Despite continued opposition from certain industries, notably the high-tech sector, and their representatives in Congress, there now appears to be a general consensus that stock options should be expensed. In addition, in the actions taken at their recent meetings, FASB and IASB have both demonstrated how important they believe accounting convergence to be and, in furtherance of that goal, have resolved many of their previous differences. The most important area for further research involves the development of option pricing models that take into account the particular characteristics of employee stock options; this is likely to involve a careful balancing of accuracy and ease of use. ■

⁵³ Delves, n. 3 above, at 95.

⁵⁴ Invitation to Comment, ¶ 87.

⁵⁵ IASB Update, September 2003, www.iasb.org. For transitional arrangements, the Board renarratively agreed: (1) to retain the proposal that the IFRS should apply to equity instruments that were granted after the publication date of the exposure draft (November 7, 2002) and had not vested at the effective date; (2) to permit, but not require, full retrospective application to other grants of equity instruments, if the entity has disclosed publicly the fair value of the equity instruments at grant date. For example, entities that have disclosed the information required by FAS 123 in the notes to their financial statements may apply the IFRS retrospectively in full; (3) to require that if, after the IFRS becomes effective, an entity modifies the terms or conditions of equity instruments granted before November 7, 2002, the requirements of the IFRS concerning such modifications must be applied, so that the

incremental fair value granted is recognized; (4) to modify the transitional arrangements for cash-settled transactions, to require retrospective application to liabilities existing at the effective date of the IFRS, except that entities would not be required to restate comparatives earlier than November 7, 2002; (5) to permit, but not require, full retrospective application to liabilities arising from cash-settled transactions; and (6) to modify the transitional arrangements for first-time adopters to reflect these changes.

⁵⁶ Invitation to Comment, para 88.

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**A call option gives the holder the right to buy an asset at a certain price within a specific time period. Calls are similar to having a long position in a stock. Buyers of calls hope that the value of the stock will increase.