Should Executive Options be expensed?
Abstract

On December 16, 2004, the Financial Accounting Standards Board published FASB Statement No. 123 (revised 2004), which significantly changes the accounting for employee stock options. Under the new standard, equity-based compensation results in a cost to the issuing enterprise and should be measured at its fair value on the grant date, based on the estimated number of awards that are expected to vest. I contend that expensing stock or option grants is not responsive to either the needs of a corporation's creditors, or to the needs of equity investors since the cost of the share-based payments is borne only by the pre-existing shareholders; the corporation itself suffers no sacrifice in assets or other resources[1] (unless its own shares are considered an asset, which is not the case under the present Conceptual Framework and GAAP). Hence I suggest the use of three separate statements instead of the single income statement now provided. Specifically, I propose that the first statement -- the "Corporation Income Statement" -- not include share-based payments as an expense. Rather, a "Statement of Costs and Benefits to Pre-existing Shareholders" would show the dilution cost to the pre-existing shareholders; this dilution cost would be determined as the amounts that, if accrued during each year throughout the vesting period and until exercise, would cumulatively sum to the intrinsic value at exercise (the price of the optioned share minus the exercise price). A combined "Statement of Enterprise Income" would then show the totals of the amounts reported in the other two statements. The combined statement would reflect the net income from operations with regard to both the corporation and its pre-existing shareholders; that is, it would reflect the cost of manufacturing products or rendering services.

This paper also discusses the implications of this proposal for the debate on the distinctions between liabilities and equities and for the treatment of inseparable compound securities such as convertible bonds.

1 Indeed, in Enterasys Networks, Inc., Plaintiff v. Gulf Insurance Company and Clarendon National Insurance Company, Defendants, Civil No. 04-27-SM, 2005 DNH 50; 364 F. Supp. 2d 28; 2005 U.S. Dist., a Court opinion decided on March 29, 2005 by Chief Judge Steven J. McAuliffe stated: "[w]hen a corporation issues new shares (up to the maximum authorized number), the value of its assets are not diminished…[t]hat is a "loss," if at all, experienced by the shareholders, not the corporation." Furthermore, the Judge emphasized that "[i]t would make no substantive difference whether Enterasys issued and sold new shares into the market and handed over the proceeds to the class plaintiffs, or issued and handed over the stock directly. In either case, the corporation suffers no economic harm – it resolves a potential liability without diminishing its assets value, or worth – its asset-pie remains the same, there are just more (and smaller) slices."

Introduction

On December 16, 2004, the Financial Accounting Standards Board (FASB) published FASB Statement No. 123 (revised 2004), which significantly changes the accounting for employee stock options. The standard it replaces had rekindled the debate over stock option accounting that, a decade ago, preceded the issuance of FASB Statement No. 123, Accounting for Stock-Based Compensation ("FAS 123"). The debate pivoted on the requirement to expense stock options and concerns about the reliability of the measurement methodology. Before it issued the revision, the FASB's proposed rules came under tremendous scrutiny from Congress, the media, and preparers and users of financial statements.

Under the new standard, equity-based compensation (EBC) results in a cost to the issuing enterprise and should be measured at its fair value on the grant date, based on the estimated number of awards that are expected to vest. The compensation cost for equity awards that vest will not be reversed if such awards expire without being exercised.

In this paper I contend that the proper treatment would reflect the value of share-based payments as an expense of the pre-existing shareholders (the shareholders of the firm before the granted options are exercised) rather than as an expense of the corporation. Currently, under SFAS 128, diluted earnings per share are provided in the income statement, but share-based payments are not usually expensed. This diluted earnings per share computation does not fully reflect the effects of dilution on earnings (Kirschenheiter et al., 2004, Core et al., 2002, and Huson et al., 2001), nor is the effect of dilution on the book value captured. I suggest that it would be better to reflect the dilution cost as an expense in a separate statement, such as one labeled "Statement of Costs and Benefits to Pre-existing Shareholders." This will eliminate the need to present diluted earnings per share.[2] A combined "Statement of Enterprise Income" that sums the respective amounts in the corporation's income statement and this new statement would reflect the total costs and benefits of engaging in the particular enterprise's operations from the perspectives of both pre-existing and new shareholders combined, while at the same time showing the wealth transfer between the two groups.[3]

The next few sections illustrate my proposal. I begin with a benchmark example that features three consecutive annual grants of restricted stock that vests before the end of each of the three years, where the grant is the sole means of compensating the employees and incentivizing them to exert effort. An asset is manufactured and sold in the first year, whereupon all proceeds are invested along with employee labor to manufacture and sell

2 Prior research suggests that the market might incorporate dilution into its assessments of firm value. For example, Huson et al. (2001) find that if some claimants can acquire equity interests in the firm for less than the market value, then a given level of earnings change (i.e., unexpected recurring earnings) is priced lower due to the dilution. Core et al. (2002) also find evidence that market prices incorporate the additional dilution that the authors argue should be added to the FASB's treasury stock-method-based dilution to better reflect the actual economic dilution.

3 The discussion and my proposal in this paper apply to any good or service acquired by means of equity-based consideration. I use the case of share-based payments for employee and executive services to illustrate the point in light of the newly issued standard and because of the great public interest in executive compensation.

another asset in the second year; the same process is repeated in the third year. At the end of the third year, the proceeds of the sale are distributed to the shareholders of record at that time. To simplify the analysis and the presentations, I assume, with no loss of insight, that no taxes exist. From this benchmark case, I move on to introduce debt in addition to equity, and I show how my proposed multiple statements better inform creditors and shareholders about the gains and losses accruing on their respective investments. I then illustrate the case with restricted stock that vests (and matures) at the end of the three years such that the employees receive the same effective compensation as in the benchmark case. This third example yields insights for the appropriate method for accruing compensation (dilution costs) over time. It also re-establishes the advantages of decomposing the enterprise's income statement into the two distinct components. The next illustration introduces options with an exercise price that equals the initial market price of the stock that similarly vest and mature in three years. The final exercise adds debt to the preceding example; it shows the usefulness of the multiple statements for separate credit risk assessments and equity valuation. In evaluating the appropriateness of the accounting treatments that I employ in the separate statements, I rely on the criteria used by Kirschenheiter et al. (2004) (see below). In the final section, I generalize the insights gained from the illustrations to the debate surrounding the distinction between liabilities and equity and the accounting treatment of inseparable compound instruments.

Restricted Stock: The Benchmark Case

Exhibit 1 presents a benchmark case. Employees are granted 10 shares valued at $10 per share, for a total compensation of $100 every year over the three-year horizon of our hypothetical company. These are restricted shares that vest one instant before the end of each year and mature at the end of the three years. Thus, we have three cohorts of employees (who could be the same individuals) that receive each year $100 worth of stock. As a result, they share in the company's profits in the proportion of their ownership. These share grants are equivalent to options with zero exercise price that vest just one instant before each year's end. A $100 initial capital contribution by the owners (10 shares times $10 each) is invested, along with the labor inputs of the employees (valued at $100 and paid for by the stock grant) to yield a certain, inter-temporally constant 10% rate of return. Thus, the capital and labor inputs of $200 are converted into an asset worth $220at the end of the first year. The asset is then sold, and the proceeds are reinvested, along with a $100 labor input in the second year, to produce an asset worth $352 at the end of the second year. Finally, in the third and last year, the $352 are reinvested with another $100 of labor to produce an asset worth $452*1.10=$497. This asset is sold at the end of the third year, the company is dissolved, and shareholders (including the employees) receive a liquidating dividend of $497.

The pre-existing shareholders are rationally willing to suffer the dilution in their ownership and in earnings because in exchange they anticipate a value enhancement that exceeds their cost of dilution, driven by the more highly motivated workforce being incentivized through ownership rather than cash. Consider, for example, year 1. Beginning with a value of $10 per share, a pre-existing shareholder suffers a dilution of five dollars (50% dilution), but he also suffers the dilution of the portion of earnings saved by issuing shares instead of paying cash (50% of $100 divided by 10 shares) plus

the dilution of earnings (50% of $20 divided by 10 shares). The total cost of dilution is thus $11 per share, leaving each pre-existing shareholder with a net profit of one dollar, which constitutes a 10% return on his investment of $10. By the same token, each employee will have invested $10 worth of services and also earned a 10% return; his gross income consists of his 50% share in the initial asset worth $10 a share (which he earns as a result of the dilution of the original shareholdings) plus his 50% share in the corporation's profit of $120 (the sale of the asset at $220 less its original cost of $100).

The above analysis pertaining to the representative shareholder is reflected explicitly and in the aggregate for each of the two groups of shareholders in the Statement of Enterprise Income. This statement has three columns: Pre-Existing Shareholders, New Shareholders, and Total. The Pre-Existing Shareholders column reflects the revenue, cost of goods sold, and the cost of dilution. the latter is decomposed into its components: the dilution of initial stock value of $50, the dilution of the portion of earnings saved by issuing shares instead of paying cash of $50, and, finally, the dilution of earnings (return on labor input), which is 50% of $20. The total cost of dilution is thus $110, leaving a net income to Pre-Existing Shareholders of $10.

The New Shareholders column reflects the benefits to employees who become new shareholders at the end of the year. These benefits consist of the end of year value of the shares granted to them ($110 transfer of wealth from the pre-existing shareholders who suffer exactly that same amount in dilution), less the cost to them of $100 worth of labor input (effort). They, too, end up with a net income of $10. The Total column shows the revenues and expenses of the enterprise as a whole, and in this benchmark case (and in the benchmark case with debt analyzed in Exhibit 2 below, but not in the cases wherein the stock or options do not vest in the same year in which they are granted as in Exhibits 3-5) is identical to the statement required under FAS 123®. From the proceeds of the sale of productive assets ($220), we subtract the cost of goods sold ($100), and then the costs of employee services ($100) to leave $20 of net income, or a net income of one dollar per outstanding share.

Moving to year 2, the proceeds of asset sale at the end of year 1 of $220 are now reinvested with an additional labor inputs of $100 similarly paid for by the grant of 9.09 shares ($100 divided by $11, which is the price per share at the end of year 1) to yield (at 10% rate of return) an asset worth $352. The cost of asset sold is $220. The total cost of dilution is again $110; it is broken down into its components: the dilution of initial stock value (as of the beginning of year 2) is 9.09 (shares issued)/29.09 (number of outstanding shares) of the $220 beginning of year 2 stock value. Similarly, the dilution of earnings is computed as $31.25 (portion saved by issuing shares) and $10 (the dilution of $32 net income). Similar transactions and computations yields a revenue of $497, and cost of asset sold of $352 in year 3, which after subtracting the cost of employee services of $100 yields a net income of $45. The cost of dilution reflected as a transfer of wealth from pre-existing shareholders to new shareholders is again $110.

To evaluate the soundness of the accounting treatments in this example, I make use of what Kirschenheiter et al. (2004) refer to as "sensible relations" that they expect "good" accounting to hold:

(1) Return on equity equal to the cost of capital.
(2) Forward price-earnings ratio equal to the inverse of the cost of equity capital.
(3) Equity market value equal to the present value of expected net dividends.

Consider relation (1) from the perspective of pre-existing shareholders. The corporation's profit is $120 (the value enhancement). The cost to these shareholders is $110 (50% of the original asset value of $100 plus 50% of the profits of $120). Hence, the net income from operations is $10, which is 10% (the cost of capital) of their $100 equity. Similarly, the new shareholders' gain from the pre-existing shareholders' dilution is $110, and their cost of providing services is $100, leaving them a net income of $10, which again is 10% of their investment. As can be seen from Exhibit 1, the computations for year 2 and year 3 yield a similarly constant return on equity (ROE) of 10%.

To test relation (2), observe that the ending price in year 1 of $11 per share, divided by the end of year 2 earnings per share of $1.10, yields a forward price-earnings ratio of $10, which is the inverse of the cost of capital. An identical forward price-earnings ratio of 10 can be computed at the end of year 2.

Finally, we can easily ascertain that the present value of the expected liquidating dividends equals the equity market value. For example, in year 1, the equity market value is the $220 proceeds from the sale of the asset. The expected net liquidating dividend is $266.20, which is the $497 cash available at the end of year 3 multiplied by the ratio of outstanding shares at the end of year 1 (20) to the outstanding shares at the end of year 3 (37.36). The present value of $266.20 computed for two years at the 10% cost of equity capital is $220.

The separate Corporation Income Statement reflects the revenue ($220) and the cost of asset sold ($100), but it does not show the shares granted as an expense. There are compelling reasons not to reflect a share-based payment as expense. By issuing shares or options in exchange for employee services, the corporation does not part with any asset. From the standpoint of the creditors, the corporation's income is $120. However, the cost of dilution ($110) is explicitly and visibly shown in the separate Statement of Costs and Benefits to Pre-existing Shareholders (see Exhibit 1). In the latter, the different events that cause dilution in pre-existing shareholders' wealth are detailed. The Statement of Enterprise Income that focuses on the organization as a whole combines the Corporation Income Statement and the Statement of Costs and Benefits to Pre-existing Shareholders. As indicated, the compensation cost is shown there under the "Total" column.

This case illustrates the distinction between the corporation and its equity shareholders. The shares granted leave the corporation's own assets intact. No resource is given up; creditors' interests are not harmed. Pre-existing shareholders, on the other hand, suffer the cost of dilution caused by the grant. It is quite clear in this case that expensing

options in the corporation's income statement serves neither the informational needs of creditors nor those of equity investors. Creditors, unless they undo the expensing, would compute typical income-based solvency ratios that are erroneous. Equity investors, as well, would overestimate the cost of dilution if they incorporate in their valuation a diluted income per share with the numerator taken as the net income after the expensing of shares or options granted, or if they otherwise reckon that share-based payments have diluted their holdings (see footnote 1). Since share-based payments have increasingly become the norm, separate statements are needed to serve the interests of the two distinct sets of users.

Consider the benefits of having these two distinct statements. The corporation's income statement would reflect strictly the corporate entity's sacrifice of assets and assumption of liabilities in the process of generating earnings—uncontaminated by events that did not affect the corporation's net assets. More important, it alone would provide the relevant numbers to be used by creditors to assess the potential returns and risk associated with their investments in the company. After all, they are not affected by dilution; only common stockholders are. The second statement would reflect the effect of such dilution. The two distinct statements would also yield insight into management's policy with regard to financing its acquisitions.
Yet some parties might have need to evaluate the entire enterprise. Suppose, for example, an existing shareholder wished to identify the total cost, regardless of who incurred it, that was required to generate the reported revenue. The answer would be the sum of the respective components in the two distinct statements. The combined statement would aggregate these two to show the total expense, revenue, and income accruing to both the corporation and its shareholders—the enterprise.[4]

Although the Statement of Enterprise Income looks similar to the income statement required by the FASB, there are important differences. First, the component statements distinguish between the cost to the corporation and the cost to pre-existing shareholders. Second, the Statement of Costs and Benefits to Pre-existing Shareholders displays prominently the dilution effects and states what resources the corporation chose to acquire by diluting pre-existing shareholders' wealth. Third, the dilution is shown not only with respect to earnings but also with respect to book value (not explicitly displayed under current GAAP). Fourth, as indicated, if there were creditors in this example (as we shall see in Exhibit 2), the Corporation Income Statement would reveal that the value added available to them is in fact the full $120, and not the enterprise net income of $20. Fifth, the wealth transfer from pre-existing shareholders to new shareholders is visibly reflected: the cost of dilution to pre-existing shareholders is a net transfer to the new shareholders. The return to both groups of shareholders is 10% ($10/100). Finally, as is evident from the Statement of Costs and Benefits to Pre-existing Shareholders, the cost to pre-existing shareholders (in this example) of $110 is $10 more than their cost were the corporation to pay cash for employee services, $100; the employees now also share in the return rather than merely being compensated for their labor. In essence, they have

[4] For the lack of a better term, by enterprise I refer to the combined state of affairs of the corporation and its pre-existing and new shareholders.

become partners, assuming the risk of ownership. The statements proposed clearly reflect this change in risk-sharing, an element that is missing in the FASB's method.

The Benchmark Case with Debt

Exhibit 2 adds debt to the benchmark case. Now, the corporation incurs $100 of debt to be invested along with the equity of $100 and the labor input of $100 to produce an asset worth $330 at a 10% rate of return. With no loss of generality, I assume for the purpose of the illustration 12% interest on debt, 2% in excess of the cost of equity capital, merely to highlight the results in the case of overly costly leverage. The debt remains at a constant level of $100 until the end of year 3, when the creditors are paid off along with the equity holders. All other transactions are the same as in the benchmark case. As can be seen from the exhibit, ROE now equals the leveraged cost of equity capital, $r_e + (r_e - r_d)*D/E$, where r_e is the cost of equity capital, r_d is the cost of debt, D is the market value of debt, and E is the market value of equity. The forward price ratio equals the inverse of the leveraged cost of equity capital, and the present value (computed using the differing costs of equity capital of year 2 and year 3) of the expected liquidating dividends equals the equity market value of $218 at the end of year 1. The three Kirschenheiter et al. (2004) criteria are similarly satisfied in year 2.

The Corporation Income Statement, which excludes the share-based payments, shows income per pre-existing share of $11.80 in year 1, $6.49 in year 2, and $4.89 in year 3, with corresponding ROEs of 1.18, 0.60, and 0.41. The Statement of Costs and Benefits to Pre-existing Shareholders reflects the cost of dilution, which, per share, amounts to -$10.90 in year 1, -$5.47 in year 2, and -$3.76 in year 3, with corresponding ROEs of -1.09, -0.50, and -0.31. Adding the corresponding numbers of the two statements, we obtain the combined numbers for the enterprise as a whole: income per share is $0.90 in year 1, $1.02 in year 2, and $1.14 in year 3, with corresponding ROEs of 0.09, 0.094, and 0.096.

If we inspect the "solvency ratios" in the exhibit, we note significant differences between these ratios when computed based on the Statement of Enterprise Income and the balance sheet (which would be equivalent to the ratios derived from GAAP (123®) statements), on the one hand, and on the Corporation's Income Statement and the balance sheet, on the other. From the perspective of creditors, the latter computation is the relevant one, whereas the former yields the important statistics for the shareholders. For example, the interest coverage ratio in year 1 of interest to creditors is 11.824, but that of interest to shareholders is just 3.48. Differences can also be seen in all years as well as for the other ratios (net margin, ROE, and ROA). Credit analysts thus could be misled if confronted by a single income statement that reflects share-based payments as expenses, unless they undo the effects of the expensing.

Restricted Shares That Vest in Three Years

Exhibit 3 presents the analysis of the situation when 27.36 restricted shares (equivalent to options with zero exercise price) are granted at the beginning of year 1. The shares vest

at the end of year 3; no shares are granted in years 2 and 3. The value of the shares granted at the end of year 3 ($364.10) equals the future value of the three annual share grants of $100 each of the benchmark case. Thus, the one-time grant in Exhibit 3 is economically equivalent. The earnings per share, ROE, and forward price-earnings ratio are the same as in the benchmark case. Also, the present value of expected net dividends equals the equity market value at the end of each year. However, there are certain significant differences that reflect differences in the concept underlying the two cases. Unlike the benchmark case (and FSAS 123®), wherein the compensation cost expensed in the Statement of Enterprise Income is $100 across all 3 years, in this case it is $110 in year 1, $121 in year 2, and $133.10 in year 3. To explain this, consider year 1. In the benchmark case, the 10 shares granted in year 1 had already vested by the end of the year and thus became outstanding shares of the corporation. As a result, there was a one-to-one correspondence between the enterprise and its 20 shareholders. By the end of the first year, the new shareholders had become existing shareholders. From the perspective of *all* shareholders at the end of year 1, the cost of compensation was the cost of the labor input of $100. Not so in the case of Exhibit 3. Here, the employees receiving the restricted shares do not become shareholders by the end of year 1; they become shareholders only at the end of year 3. Thus, the enterprise is fully identified only with the 10 pre-existing shareholders. From their perspective, and that of the enterprise, the cost of compensation is the total cost of dilution suffered by them, i.e., $110. The difference between this case and the first two cases arises whenever the options or shares granted vest over a period spanning more than one accounting period. That is, the same kind of differences would be exhibited between the first two cases and 123® based accounting, on the one hand, and the following two cases.

A similar analysis applies to years 2 and 3. However, an important insight emerges. Since the total cost of compensation as of the end of year 3 is $364.10, a question arises as to how to allocate the total cost over the three years. The analysis shows that the only allocation that satisfies the Kirschenheiter et al. (2004) criteria is the interest method of accrual, whereby, for example, the second-year compensation is the future value of $100 (the shares granted at the beginning of the second year) for one year at 10%, plus 10% of the balance of the "Pending Equity" account (a mezzanine account that accumulates, on the credit side of the balance sheet, the obligation to issue equity on a future exercise (if any), which is equivalent to the cumulative compensation costs) as of the beginning of the year. This amount is equivalent to the change in the market value of the granted shares. Note that this is different from the straight-line method of accruing compensation costs under FAS 123(R) for share-based payments that do not vest immediately, and consequently, it would give rise to different ratios and inferences from those based on GAAP-based statements. The following two cases discussed next will exhibit a similar divergence with GAAP. In fact, such a divergence would exist whenever the vesting period spans more than one accounting period. It is important to emphasize that, unlike the benchmark case, the restricted shareholders do not become de facto shareholders until the end of the third year. Hence, the larger compensation costs (relative to the benchmark) are necessary to obtain the appropriate earnings per share, ROE, and forward price-earnings ratio. Also note that what is being accrued under the proposed method is

the expected value of the share-based payments upon exercise rather than FASB's prescribed measure, the value of the share-based payments at the time of the grant.

Another difference between this approach and the one adopted by the FASB is that here we present a contingent obligation to issue shares as "Pending Equity," rather than Additional Paid-In Capital (the FASB's designated account).[5] Pending Equity is more descriptive of the nature of the contingent obligation: it is not present equity or additional paid-in capital, but with high probability will become such in the future.

Options That Vest in Three Years

Now we consider the case (Exhibit 4) in which employees are granted options at the money (with an exercise price that equals $10, the value per share at the beginning of the first year). This case illustrates the equivalence between options at a zero exercise price (the restricted shares analyzed in the prior section) and options at a positive exercise price (such as an exercise price that equals the share value at the beginning of year 1). Here, as in the last case, the value of the 110 options (granted at time zero) at the time of exercise, which is also the time at which the options vest (at the end of the third year), is $364.10, which is the total expected dilution cost. This is spread across the three years according to the interest method, yielding the same compensation cost in each year as in the prior case. This compensation cost (dilution cost) is also equal to the annual change in the market value of the options. It is easy to check that the Kirschenheiter et al. (2004) criteria are satisfied here as well.

Options That Vest in Three Years with Debt

Finally, Exhibit 5 highlights the case of options that vest in three years in the presence of debt. The value of the options at the end of the three years is $360.17. This is the future value of an annuity due of $100 paid to employees over the three years at the varying leveraged cost of equity capital of Exhibit 2 (the benchmark case with debt). The Kirschenheiter et al. (2004) criteria are satisfied. In fact, we have the same ROE and forward price-earnings ratio as in Exhibit 2, the benchmark case with debt. Also, the solvency ratios reveal significant differences between indicators of solvency derived from the Statement of Enterprise Income and those derived from the Corporation Income Statement. Only the latter would be of use to creditors.

Application to the Acquisition of Assets

It should be interesting to consider how this proposed accounting treatment of share-based payments applies to the acquisition of productive assets (other than labor inputs) by means of issuing shares or options. Suppose we have the following scenario:

The company issues 10 shares for $10 and acquires $100 worth of productive assets. At the same time, the company issues 10 shares directly to the asset seller, in return

[5] Kirschenheiter et al. (2004) suggest that share-based payments be recorded as liabilities. This would require a change in the Conceptual Framework and existing GAAP. Moreover, from the perspective of creditors, contingent obligations to issue shares clearly do not qualify as liabilities.

> for a second $100 worth of productive assets. Management operates the two bundles of assets during the period, and each produces a 10% return; at the end of the period, the assets are sold, and $220 is distributed to 20 shareholders. How would these transactions be treated under my proposal?

Initially, both assets rightfully belong to the corporation. Until they are sold, pre-existing shareholders suffer no dilution in their ownership. When the corporation sells the assets, it receives $220 in cash, and that is recorded as revenue in the Corporation Income Statement. However, the $200 cost of the bundle of assets will be split between the two statements described above. The expiration of the first $100 asset paid for by the corporation's asset—cash—will be recorded as "cost of asset sold" in the Corporation Income Statement. The expiration of the $100 asset acquired in exchange for shares given directly to the asset seller will be recorded as "dilution effect of cost of asset sold" in the Statement of Costs and Benefits to Pre-existing Shareholders: the dilution cost is borne by the pre-existing shareholders, and not by the corporation. Of course, the Statement of Enterprise Income will show, in the total column, the revenue of $220 and the cost of assets sold of $200, to yield the enterprise a net income of $20. In the first two columns, Pre-Existing Shareholders and New Shareholders, it will report the transfer of wealth: the latter gain $110 (50% of $220) at the expense of the former.

One may also ask how this proposed approach applies when a corporation issues shares to purchase a durable asset subject to depreciation. The asset clearly belongs to the corporation and is included among its assets with a corresponding credit to Pending Equity, and, under the GAAP historical cost principle, its carrying value is quantified at cost until its disposition, unless it is judged as impaired in value. However, the corporation does not incur any cost of depreciation, as it has not sacrificed any of its own resources to acquire the assets. Instead of depreciation cost, we now have a cost of dilution borne by pre-existing shareholders. In the case of options, for example, this cost is measured under the interest method as illustrated above and will cumulatively accrue over the period ending in exercise to equal the intrinsic value of the options at the time of exercise. This means that the total cost of dilution over the duration of the options will exceed the total conventional depreciation, which under existing GAAP cannot exceed the original cost of the assets. Suppose that the corporation acquired a $100 depreciable asset instead of employee services. Total assets are $200, equity is $100, and Pending Equity is $100. The book value will not decline, as the corporation bears no depreciation cost. The periodic cost of dilution will be reflected in the Statement of Costs and Benefits of Pre-Existing Shareholders. In other words, consistent with the matching principle, pre-existing shareholders' ownership will be diluted gradually, as the asset is used. The corporation does not bear the costs of depreciation, since it neither parted with assets nor incurred liabilities when it acquired the asset. The difference between this scenario and the benchmark case is that the intangible asset "prepaid services" was not durable—it expired within the same accounting period, whereas the durable asset's benefits extend beyond one period. Its quantification rightly belongs on the corporation's balance sheet, while the dilution expense (in lieu of depreciation) belongs to the Statement of Costs and Benefits to Pre-existing Shareholders. Of course, the dilution cost

would also be reflected in the"Total" column of the Enterprise Income Statement possibly labeled as "cost of using assets".

Implications for the Distinction between Liabilities and Equities

This proposal has implications for the FASB's project on the distinction between liabilities and equities. The FASB's current attempt to make this distinction combines a settlement obligation criterion with a direct or indirect ownership relationship criterion (see the March 24, 2005, project updates). The settlement obligation criterion requires a present obligation to transfer assets, use assets, or issue shares or other instruments. The direct ownership relationship criterion refers to an ownership instrument that is the most residual claim, and that shares pro rata in earnings and losses of the entity. The indirect ownership relationship criterion refers to an instrument of an entity in which the payoff to the counterparty is based on and varies in the same direction as the fair value of the reference instrument. Thus, a share of common stock is equity: it carries no settlement obligation, and it reflects a direct ownership relationship. A mandatorily redeemable common share is also equity: although carrying a settlement obligation, it reflects a direct ownership relationship. An obligation settled by issuing a common share is also equity: although carrying a settlement obligation and establishing an indirect ownership relationship, it results in a direct ownership relationship at settlement. On the other hand, an instrument that carries a settlement obligation but constitutes neither a direct or indirect ownership relationship is a liability (such as a written put option). Likewise, an instrument that carries a settlement obligation and reflects an indirect ownership relationship, but does not result in a direct ownership relationship upon settlement, is a liability (such as stock appreciation rights). This approach is similar to the one proposed by the AAAFASC (1999, 2001b).

According to Scott (1979), a useful classification system for liabilities and equity should address three questions: (1) Who are the primary users of the classification system? (2) What important attributes distinguish liabilities from equity for these users? And (3) Can one classification system, combined with additional disclosure, satisfy users requiring different types of information?

Clark (1993) posits that since common shareholders are concerned with equity valuation and leverage-induced risk, they are the primary users of the liability-equity classification system. Accordingly, Clark concludes that equity should be strictly defined in terms of common shareholders' equity, and instruments not meeting the strict definition should be classified as liabilities.

Botosan et al. (2005) note that applying a strict definition for liabilities and allowing the equity classification to absorb all instruments that do not meet this definition may be useful for creditors concerned with solvency risk, but not for claimants concerned with valuation, such as equity holders. They argue:

"These examples demonstrate that although Concepts Statement No. 1 (FASB 1978) asserts that the primary users of financial statements are investors and creditors, the most informative liabilities-equity classification system may differ between his types of users,

and among subgroups of these users. Because any liabilities-equity classification system is unlikely to encompass the attributes of central importance to the old subgroups, trade-offs are inevitable, and some subgroups' demands for information may not be met by the classification system ultimately designed. Identifying subgroups' unmet demands may assist the FASB in designing disclosures to help satisfy those information needs."

Botosan et al. (2005) go on to emphasize that the balance sheet classification of liabilities and equity is linked to the measurement of income. Under GAAP, periodic interest payments on liability instruments are expenses; periodic payments on equity instruments are not. For example, if equities are limited to residual claims, and if income is defined as income to residual claimants, then the placement of the dividing line between liabilities and equity affects the measurement of income. Thus, if the balance sheet is useful for assessing solvency and the income statement is useful for valuation, then the primary users of the balance sheet and income statement may differ. Consequently, the most useful liabilities-equity classification system may differ between the balance sheet and income statement.

The methodology I suggest above addresses these concerns and complexities. As demonstrated in the exhibits, the balance sheet and income statements proposed meet the demands of both sets of users: residual claimants and creditors. Specifically, the balance sheet and the Corporation Income Statement provide the information creditors to evaluate solvency, and the Statement of Costs and Benefits to Pre-existing Shareholders, in combination with the Enterprise Income Statement and the balance sheet, serve the informational needs of residual claimants. Trade-offs would no longer be inevitable, nor would we have to choose which user group is primary (such as Clark's (1993) singling out of the common shareholders). Both the assessment of solvency and valuation could be based on the same set of financial statements, without extensive efforts to untangle the numbers.

Moreover, the classification of shared-based payments as Pending Equity, as well as the classification of certain other instruments as Pending Liabilities, as I propose below, promises to provide a finer and more useful partition than the confining liabilities-equity classification. As Botosan et al. (2005) suggest, the existence of settlement alternatives and different ownership characteristics complicate the development of a classification scheme for liabilities and equities. For example, some instruments with liability characteristics are settled by transferring equity either unconditionally or conditionally (such as inseparable compound financing instruments like convertible debt that may be settled by transferring assets or shares). Also, in some cases an issuer can choose to settle an obligation in shares, cash, or a combination of the two.

In effect, we face a continuum of instruments characterized by different combinations of risks and rewards that are accorded the owners of these instruments. Pure common equity lies at one end of the continuum (highest reward-risk combination) and pure debt at the other end. In between we have an increasingly expanding variety of financially engineered instruments. Although it is impractical to present the whole continuum in the

financial statements, a finer partition than the strict liability-equity classification could contribute toward a better understanding of the underlying risk-sharing arrangements inherent in the transactions consummated by the enterprise. Consider the following matrix.

Proposed classification of different combinations of ownership relationships and settlement alternatives.

Risk-Reward Relationship / Settlement Mode	Direct ownership	Indirect ownership that co-varies positively with ownership	Indirect ownership that does not co-vary positively with ownership	Straight debt instruments
SACRIFICE OF ASSETS OR ASSUMPTION OF LIABILITIES	e.g., Mandatorily redeemable shares Pending Liability	e.g., Stock appreciation rights Liabilities	e.g., Written put option Pending Liability	Any straight liability Liability
DIRECT OWNERSHIP INSTRUMENTS	Com[1] stock Equity	e.g., Writt[2]ll option Pending Equity	e.g., Written put o[3] redeemable in common stock Pending Equity	e.g., Insepar[4] compound instruments, such as convertible bonds Liabilities or Pending Equity*

* If settled by transferring equity unconditionally, it would be classified as Pending Equity; if the equity transfer is conditional, as is the case with convertible bonds, it would be classified as indicated below.

5 6 7 8

The matrix presents different combinations of risk-reward trade-offs and modes of settlement along with a suggested classification. For example, the employee share-based payments analyzed in this paper belong in Cell 6; they would be treated as Pending Equity with a corresponding accrual (under the interest method described above) of market value changes in these instruments as dilution cost in the Statement of Costs and Benefits to Pre-existing Shareholders. In general, note that, under this proposal, all instruments classified as either Pending Equity or Pending Liabilities would require the expensing of value changes in the instruments. In the case of Pending Equity, this will be necessary to reflect the dilution costs of pre-existing shareholders in the Statement of Costs and Benefits to Pre-existing Shareholders. In the case of Pending Liabilities, this would be necessary to reflect the sacrifice of assets required to settle the pending liability when it becomes a definite liability. This would be reflected in the Corporation Income Statement since it results in the sacrifice of corporate assets.

Pure equity and liabilities would continue to be treated as under present GAAP. While equity valuation changes over time, the change is shared equally by all outstanding shareholders; it does not trigger a wealth transfer across different sets of shareholders, as in the case of share-based payments. Hence, there is no cost of dilution of pre-existing shareholders' wealth. That is, a pure change in equity value would not trigger any need to include value changes in any of the proposed income statements. In the case of Pending Equity, the cost of acquiring the resource is ultimately quantified by the value of shares issued to settle the indirect ownership obligation.

A similar difference exists in the measurement of income with respect to liabilities and pending liabilities. In the case of a pure liability, the cost of assets acquired and the liability are measured as the present value of future cash outflows; at the time of the transaction, the liability is definite in terms of amount and timing of settlement.[††] Indirect ownership instruments that are intended to be settled in assets of the corporation, however, are obligations that are designed, ex ante, to increase in amount over time, typically to incentivize executives or employees. The ultimate cost of the assets acquired in exchange for these instruments, such as labor input, is anticipated by the corporate decision-makers in advance, as a matter of deliberate policy, to accrue over the duration of the indirect ownership instruments to the amount at which the liability is ultimately established. Such is the case, for example, when a corporation grants stock appreciation rights. By design, they are expected to increase in value (otherwise they would be devoid of incentive benefits). In contrast, pure liability is not, by conscious design, expected to change in value; any ex post change in value is mostly unanticipated and beyond the control of the corporate decision-makers, typically resulting from market shocks. This fundamental difference motivates the different proposed treatment of the two types of instruments: pure liabilities and pending liabilities.

Cell 8 displays two cases. When debt instruments will be unconditionally converted into equity, they would be treated as Pending Equity. The other, more challenging case is when a liability is convertible, at the option of the instrument owner, to either cash (an

[††] The income measurement implications of value changes in pure liabilities are beyond the scope of this paper. Income is not affected by such changes under current GAAP.

asset) or equity (direct ownership), as, for example, convertible bonds, which are inseparable compound financing instruments. These are considered next.

Inseparable Compound Financing Instruments

These instruments settle as liabilities or as equity. The FASB proposed the "relative fair value" method to measure the components of compound financing instruments in its October 2000 Exposure Draft, Accounting for Financial Instruments with Characteristics of Liabilities, Equity, or Both (hereafter the ED), but ultimately decided against the decomposition of financial instruments into potentially many components reflecting the different features of the instruments; the board now appears to have settled on the separation of compound instruments into one liability and one equity component.

As Botosan et al. (2005) rightly note, however, any approach to allocate joint values that necessarily inhere in such instruments is arbitrary,[‡‡] because it ignores the fact that these instruments ultimately settle in only one form and that the components may interact. Botosan et al. (2005) also suggest that the requirement that the accounting for compound financing instruments be equivalent to the accounting for economically similar instruments necessitates "sequencing proof" accounting, in the sense that it should not overemphasize the current form of the host instrument, as current GAAP does, or arbitrarily treat one option embedded in one instrument as incremental to another. As an example, they suggest that the joint value of instruments including both liability and equity components could always be allocated to the liability component, or that the joint value could be allocated to the components based on the currently assessed probabilities of settlement as a liability or equity. Presumably, the latter approach could be applied each period during the life of instruments to adjust the liability and equity valuations for changes in these probabilities and expected values. Of course, this approach requires estimation of the probabilities of settlement and the expected values upon settlement in different forms. Also, in each period during the life of an instrument common equity should be revalued, and transfers should be made between liabilities and equity.

The proposal presented in this paper implies that, with respect to the equity component of a compound instrument such as a convertible bond, a Pending Equity account should be set up with the corresponding dilution costs recorded in the Statement of Costs and Benefits to Pre-existing Shareholders. This of course would not solve the conundrum of how to allocate the joint value of a compound instrument. Any allocation, including the "sequencing proof" allocation, would be arbitrary. Moreover, any allocation of the instrument's value to equity and liability would necessarily distort what ultimately will ensue: the instrument will end up becoming either a liability or equity, but never a mixture of both.

[‡‡] Botosan et al. (2005) illustrate the joint value underlying the debt and equity features using an example of a zero-coupon convertible debt instrument with a value of $100 derived from two equally probable, up-and-down states of the world, a riskless debt component paying off a present value of $80 in both states, and any equity component that pays a present value of $120 in the up state and zero in the down state. They show that under these assumptions, the convertible debt's joint value is $40, which is the value of the debt were it to settle in the least valuable form in each state—that is, as debt when equity is more valuable and as equity when debt is more valuable.

One proposal that comes to mind is that, to the extent that the difference between equity and liability treatments is material, two sets of financial statements be presented. One would reflect the instrument as liability, and the other as Pending Equity as suggested in this paper; the statements would also disclose management's assessed probability of each of the two modes of settlement. This treatment would have the advantage of avoiding the arbitrary allocation of the joint values of compound instruments. Furthermore, the probabilities and the outcomes of the different settlement modes would be presented separately. Users of the financial statements could then make their own judgments regarding the probability assumed by management or substitute their own assessed probabilities to make inferences about valuation and solvency.

Of course, such an approach may be viewed as unrealistic as it increases the information overload users of the financial statements would have to contend with: With multiple issues of different compound instruments exhibiting material difference as between the treatment as pending equity or liability, the number of necessary sets of financial statements could considerably increase. A reasonable alternative then would be to present a single set of financial statements that reflects the most likely mode of settlement at issuance (liability or pending equity) and disclose in footnotes the change in the affected items in the financial statements under the less likely mode of settlement. As indicated in the previous paragraph, the assessed probability of each of the two modes of settlement would also be disclosed, allowing users substitute their own perceived probabilities should they disagree with management’s assessments. Under this alternative, the same mode of settlement would be presented in the body of the financial statements over tune even if its likelihood falls below the probability of the settlement mode presented in the footnotes in order to avoid confusing restatements whenever this occurs. Since management’s assessed probabilities are disclosed each period, this would entail no loss of information by users.

Conclusion

In this paper, I propose that the dilution costs suffered by pre-existing shareholders through the granting of share-based payments be shown in a separate Statement of Costs and Benefits to Pre-Existing Shareholders. A combined Statement of Enterprise Income would then show the totals of the respective amounts in the Corporation Income Statement (restricted to the revenues and expenses of the corporation) and this new statement. The combined statement would reflect the net income from the operations to both the corporation and its pre-existing shareholders and would confer several benefits. First, the component statements would distinguish between costs to the corporation and costs to pre-existing shareholders. Second, the Statement of Costs and Benefits to Pre-existing Shareholders would highlight the dilution effects of equity-based payments. Third, the dilution would be shown not only with respect to earnings but also with respect to book value (not explicitly displayed under current GAAP). Fourth, from the perspective of creditors, the Corporation Income Statement would reveal the value added available for payment of the principal and interest due to them, hence facilitating a proper assessment of solvency. Fifth, the wealth transfer from pre-existing shareholders to the new shareholders would be visible. Sixth, as the exhibits demonstrate, the cost of

dilution and the cost of compensation reported in the Statement of Costs and Benefits to Pre-existing Shareholders and in the Corporation Income Statement, respectively, would differ with regard to immediate and deferred vesting of the share-based instruments in such a way as to satisfy the Kirschenheiter et al. (2004) criteria in both cases, and so as to accord with the underlying nature of the transactions. Seventh, the proposed treatment would eliminate the need to present diluted earnings per share, as the cost of dilution would be recorded explicitly in a total dollar amount.

My proposal also has implications for the distinction between equities and liabilities as well as the treatment of inseparable compound financing instruments. I recommend that two additional categories be added in the financial statements: Pending Equity and Pending Liabilities. Each of these categories would have a corresponding method of income measurement that is consistent with the methodology proposed for share-based payments. In the case of inseparable compound financing instruments, one mode of settlement would be reflected in the body of the financial statements, and the effects of the other mode would be disclosed in footnotes along with the management's assessment of the probability of the different outcomes.

As the FASB continues to deliberate on the distinction between liabilities and equity and the implication of such a distinction to income measurement, it seems advisable to re-examine the entity theory of accounting: which entity should be reflected in the financial statements? Is it the corporation as a distinct and separate legal entity, is it its existing shareholders, or is it the universe of existing and future potential shareholders? The discussion in this paper suggests that separate accounting for these different entities may contribute.

Exhibit 1, "Statement of Enterprise Income": Notes

1. 9.09 shares at a price of $!1 are issued to employees instead of $100 cash.

2. 8.26 shares at a price of $12.10 are issued to employees instead of $100 cash.

3. For pre-existing shareholders this is net income divided by $220 (the market value of the company (and of pre-existing shareholders' investment)) at year beginning. For new shareholders, this is net income divided by $100 (the value of labor invested by the employees (new shareholders)). Under the "Total" column, this is net income divided by $320, the sum of pre-existing shareholders' wealth in the beginning of the period plus the value of labor input.

4. Under the "Total" column in year 1, this is the proportion of 20 shares to the final number of shares of 37.36 applied to the final total dividend of 497.Similar computations apply to the other years.

5. The value of such a restricted share equals the value of an option with a zero exercise price with the same vesting period and where the exercise date coincides with the vesting date.

Exhibit 2, Statement of Enterprise Income: Notes

1. This is the leveraged cost of equity capital: $r_e + (r_e - r_d)*D/E$, where r_e is the cost of equity capital, r_d is the cost of debt, D is the market value of debt and E is the market value of equity. In year 2 the 0.094 ROE is the net income divided by $318,which is the sum of pre-existing shareholders' wealth in the beginning of the period plus the value of labor input. For new shareholders in year 3, this is the net income divided by $100, which is the value of labor invested by the employees (new shareholders). Under the "Total" column of year 3, this is net income divided by $448, which is the sum of pre-existing shareholders' wealth in the beginning of the period plus the value of labor input.

2. For year 1, for example, this is the current price divided by nest year's earnings per share. It is the inverse of the forward leveraged cost of equity capital, 0.094.

3. For year 1, this is the proportion of 20 shares to the final number of shares of 37.56 applied to the final total liquidating dividend of $491. For year 2, this is the proportion of 29.7 shares to the final number of shares of 37.56 applied to the final total dividend of $491.

EXHIBIT 3, STATEMENT OF ENTERPRISE INCOME: NOTES

1. Unlike the case of immediately vested restricted shares, here the enterprise is identified with the pre-existing shareholders, since they are still the sole residual equity holders (before the restricted stock vests). Hence, while in the previous case the enterprise earnings were $20 ($220-$100-$100) now they are $10 ($220-$100-$110) where the $110 reflects the total dilution cost to pre-existing shareholders). In the non-vesting case, the cost to the enterprise as a whole (where the new shareholders are already equity holders) is only the cost of labor inputs -- $100.

2. For the new shareholders, the present value of the liquidating dividend for the option holders is in excess of their equity value because of the vesting requirement that they have to wait for more years to exercise their options. The equity value however accumulates by the end of the three years vesting period to the future value of the economically equivalent compensation annuity effected by the granting of options ($364.10, which is the number of shares they can exercise at the end of the three years (27.35) times the price at the end of the three years (USD13.31).

3. The value of such a restricted share equals the value of an option with zero exercise price with the same vesting period and where the exercise date coincides with the vesting date. The 27.36 shares under the "New Shareholders" column is the number of shares (options with zero exercise price) that are required to be granted to offer economically equivalent incentives for the employees to perform as in the case of immediately vesting stock analyzed above. In the latter case, employees were granted shares valued at $100 at the beginning of every one of the three years analyzed. In the case of three-year vesting analyzed here, an economically equivalent grant would be such number of restricted shares as would yield at the end of the vesting period the future value of a three period annually of $100 paid in the beginning of each period ($364.10), quantified at the expected stock price as of the end of the three years ($13.31) yielding 27.35 restricted shares.

4. This number is computed by adding to the original contribution by pre-existing shareholders of $100, the net enterprise income of USD10. This illustrates the contrast between this statement and the one based on the assumption that the restricted stock immediately vests so that the outstanding shares as of the end of year 1 are 20 rather than 10 shares. In the latter case, the dilution is automatically reflected in the increased number of outstanding shares such that the price is simply the total proceeds from the sale of the asset ($220) divided by the 20 shares, without subtracting the cost of labor (the value of shares issued for free). Nonetheless, the cost of labor efforts of $100 is subtracted in the Enterprise Income Statement in order to appropriately reflect the cost of doing business or of manufacturing the product or service. In the case where the restricted stock (or options with zero exercise price) is not yet vested, the enterprise is fully identified with the pre-existing shareholders (the restricted stock is not yet outstanding and will not to be outstanding until vesting and exercise) and, hence, the cost of dilution to pre-existing shareholders is the full $110 which is now

EXHIBIT 3, CORPORATION'S INCOME STATEMENT: NOTES

1. Pending equity at the end of the first year is the allocated portion of the total expected dilution cost over the three years. In this case it is simply the $100 labor cost plus the 10% return. Unlike statement 123 (R) this analysis illustrates that the proper way of assigning compensation costs to periods when non- immediately vesting options are granted is one based on the interest (annuity) method of accrual: the first year is assigned $100*(1+0.1), the second year is assigned $100*1.1+$110*0.1, and the third and last year is assigned $100*1.1+$121*0.1. Pending equity is neither an equity account nor a liability account. The label is descriptive: it reflects the amount that ultimately, in all probability, will become residual equity. The FASB credits compensation costs to Additional Paid-In Capital, which I believe is not descriptive of the underlying nature of this item. Note that in the prior case of immediately vesting stock granted to the employees, the $100 shares granted, and immediately vested are reflected as equity (they have full participation and profit-sharing privileges right at the outset). The Pending Equity Account grows as an annuity at 10%.

EXHIBIT 4: STATEMENT OF ENTERPRISE INCOME: NOTES

1. Consider year 1. Unlike the case of immediately vested restricted shares, here the enterprise is identified with the pre-existing shareholders, since they are still the sole residual equity holders (before the restricted stock vests). Hence, while in the previous case the enterprise earnings were $20 ($220-$100-$100) now they are $10 ($220-$100-$110) where the $110 reflects the total dilution cost to pre-existing shareholders). In the non-vesting case, the cost to the enterprise as a whole (where the new shareholders are already equity holders) is only the cost of labor inputs -- $100.

2. The present value of the liquidating dividend for the option holders is in excess of their equity value because of the vesting requirement that they have to wait for more years to exercise their options. The equity value however accumulates by the end of the three years vesting period to the future value of the economically equivalent compensation annuity effected by the granting of options (USD364.10, which is the number of options they can exercise at the end of the three years (110) times the intrinsic value at the end of the three years (USD13.31-USD10).

3. The options vest and mature at the end of the third year with an exercise price of $10. For new shareholders in year 1, 110 is the number of options with $10 exercise price) that are required to be granted to offer economically equivalent incentives for the employees to perform as in the case of immediately vesting stock analyzed above. In the latter case, employees were granted shares valued at $100 at the beginning of every one of the three year. In the case of three-year vesting analyzed here, an economically equivalent grant would be such number of options as would yield at the end of the vesting period the future value of a three period annuity of $100 paid in the beginning of each period ($364.10), quantified at the intrinsic value as of the end of the three years ($3.31) yielding 110 options.

4. For year 1 (similar computations apply in the other years), this number is computed by adding to the original contribution by pre-existing shareholders of $100, the net enterprise income of $10. This illustrates the contrast between this statement and the one based on the assumption that the stock vests immediately so that 20 shares would be outstanding as of the end of year 1rather than 10 shares. In the latter case, the dilution is automatically reflected in the increased number of outstanding shares such that the price is simply the total proceeds from the sale of the asset ($220) divided by the 20 shares, without subtracting the cost of labor (the value of shares issued for free). Nonetheless, the cost of labor effort of $100 is subtracted in the Enterprise Income Statement in order to appropriately reflect the cost of doing business or of manufacturing the product or service. In the case where the restricted stock (or options with zero exercise price) is not yet vested, the enterprise is fully identified with the pre-existing shareholders (the restricted stock will not become outstanding shares until vested and exercised) and hence, the cost of dilution to pre-existing shareholders is the full $110 which is now also the cost of compensation reflected in the Enterprise Income Statement that is identified with pre-existing

EXHIBIT 4, CORPORATION'S INCOME STATEMENT: NOTES

1. Pending equity at the end of the first year is the allocated portion of the total expected dilution cost over the three years. In this case it is simply the $100 labor cost plus the 10% return. Unlike statement 123 (R) this analysis illustrates that the proper way of assigning compensation costs to periods when non- immediately vesting options are granted is one based on the interest (annuity) method of accrual: the first year is assigned $100*(1+0.1), the second year is assigned $100*1.1+$110*0.1, and the third and last year is assigned $100*1.1+$121*0.1. Pending Equity is neither an equity account nor a liability account. The label is descriptive: it reflects the amount that ultimately, in all probability, will become residual equity. The FASB credits compensation costs to Additional Paid-In Capital, which I believe is not descriptive of the underlying nature of this item. Note that in the prior case of immediately investing stock granted to the employees, the $100 shares granted, and immediately vested) are reflected as Equity (they have full participation and profit-sharing privileges right at the outset). The Pending Equity Account grows as an annuity at 10%.

EXHIBIT 5: STATEMENT OF ENTERPRISE INCOME: NOTES

1. This is the leveraged cost of equity capital: $r_e + (r_e - r_d)*D/E$, where r_e is the cost of equity capital, r_d is the cost of debt, D is the market value of debt and E is the market value of equity.

2. For year 1, this is the current price divided by nest year's earnings per share. It is the inverse of the leveraged cost of capital, 0.094. A similar computation yields 10.47 in year 2.

3. For new shareholders in year 3, This is the future value of an annuity due of $100 paid to employees over the three years at the varying leveraged cost of equity capital of Exhibit 2 (the benchmark case with debt.

4. The 2.55 option value (shown under the “New Shareholders” column multiplied by 117.63 options yields a total value of 299.36. The present value of the expected end of year 3 payoff to be received by the employees: $300.82. The small difference is due to using a weighted average interest rate of 0.9391.

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