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USING AGENCY THEORY AS AN ORGANIZING PRINCIPLE FOR PENSION ACCOUNTING

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Introduction

After studying the issues relating to accounting for employees' pension plans for more than 11 years, in 1985 the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards (SFAS) No. 87, Employers Accounting for Pensions (6), which supersedes previous standards of accounting for defined benefit pension plans (e.g., Accounting Principles Board Opinion No. 8). Five years later, the FASB issued SFAS No. 106, Employers' Accounting for Postretirement Benefits Other Than Pensions (7). Both authoritative pronouncements followed similar methods of allocating and accruing pension and postretirement costs within certain guidelines, rather than to management's or the employer's fluctuating operating needs. Thus, a discussion of the theory of pensions incorporates both the theories of pension and postretirement benefits. However, some of the new guidelines may have become dogmatic assertions about the economic assumptions for such plans and specifically to ignore the fact that a central economic consideration in any plan must be the benefits to the employer.

The distinguishing feature of this paper is that it uses an agency theory model to evaluate the benefits to the employer of having a pension plan and the payment of postretirement benefits other than pensions. It then examines the specific requirements of SFAS No. 87 and SFAS No. 106 to see if they measure these costs and benefits in accordance with the principles of agency theory.

The authors address the general problem that standards for accounting for pension costs and for postretirement benefits should be continually revised because they lack a comprehensive theoretical framework. This problem is especially important given the U.S. General Accounting Office estimate of private employers' unfunded obligations for future postretirement health care benefits to exceed \$400 billion¹ (13). Pension obligations have also increased significantly. Thus, the provisions of these two standards should cause companies to recognize and control these large obligations. In addition, a valid framework for determining the optimal amount of pension costs and other postretirement benefits that employers should provide their employees should be developed.

The purpose of the paper is to use agency theory to help develop an analytical basis for pension plan accounting to point up the strengths and weaknesses of SFAS Nos. 87 and 106. The paper consists of four parts: (1) a general discussion of pension theory; (2) the assumed labor contract underlying the

decision model; (3) the decision model; and, (4) the use of this model to help resolve some critical aspects of the pension reporting issue.

Pension Theory in General

Various theories have been offered to explain pension plans. Two of the better known are the gratuity theory and the deferred wage theory (16) (17). The gratuity theory asserts that employers provide pension payments to reward a lifetime of service. Employees are not involved explicitly in the decision to establish pension plans since such payments are discretionary and convey them few, if any, property rights. This theory has found little support in the literature and has generally been replaced by the deferred wage theory. The deferred wage theory views the pension plan as a method to defer some compensation until an employee retires.¹ Employers promise to provide pension payments in exchange for current services. The deferral of wages often results in individual tax savings. The advantages to the employer of providing a pension plan are less obvious. Under the deferred wage theory, firms offer pension plans because of economies of scale in administrative, portfolio management, and other costs (8, 9, and 14). The employer receives cash flow benefits to the extent that the present value of deferred wages exceeds the required funding (especially as now required by ERISA). However, employer benefits depend on the theoretical description of the labor market that is adopted. Pesando and Clarke (18) explain that in a spot labor market, a firm is indifferent between paying current wages and paying the present value of future pension payments. Thus, the firm receives no direct financial advantage from offering a pension plan.

A firm may offer a pension plan as part of a long-term labor incentive contract. The deferred wage theory generally incorporates a long-term or lifetime implicit labor contract between the employer and employee that has various implications for the employer. Salop and Salop (21) and Blinder (3) suggest that the delayed vesting of pension plans may decrease employee turnover costs. Becker (1) suggests that firms have an incentive to expend training costs because of delayed vesting since it causes "average" employees to work longer for the company, resulting in a greater payback of these training costs. The agency theory model developed in this paper helps find an optimal amount of overall monetary and nonmonetary provisions.

Logue (15) and Choudbury (4) also suggest that pension plans are not merely deferred wages but provide employee incentives that may reduce the firm's costs. The incentives, such as additional pension or profit-sharing contributions, will be effective only if cost savings are shared with the employees. Jossim, Dexter and Sidhu (11) show that properly designed compensation packages, including deferred compensation components, help assure that managers act in the stockholders' and creditors' interests.

Agency Theory and the Contracting Process

The labor market is assumed to be a system of agency contracts. In general, the agency relationship is a contract in which the principal engages an

agent to act in his/her behalf. The contract delegates some decision-making authority to the agent. If both parties are utility maximizers, the agent may not always act in the principal's best interest; the principal may, therefore, incur monitoring costs to limit the agent's self-serving behavior. A fee structure enables the principal to establish incentives to better monitor the agent. The formal theory of principals and agents normally rests on the following assumptions regarding the agents (12, pp. 779-783): 1) They are rational and wish to maximize their own utilities; 2) They seek both financial and non-financial rewards (attractive offices, special privileges); 3) They are generally risk averse if stakes are sufficiently large; 4) As subordinates, their individual interests will not always be congruent with the interests of the principal; and, 5) They prefer leisure to hard work.

The firm is assumed to have a single owner-manager (the principal) whose objective is to maximize his/her expected utilities, whose utilities depend on wealth and, therefore, its objective is to maximize the present value of the firm's profits. Each employee (the agent) is assumed to be risk averse and intent on maximizing his/her expected utility. However, his/her utility is assumed to depend on effort as well as wealth. Effort is interpreted as a productive input with direct disutility for the agent. This disutility creates a difference between the principal and agent's objectives.²

Agency theory assumes that some equilibrium will be reached.³ That is, the employee and employer will agree upon some compensation to provide the employee at least a minimum level of expected utility given an expected level of effort. The employer expects a marginal product whose value at least equals the compensation. Berkok (2) shows that this optimum payment function can be a continuous or semicontinuous variable.

A fixed wage contract is one of many possible labor contracts available to labor market participants. The wage guarantees the employee a minimum level of utility and is attained by a labor market or bargaining process. The labor market supplies the amount of utility an employee could receive by going elsewhere. Consequently, equilibrium is attained.

In addition to the fixed wage compensation, the employer may be willing to provide additional compensation in the form of an incentive contract. An incentive contract is designed to promote the employer's objectives by encouraging employee efforts or actions beneficial to the employer's desired outcome (profit), including quicker vesting of benefits, greater employee benefits (overtime), and a larger employee share of the cost savings. An incentive contract could be a means to reduce costs by encouraging either loyalty to the firm or cooperation in the firm's endeavors. "Loyalty," as applied to corporations, is a disputed notion these days, but the traditional view has been that loyalty increases tenure and lengthened tenure lowers turnover costs: hiring, firing and training costs. Profits may further increase from employee expertise, and experience may be gained through longer tenure. Employees may work harder and more efficiently if they possess a sense of loyalty, and a firm may be able to reduce its monitoring costs with loyal employees.

If "loyalty" is a suspect term, one may still argue that an incentive contract encourages an atmosphere of cooperation among all corporate parties

because cooperation is mutually beneficial. As a result of quicker vesting, greater benefits, and sharing in the cost-savings, employees would be motivated to provide a better quality of service for a longer period of time. Their job environment would become more pleasant because they are paid currently and expect additional future compensation. Owner-managers also recognize the benefits of cooperating with the employees' increased profits.

Incentive contracts should save employers additional compensation costs. In essence, the employer is sharing potential cost savings with the employee. By offering an incentive contract to realize cost savings, the employer will pay the employee some of those expected cost savings in the future. This incentive plan can be a pension plan; additional compensation is offered to the employee payable upon retirement (or if vested, possibly when leaving the firm) in order to increase tenure and loyalty. The employer must decide whether to offer the pension plan incentive in addition to the fixed wage contract.

A new model is developed in this paper by viewing a defined-benefit pension plan in an agency framework. Using agency theory to describe the underlying contracting process, the authors propose that a pension plan, by providing levels consistent with employee preferences, serves as an employee incentive to produce employer cost savings. Broader in scope than the deferred wage theory, this model incorporates the employer's objective of realizing cost savings in addition to those savings associated with deferred wages. The employer shares the savings with the employees in the form of a pension plan. The proposed decision model suggests whether and how an employer will adopt a pension plan. While incorporating the use of employee incentives, it does not rely upon the assumption of a lifetime implicit contract.

The Decision Model

A fixed wage contract and an incentive contract in exchange for current services and expected cost savings form part of the employer-employee contracting process. A utility-maximizing employer should share any expected cost savings with the employee. If the incentive contract is not expected to produce cost savings, the contract will not be used; no pension plan will be offered. In addition, while actual cost savings may not equal expected cost savings, expected cost savings determine the use of the incentive contract. Thus, the employer must first estimate the total costs of employment over the employee's lifetime and then estimate the expected cost savings which could arise through increased employee tenure and loyalty. If the employer decides to offer a pension plan, he must then choose a sharing rate to determine future employee pension payments. The above discussion leads to the derived model.

The following notation is used:

U = the employer's utility function in wealth.

K_T = the expected total cost of employment over the employee's lifetime (without an incentive contract), e.g., wages, monitoring costs, potential hiring and firing costs and training costs.

\bar{K}_A = the random total actual cost of employment (with an incentive contract) over the employee's lifetime, known ex post but not ex ante.

Ex post \bar{K}_A depends upon:

1. The tenure and cost reduction and productivity efforts of the employee, which are a function of the share of the cost-savings resulting from the incentive contract.
2. The effect of uncontrollable contingencies on actual costs. α = the employer's sharing rate, where $0 \leq \alpha \leq 1$.

P_T = that portion of the entity's expected profit independent of α .

W = the owner-manager's initial wealth.

EU = the employer's expected utility function in wealth.

CE = certainty equivalent (i.e., the amount of wealth equivalent to EU).

If an incentive contract is used, the total employee compensation would include fixed wages plus a sharing payment of $(1 - \alpha)(K_T - \bar{K}_A)$. The employer must first decide whether to offer a pension plan, i.e., if expected cost savings are positive. If the expected present value of K_T exceeds the present value of \bar{K}_A , then a pension may be offered to the employee. K_T is calculated initially when the decision is made to hire the employee and is an integral part of an investment decision. The expected present value of \bar{K}_A is calculated by incorporating new estimates of turnover costs, employee effort, and productivity that will result from having the incentive contract.

The owner-manager must next choose a sharing rate, α . We assume competitive markets, so he/she has little or no control over actual per-unit employment costs. Thus, the owner-manager is essentially choosing to share in the uncertain outcome of a profit lottery, $Z = K_T - \bar{K}_A$. The chosen sharing rate determines the range of the owner-manager's incentive profit outcome $\alpha(K_T - \bar{K}_A)$ and therefore structures the risk characteristics of a contract profit lottery in accordance with his/her risk preferences. The employer's utility function represents his/her risk preferences and determines the selection of α . This opportunity to structure risk preferences provides another reason for the incentive contract. Thus, the incentive contract choice of α can reduce costs and structure the risk characteristics of employment contracts. The decision problem is assumed to relate to a single employee type although as Fosu (8), for example, has shown, employer decisions regarding nonwage benefits tend to be based on the preferences of the marginal employee representing each preference type. The employer's objective is then to maximize⁴

$$EU\{W + P_T + \alpha(K_T - \bar{K}_A)\} \quad (1)$$

The owner-manager's certainty equivalent can be defined as

$$CE\{W + P_T + \alpha(K_T - \bar{K}_A)\} = U^{-1}\{EU\{W + P_T + \alpha(K_T - \bar{K}_A)\}\} \quad (2)$$

By rewriting $CE\{W, P_T + \alpha(K_T - \bar{K}_A)\}$ as $CE\{W, f(\alpha, \bar{Z})\}$, where $f(\alpha, \bar{Z})$ represents the uncertain payoff $P_T + \alpha\bar{Z}$ and $\bar{Z} = (K_T - \bar{K}_A)$, we derive the certainty equivalent as

$$CE\{W, f(\alpha, \bar{Z})\} = U^{-1} [EU(W + P_T + \alpha\bar{Z}) - W] \quad (3)$$

An equivalence can be established between the uncertain payoff $P_T + \alpha\bar{Z}$ and the certainty equivalent $CE\{W, f(\alpha, \bar{Z})\}$. We can define the owner-manager's risk premium as

$$\begin{aligned} F\{W, f(\alpha, \bar{Z})\} &= E(P_T + \alpha\bar{Z}) - CE\{W, f(\alpha, \bar{Z})\} \\ &= P_T + \alpha E(\bar{Z}) - CE\{W, f(\alpha, \bar{Z})\} \end{aligned} \quad (4)$$

Rearranging and solving for $CE\{W, f(\alpha, \bar{Z})\}$ yields

$$CE\{W, f(\alpha, \bar{Z})\} = P_T + \alpha E(\bar{Z}) - F\{W, f(\alpha, \bar{Z})\} \quad (5)$$

The owner-manager's problem can then be written as

$$\begin{aligned} \text{Max}\{P_T + \alpha E(\bar{Z}) - F\{W, f(\alpha, \bar{Z})\}\} \\ 0 < \alpha < 1 \end{aligned} \quad (6)$$

With $U(W + P_T + \alpha Z)$ as the owner-manager's utility function and $g(Z)$ as the probability density function of $Z = \bar{K}_T - \bar{K}_A$, the owner-manager's optimization problem becomes

$$\text{Max}_{\alpha} EU(.) = \text{Max}_{\alpha} \{fU(W + P_T + \alpha Z)g(Z)dZ\} \quad (7)$$

Here $EU(.)$ represents the expected utility as a function of using an exponential function $U(X) = 1 - e^{-rX}$ to represent the owner-manager's utility function (where X is the functional argument (wealth), and r represents the constant risk aversion level),³ we have

$$\begin{aligned} \text{Max}_{\alpha} EU(\alpha) &= \text{Max}_{\alpha} \{f(1 - e^{-r(W + P_T + \alpha Z)})g(z)dz\} \\ &= \text{Max}_{\alpha} \{1 - e^{-r(W + P_T)}\} \{e^{-r\alpha Z}g(Z)Dz\} \end{aligned} \quad (8)$$

Focusing on the component $e^{-r\alpha Z}g(Z)Dz$, and assuming that $g(Z)$ can be approximated by a normal distribution with mean m and variance σ^2 , we have

$$\begin{aligned} e^{-r\alpha Z}g(Z)Dz &= \frac{1}{\sigma\sqrt{2\pi}} \delta e^{-r\alpha Z} e^{-\frac{1}{2\sigma^2}(Z-m)^2} Dz \\ &= \frac{1}{\sigma\sqrt{2\pi}} \delta e^{-r\alpha Z} \{2r\alpha\sigma^2 Z + (Z-m)^2\} Dz \end{aligned} \quad (9)$$

Now

$$\begin{aligned} 2r\alpha\sigma^2 Z + (Z-m)^2 &= [Z - (m - r\alpha\sigma^2)]^2 + 2mr\alpha\sigma^2 - r^2\alpha^2\sigma^4 \\ &= [Z - (m - r\alpha\sigma^2)]^2 + 2r\sigma^2(m - \frac{1}{2}r\sigma^2\alpha^2) \end{aligned} \quad (10)$$

Therefore, the above expression can be written as

$$\begin{aligned} \delta e^{-r\alpha Z}g(Z)Dz &= e^{-r(m\alpha - r\alpha^2\sigma^2)} \frac{1}{\sigma 2\pi} \frac{\delta 2\{z - (m - r\alpha\sigma^2)\}^2 dz}{\sigma^2} \\ &= e^{-r(m\alpha - r\alpha^2\sigma^2)} \frac{1}{2} \end{aligned} \quad (11)$$

Differentiating equation (11) with respect to α and setting the expression equal to zero, we obtain the first-order condition

$$\exp[-r(m\alpha - r\alpha^2\sigma^2/2)] [m - r\sigma^2] = 0 \quad (12)$$

It follows then that the employer's optimal sharing rate is

$$\alpha^* = \begin{cases} 0 & \text{if } m \leq 0 \\ \min(1, m/r\sigma^2) & \text{if } m > 0 \end{cases}$$

Combining equations (3) and (11) and noting that the right-hand side of equation (11) equals EU (αZ), the owner-manager's certainty equivalent, given by

$$CE(\alpha) = P_T + m\alpha - \frac{1}{2}r\alpha^2\sigma^2 \quad (13)$$

may be expressed at the optimum as

$$CE(\alpha^*) = P_T + m^2/2r\sigma^2 \quad \text{if } 0 \leq m \leq r\sigma^2 \text{ or}$$

$$CE(\alpha^*) = P_T + m - r\sigma^2/2 \quad \text{if } m > r\sigma^2$$

The owner-manager's certainty equivalent is, therefore, a function of the implicit risk-aversion level r characteristic of a given employee group. The optimum α^* , for large σ^2 relative to m , lies between 0 and 1, making a fixed wage contract combined with an incentive pension plan the optimal contract for a risk-averse individual. By setting $r = 0$ in the expression for α^* , for an expected profit maximizing or risk-neutral individual, $\alpha^* = 0$ or 1, depending on whether $m \leq 0$ or $m > 0$. A risk-neutral employer would be indifferent between assuming all risk ($\alpha = 1$), (i.e., sharing none of the potential cost savings with the employee) and assuming no risk ($\alpha = 0$) (i.e., giving the employee all potential cost savings).

Since the above optimization is employee-type specific, by partitioning the employees into separate units or subgroups of closely related workers, each with its own sharing rate, a higher certainty equivalent or risk-adjusted value for the total labor cost package can be attained than for one master pension plan contract. This partitioning strategy would relate to the assignment of different sharing rates and thereby different pension payments to different employee subgroups. These subgroups may be determined, for example, by years of service with the firm. Thus, a set of pension payments (optimal sharing rates) corresponding to a set of employee groups will reduce the overall risk of uncertainty of fixed wage contracts. This risk reduction implies a risk reduction effect similar to that developed in portfolio theory. Overall then, a pension plan provides benefits to the owner-manager of the firm in three ways:

1. Provides an incentive to employees to reduce such employment costs as training and turnover expenses, since amounts provided would presumably be consistent with the employees' preferences.
2. Helps reconcile the risk characteristics of an employment contract with the employer's implicit risk aversion formulated on the basis of employee characteristics.
3. Reduces risk by providing different pension plan provisions for different employee groups.

To summarize, owner-managers seek to maximize wealth by reducing the lifetime expected costs of employment, K_T , which they have estimated and used in making their decision to hire employees. The owner-manager estimates the expected actual costs of employment, \bar{K}_A , over the employee's lifetime that result after the incorporation of a pension plan in the labor contract. In order for a pension plan to be offered, the owner-manager should expect cost savings, i.e., the expected present value of \bar{K}_A should be less than the expected present value of K_T .

Based upon the two estimates K_T and \bar{K}_A , the owner-manager computes a sharing rate, α which determines the amount of the expected cost savings over the employee's lifetime that the employer will give to the employee in pension payments. The pension payment is the cost of the pension plan. Based upon the two estimates, the employer agrees to provide an incentive contract, a pension plan, and agrees as part of that contract to make a pension payment upon retirement. The amount of the pension payment is calculated as $(1-\alpha) E(K_T - \bar{K}_A)$ = pension payment upon retirement = the expected cost of the pension plan.

The pension payment can then be incorporated into an actuarial benefit formula to determine the pension plan provisions. The employer must then choose how to fund the pension provisions since various combinations can determine a given pension payment. For example, the employer may express the pension payment in terms of a defined benefit that could be expressed as a function of years of employee service, as a percentage of an employee's salary, or both. If the defined benefit is expressed as a function of years of service, the employer must estimate the number of years of employment prior to the employee's retirement. Then the employer divides the pension payment by the number of years; the resulting annual dollar amount of service determines the defined benefit. The terms of the pension plan can be communicated to the employee as a set number of dollars for each year of service. Both the defined benefit formula and the pension payment are based on estimates, both subject to revision due to changes in estimate or in the basic plan itself. However, the employer must communicate the present known actuarial benefit formula.

Ignoring market competition, the employee will accept a pension plan because it is an incentive paid in addition to the market determined wage. The employee does not necessarily sacrifice current wages to be included in the pension plan. The employee thus receives a tax-supported "forced savings" retirement program. The employee "chooses" the level of effort that he will expend to produce the expected cost savings for the employer. The effectiveness of the pension plan as an incentive will help determine that level of effort.

Application Under SFAS Nos. 87 and 106

The above discussion has several implications for pension plan accounting. First is the question of expense recognition. SFAS Nos. 87 and 106 require the recognition of service costs based upon the actuarial present value of benefits that employees earned during their current year of employment, which is in deference to a pay-as-you-go or terminal funding system. Similarly, postretirement benefits, under the provisions of SFAS No. 106, also are viewed as deferred compensation arrangements whereby an employer agrees to provide these future benefits in exchange for the employee's current services.

The agency theory model proposes that the employers seek cost savings and share them with their employees in an incentive contract, a pension plan. If cost savings motivate a pension plan, then cost savings should drive the accounting for the pension plan. Thus, SFAS Nos. 87 and 106 are consistent with the matching principle of accounting, since labor costs are charged to the period in which the services are performed. The costs are related to the promised pension pay-

ments and labor services are the cost savings services that the employees produce.

The shared cost savings determine the pension payment which must be recognized as a pension expense and liability. Thus, the realization of cost savings relates to the realization of decreased accounting expenses and related liabilities. This implication contradicts the requirement of SFAS No. 87 (6, Para. 29-34) and SFAS No. 106 (7, Para. 59-61) that unrecognized net gains (and losses) be deferred, i.e., amortized subject to a 10 percent "corridor" formula.

One of the most contentious issues involving pension plan accounting is how to recognize prior service cost liabilities which result from benefits granted in a plan amendment. Increased pension payments are promised and determined on the basis of years of service already provided by the employees. Some accountants feel that these pension plan revisions should be recognized as present liabilities. Others feel that these liabilities should be deferred due to the expected savings from future cost sharings. The agency theory model justifies the SFAS Nos. 87 and 106 requirements that liabilities be deferred due to the expected savings from future cost savings.

According to SFAS No. 87 (6, Para. 24-27) and SFAS No. 106 (7, Para. 112-113), the accumulated pension or postretirement benefit obligation are components of the net pension liability (or asset). This obligation is the actuarial present value of benefits attributed to employee services to date. Prior service costs should now be amortized over existing employees' service lives rather than at rates ranging from no amortization to a maximum of 10 percent per year, as was required under AFB No. 8. Thus, SFAS Nos. 87 and 106 better match these expenses over the periods where the employer is expected to receive increased productivity from the employees receiving these increased benefits.

According to the derived model, once the pension plan is adopted, services to date are the labor service that the employee provided. SFAS Nos. 87 and 106 also require that the pension liability should reflect pension plan amendments — for example, increased benefits relative to prior years of service. However, if the employer's objective is to maximize utility, then the increased benefits would result from a revision of the estimated future cost savings, $(K_T - \bar{K}_A)$, or a revision of the cost savings sharing rate, α , if the employee characteristic compositions were to change. In either case, the promise of increased benefits would be in expectation of future cost savings. Thus, the current recognition of an increased benefit obligation, which is determined in expectation of future cost savings, is inconsistent with the recognition of the pension benefit obligation attributed to the employee for the cost savings services to date.

To be consistent, the benefit obligation resulting from plan amendments and expressed as a function of prior years of service should be recognized as a deferred liability and then amortized as future cost savings services are provided. This analysis would also apply to the recognition of the pension expense. Thus, recognition would occur as cost savings are realized. This treatment is consistent with the accounting treatment for the other provisions of the labor contract, wages for labor services. An accounting expense and liability are recognized in the same period as the employee provides labor services.

A problem arises in measuring the cost savings resulting from the pension plan incentive. That is, how can the employers measure cost savings patterns due to

the desired effort? Without a measurement of the savings pattern, it is difficult to determine an expense and liability recognition pattern for the expected pension payments. Arbitrary measurement patterns such as the accepted actuarial methods used today can possibly solve this problem; however, the model presented here suggests that such cost allocation methods should be based on employee risk characteristics.

Summary and Conclusion

An analytical basis for pension plan accounting is developed in this paper by working out a rationale and framework for the employer's decision to provide deferred benefits. The agency model developed demonstrates that the owner-manager seeks to maximize wealth by reducing the lifetime expected costs of employment which he/she has estimated and used in his/her decision to hire employees. The owner-manager estimates the expected actual costs of employment over the employee's lifetime that will result after the incorporation of a pension plan in the labor contract. In order for a pension plan to be offered, the owner-manager should expect a cost savings. A sharing rate is then calculated based upon the expected cost savings over the employee's lifetime. The agency theory model is utilized to calculate the optimum pension payment by the owner-manager. Some of the major implications of the agency theory model developed here on current practice are

- (1) The shared cost savings determine the pension payment, which under current practice must be recognized as a pension expense and liability. The shared cost savings to the management-owner should decrease accounting expenses. However, the provisions of SFAS No. 87 and SFAS No. 106 require that unrecognized net gains and losses be deferred and be amortized subject to the 10 percent corridor formula.
- (2) The agency theory model developed here justifies the SFAS Nos. 87 and 106 requirements that liabilities be deferred due to the expected saving from future cost savings.
- (3) Amendments to the plan would also reduce pension expense by the management-owner share of the cost savings. Thus, the current recognition of an increased benefit obligation, which is determined in expectation of future cost savings, is inconsistent with the recognition of the pension benefit obligation attributed to the employee for the cost savings services to date.

Both the FASB and actuaries should consider the implications of the agency theory model developed in this paper. They should look at the decision making process utilized by management-owners (as illustrated here) in deciding to offer a pension plan and in making amendments to the plan. Pension expense and the respective liability need to be considered as the accounting for pension plans evolves, especially at this time, when the cost of pension plans is skyrocketing and rising medical costs suggest a fragile future for traditionally oriented pension plans.

The derived model shows that pension plans generally satisfy the utilities of both employers and employees, especially if they can agree on an optimal sharing rate.

Footnotes

¹Pesando and Rea (19), Treynor, Regan and Priest (23), Skinner (22) and Cymrot (5) present arguments that pensions should be regarded as deferred wages.

²Fosu (8), however, developed a "competitive provision hypothesis" showing that the employer (or union) has the incentive to provide pension plans in order to satisfy employee preferences.

³For details of the characteristics of equilibrium involving incentive-signalling models, see, for example, Fosu (8), Ross (20), Walklins and Long (24) and Zimmerman (25).

⁴Gandhi (10) used a similar model to determine the optimal sharing rate for government incentive contracts.

⁵This mapping satisfies conditions of a utility function, for $U_x > 0$, $U_{xx} < 0$, $U(0) = 0$ and $(U_{xx}/U_x) = r > 0$. Note that the value of r depends upon the risk characteristics of the given employee group.

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