

# An Evaluation of Agency Theory Influence in Pension Accounting

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## Abstract

*The Financial Accounting Standards Board Standard No. 87 supersedes all other methods of accounting for pensions. However, many accountants think that this statement will also be superseded eventually since it contains several theoretical inconsistencies. The purpose of this article is first to apply agency theory to the determination of pension benefits, in order to show that pension costs represent a sharing of future cost savings in the employee-employer relationship. Some implications of the derived model are then applied to the provisions of SFAS No. 87. This model can thus be used to develop a consistent economic theory for pension accounting.*

## Introduction

After studying the issues relating to accounting for employees' pension plans for more than 11 years, the Financial Accounting Standards Board (FASB) in 1985 issued Statement of Financial Accounting Standards (SFAS) No. 87, (1985) which supersedes previous standards (e.g., Accounting Principles Board Opinion No. 8). Discussions of the new guidelines tend to ignore the central economic consideration that any plan must benefit the employer.

The purpose of the paper is to develop an analytical basis for pension plan accounting in order to point up the strengths and weaknesses of SFAS No. 87. 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 aspects of the pension reporting issue.

## Pension Theory in General

The most widely held theory explaining pension plans is the deferred wage theory (Malaski, Firend and Capelli, 1981-82 and March 1980) which views the pension plan as a method to defer some compensation until an employee retires. The employer promises to provide a pension payment 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, e.g., Lester (1967), Fosu (1983) and Freeman (1981). 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).

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 (Logue, 1979). Salop and Salop (1976) and Blinder (1982) suggest that the delayed vesting of pension plans may decrease employee turnover costs. Becker (1964) suggests that firms have an incentive to expand training costs as a result of delayed vesting, since it causes "average" employees to work longer for the company, resulting in a greater payback of these training costs.

This paper develops a new model and perspective by viewing a defined-benefit pension plan in an agency framework. Using agency theory to describe the underlying contracting process, the paper proposes 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 the 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.

### Agency Theory and the Contracting Process

The labor market is assumed to be a system of agency contracts in which the principal (employer) engages an agent (employee) to act on his behalf.

The firm is assumed to have a single owner-manager (the principal) whose objective is to maximize his expected utility. His utility depends upon wealth, and therefore his objective is to maximize the present value of the firm's profits (Horngren, 1982), p. 689). Each employee is assumed to be risk averse and intent on maximizing his expected utility. However, his 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 an inherent difference between the principal and agent's objectives. Agency theory assumes that some equilibrium will be reached. 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 product whose value at least equals the compensation.

In addition to fixed wage compensation, the employer may be willing to provide additional compensation in the form of an incentive contract, which 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.

### 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 will 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, 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.

If an incentive contract is used, the total employee compensation would include fixed wages plus a sharing payment. 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 the expected total cost of employment over the employee's lifetime exceeds the present value of the random total actual cost of employment over the employee's lifetime, then a pension may be offered to the employee. The expected total cost of employment over the employee's lifetime 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 the random total actual cost of employment over the employee's lifetime 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. We assume competitive markets, so he 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. The chosen sharing rate determines the range of the owner-manager's incentive profit outcome and therefore structures the risk characteristics of a contract profit lottery in accordance with his risk preferences. The employer's utility function represents his risk preferences and determines the selection of a sharing rate. This opportunity to structure risk preferences provides another reason for the incentive contract. Thus, the incentive contract choice of a sharing rate 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 (1983) 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 maximize for each employee type.

The owner-manager's certainty equivalent is a function of the explicit risk-aversion level characteristic of a given employee group. The optimum employer's sharing rate for a large variance relative to a normal distribution with a mean,  $m$ , lies between 0 and 1, making a fixed wage contract with an incentive pension plan the optimal contract for a risk-adverse individual.

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.

### Application Under SFAS No. 87

This model has several implications for pension plan accounting. First is the question of expense recognition. SFAS No. 87 is 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 payments 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 (1985 Para. 29-34) 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 FAS No. 87 requirement that the liability be deferred due to the expected savings from future cost savings.

According to FAS No. 87 ((1985) Para. 24-27) the accumulated pension benefit obligation is a component 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 APB No. 8. Thus, SFAS No. 87 better matches these expenses over the periods where the employer is expected to receive increased productivity from the employees receiving these increased benefits.

According to our model, once the pension plan is adopted, services to date are the labor service that the employee provided. SFAS No. 87 also requires 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 or a revision of the cost savings sharing rate, 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, 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 upon employee risk characteristics.

### Notes

- 1 Pesando and Clarke (13), Pesando and Rea (14), Treynor, Regan and Priest (18) Skinner(17) and Cymrot (3) argue that pensions should be regarded as deferred wages.
- 2 Fosu (5), 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.
- 3 For details of the characteristics of equilibrium involving incentive-signalling models, see, for example, Fosu (5), Ross (15), Walkins and Long (19) and Zimmerman (20).
- 4 Gandhi (7) used a similar model to determine the optimal sharing rate for government incentive contracts.

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