

RETIREMENT BENEFITS PLANS

VALUATION OF RETIREMENT BENEFITS PLANS

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**Introduction**

A retirement plan is an arrangement to provide people with an income during retirement when they are no longer earning a steady income from employment. Retirement plans may be set up by employers, insurance companies, the government or other institutions such as employer associations or trade union. Often retirement plans require both the employer and employee to contribute money to a fund during their employment

in order to receive defined benefits upon retirement though the funding can be provided in other ways, such as from labour unions, government agencies, or self-funded schemes. Thus they are therefore a form of "deferred compensation". Retirement benefits should not be confused with termination benefits as the former is paid in regular instalments post retirement, while the latter is paid in one lump sum at the point of termination of services.

Actuaries have played a significant role in determining values for accounting for retirement benefits as Actuarial valuations in India and abroad are mandatorily required under AS 15 Employee Benefits (revised, 2005), IAS 19 or US GAAP (FAS 87/88/158), issued by the relevant accounting body. The most important and widely used accounting standards for employer's cost) in respect of benefit plans rely significantly on actuarial methods and a significant portion of the actuarial profession is employed by benefit plans' sponsors to assist with the valuation of their long term accounting commitments. Actuaries also play a significant role in the financial management of defined benefit pension schemes. Their tasks include:

- valuation at specified periodicity
- monitoring of the scheme's compliance with the minimum funding requirement
- advising the trustees on a schedule of contributions and recommending transfer values.

Companies covered under AS 15 (revised, 2005)

AS 15 (revised, 2005) is applicable on the following firms:

1. Listed companies on any stock exchange in India
2. Banks/FIs/Insurance companies
3. Companies having turnover of more than 50 crores
4. Companies having borrowings or deposits of more than 10 crores
5. Companies employing more than 50 employees
6. Holding or subsidiary company of any of the above

Above-mentioned companies must get actuarial valuation done externally as per AS 15 by a certified actuary atleast once a year (usually 31 March). Company officials or auditors cannot do this valuation by themselves. Moreover, even the companies which do not fall within any of the above

six categories also need to consult a qualified actuary whether they need actuarial valuation or not. The need for actuarial valuation is determined by the actuary in consultation with the auditors after assessing materiality issues. In other words, requirement of actuarial valuation falls more or less on every registered company. However, in case of companies who have funded the liabilities with an insurance company can get AS 15 valuation certificates from their respective insurance companies if they agree to provide the same. However, companies need to ensure that such certificates are signed by a qualified actuary and are prepared as per the provisions of AS 15.

Types of schemes covered under AS 15 (revised, 2005) requiring actuarial valuation

Within Indian accounting framework, AS 15 (revised, 2005) deals with the accounting of employee benefits. There are four kinds of benefits under the standard viz. Short term employee benefits, termination benefits, other long term benefits and post employment or retirement benefits. AS 15 requires that actuarial valuation should be done in respect of following employee benefits:

- Gratuity
- Leave benefits (for both encashable and non-encashable leaves)
- Pension schemes (including both defined benefit and defined contribution schemes which guarantee a minimum investment return)
- Exempt Provident Fund (those PFs managed in-house and not by EPFO)
- Long-term service awards (e.g. awards given on completion of certain number of years of service or at retirement)
- Bonus and profit-sharing arrangements
- Leaves for leisure and travel purposes

However, actuarial valuation is not required for :

1. Defined Contribution pension schemes where no investment return guarantee is provided
2. Leaves which cannot be carried forward beyond one year
3. Short term benefits.

Basically, under AS 15 Employee Benefits (Revised 2005) services of an actuary is required to determine

- The amount of expenses to be recognised in the entities profit and loss account
- The amount of liabilities to be recognised in the entities balance sheet.
- Postemployment or retirement benefits [such as pensions, postemployment medical benefits, and postemployment life insurance] are categorized as either defined contribution plans or defined benefit plans. As stated above actuarial valuation are key part of reporting for defined benefit plans which has been discussed below.

Defined Benefit Plans

The obligation of an employer under a defined benefit plan is to provide an agreed amount of benefits to current and former employees in the

future. Benefits may be in the form of cash payments or could be in-kind in terms of medical or other benefits.

Normally benefits will be based on age, length of service, and wage and salary levels. Pensions and other long-term benefits plans are basically measured in the same way. Actuarial gains and losses of long-term benefits plans other than pensions are reported immediately in net income.

The defined benefit plan can be unfunded, partially funded, or wholly funded by the employer. The employer contributes to a separate entity or fund that is legally separate from the reporting entity. This fund then pays the benefits. The payment of benefits depends on the fund's financial position and the performance of its investments. However, the payment of benefits will also depend on the employer's ability to pay and to make good any shortfall in the fund. The employer is essentially guaranteeing the fund's investment and actuarial risk.

Accounting for defined benefit plans is more complex because actuarial assumptions are needed to determine the obligation and the expenses. Often the actual results differ from those determined under the actuarial valuation method. The difference between these results creates actuarial gains and losses.

Discounting is used because the obligations often will be settled several years after the employee gives the service. Usually actuaries are employed to calculate the defined benefit obligation and also the current and past service costs.

Key Information To Be Determined On Defined Benefit Plans

The entity must determine certain key information for each material employee benefit plan. This information is required:

- A reliable estimate is required of the amount of the benefit that the employees have earned in the current and prior period for service rendered.
- That benefit must be discounted using the projected unit credit method in order to determine the present value of the defined benefit obligation and the current service cost.
- The fair value of any plan assets should be determined.
- The total amount of actuarial gains and losses and the amount of those actuarial gains and losses that are to be recognized must be calculated.
- The past service costs should be determined in cases in which there has been a change or an introduction of a plan.
- The resulting gain or loss should be calculated in cases in which a plan has been curtailed, changed, or settled.

The entity must account not only for its legal obligation but also for any constructive obligation that arises from any informal practices. For example, the situation could arise wherein the entity has no realistic alternative but to pay employee benefits even though the formal terms of a defined benefit plan may permit an entity to terminate its obligation under the plan.

What Amount Recognized On The Balance Sheet?

The amount recognized in the balance sheet could be either an asset or a liability calculated at the balance sheet date. The amount recognized as liability in sheet will be:

= Present Value of defined benefit obligation at the balance sheet date
 – Fair Value of plan assets at the balance sheet date – any past service cost not yet recognized.

Present Value of Obligation (PVO): PVO is present value of benefits payable on exit. It refers to actuarial liability. For computation future projected salary has to be taken but service up to valuation date only. This is known as Projected Unit Credit Method. PUCM is based on assumption that each year of service gives rise to an additional unit of benefit entitlement. So each unit is measured separately. To calculate PVO the discounting is done by applying discount rate with reference to market yield of Government Bonds.

Situation: {Projected Unit Credit Method}

Facts: Company A has obligation to pay a lump sum benefit, equal to 1 % of final salary for each year of service, on retirement. The salary in year 1st year is Rs 10000 and is assumed to increase at 7 % compounded each year. Discount rate 10%. Number of years of service 5. salary after 5 years will result to Rs. 13100

Determination of obligation for various years is as follows:

Year	1	2	3	4	5
Benefits for prior period	0	131	262	393	524
For current year	131	131	131	131	131
total	131	262	393	524	655
CY of opening obligation	0	89	196	324	476
Interest at 10%	0	9	20	33	48
Current service cost	89	98	108	119	131
Closing obligation	89	196	324	476	655

Fair Value of Plan Assets: it is the amount at which an asset could be exchanged or a liability settled between knowledgeable parties. Where no such price can be determined, fair value is arrived at by discounting expected future cash flow. Earlier plan assets were valued at cost.

Past Service Cost: Such cost comes into picture when an entity introduces a defined benefit plan or makes some change to an existing plan, which results in increase of PVO for employees' service in past periods which has to be accounted in current period. As per AS 15 (Revised) if such benefits are vested i.e. payment of benefit is not dependent on employee putting further years of service, then it has to be recognized fully in the year when such change is made. In case if it is non vested, past service cost should be recognized as an expense on a straight line basis over average period till benefit becomes vested.

Situation: Past Service Cost {vested, not vested}

Facts: An enterprise operates a pension plan that provides a pension of 2% of final salary for each year of service. The benefits become vested after five years of service. On 1 January 2006 the enterprise improves the pension to 2.5% of final salary for each year of service starting from 1 January 2002. At the date of the improvement, the present value of the additional benefits for service from 1 January 2001 to 1 January 2005 is as follows: Employees with > 5 yrs service at 1/1/2006 Rs. 150

Employees with < 5 yrs service at 1/1/2006 (average period until vesting: three years) Rs. 120

TOTAL : Rs270.

Recognition & Measurement: The enterprise recognizes Rs. 150 immediately because those benefits are already vested. The enterprise recognizes Rs. 120 on a straight-line basis over three years from 1 January 2006

Recognition of Expense / Income =

Current Service Cost + Interest Cost - Expected return on any plan assets and on any reimbursement rights +/- Actuarial (gains) and losses+ past service cost - Effect of any curtailments or settlements - Effect of limit relating to recognition of asset on account of over funding.

The various terms used are explained as follows:

Current Service Cost : it is the cost which arises because PVO increase due to the service rendered by the employees in the current period. It includes employee's benefits which are not vested.

Interest Costs : such cost arises because the benefits are one period closer to settlement. This is arrived at by multiplying the discount rate as determined at the start of the period by 'PVO' at the beginning of the period. It has to be adjusted for any material changes in obligation.

Expected Return on Plan Assets: it is the net return. It comprises of interest, dividend and other revenue derived from the plan assets and any realized or unrealized gain on the plan assets. The cost of administration of the plan assets and any tax paid or payable by the plan itself are deducted from this.

Actuarial Gain or loss: Change in amount of PVO or value of Plan Assets or both causes Actuarial Gain or loss. Such change can be caused by any of the following reasons:

- Assumption difference like mortality or employee turnover rate may be different from what is assumed or salary escalation rate or discount rate may be different.
- The difference between actual rate of return of plan assets and expected rate of return.

Curtailments and Settlements: when there is substantial decrease in the number of employees as in the case of a unit shutting down or otherwise curtailment arises. Alternatively, when plan is amended or suspended such that a material element of future service by current employees does not qualify for benefit or qualify for reduced benefit, curtailment occurs.

A settlement occurs when a plan is permanently settled, say, by paying lump sum amount and plan ceases to exist. Loss or gain arising from curtailments or settlements is to be recognized in P/L immediately.

Measurement – Steps

- Using actuarial techniques to make an estimate of the amount of benefit that employees have earned in return for their service in the current and prior periods
- Discounting that benefit using the Projected Unit Credit Method in order to determine the present value of the defined benefit obligation and the current service cost
- Make reliable assumptions for variables such as mortality rates and turnover rates. [Indian Assured Lives Mortality (1994-96) Ultimate Table is widely used for this purpose]
- Make reliable assumptions for financial variables such as increase in salary, promotions, changes in medical costs, etc.. These should be

based on market expectation.

- Determine discount rate by reference to market yield at balance sheet date on Government Bonds.
- Deduct FV of plan asset from carrying amount of the obligation.
- Determining the fair value of any plan assets
- Determining the total amount of actuarial gains and losses
- Where a plan has been introduced or changed, determining the resulting past service cost.
- Where a plan has been curtailed or settled, determining the resulting gain or loss.

Opportunities for Actuaries

1. Financial Reporting of employee benefits under:
 - Indian GAAP – AS 15 Employee Benefits(revised, 2005)
 - US GAAP – FAS 158; UK GAAP – FRS 17
 - IFRS – IAS 19
 - Estimate valuations for future accounting periods
 - Assumption setting
2. Experience Analysis
 - Analysis of employee turnover rates, option take-up rates
 - Investment performance measurement and analysis
3. Funding and Statutory Valuations
 - Setting contribution rates so as to meet specified objectives
 - Assessment of adequacy of funds
 - Preparation of run-off plans for closed/discontinued schemes
 - Statutory funding valuations under US and UK legislations
4. Asset Liability Management for estimation of:
 - Optimal investment strategy/asset allocation
 - Costing and reporting of minimum benefit guarantees/underpins under Defined Contribution schemes
5. Consulting
 - Setting up terms for early/late retirement , commutation and other employee options
 - Employee benefit issues in Mergers & Acquisitions
 - Advice on funding and insurance decisions by performing rigorous cost-benefit analysis
6. Scheme design and alteration
 - Cost estimation for alternative Defined Benefit designs
 - Setting contribution rates for Defined Contribution schemes
 - Conversion from Defined Benefit to Defined Contribution
7. Valuation and accounting of Employee Stock Ownership Plans (ESOPs)