Institute of Actuaries of India

Subject SA4 – Pensions & Other Employee Benefits

October/November 2007 Examination

INDICATIVE SOLUTION

Introduction

The indicative solution has been written by the Examiners with the aim of helping candidates. The solutions given are only indicative. It is realized that there could be other points as valid answers and examiner have given credit for any alternative approach or interpretation which they consider to be reasonable.

Indicative Solutions:

a) i) ***Advantages & disadvantages of less realistic assumptions over more realistic assumptions are given by (+) and (-) respectively :***

(+) Might be simpler, or fewer explicit assumptions
(+) Actual experience is unknown, so "realistic" are unlikely to be known

(-) Cannot truly value all types of benefits
(-) May undermine trustees' confidence in the valuation results
(-) Cannot do "accurate" cashflow projections
(-) Do not know the margin built in over the best estimate assumptions.

(Total 2)

ii) The assumptions are made keeping prudency in mind. The benchmarks for prudency are different for both, hence assumptions would differ. The affecting prudency are;

- In case of withdrawal a deferred pension or equivalent transfer value is offered under the superannuation scheme.
- The value of deferred pension is generally lower as it does not take future salary escalation into account.
- The full accrued gratuity, on the other hand, is payable on withdrawal if the employee has put in, at least, 5 years service. The gratuity payable in that case is greater than the value of the benefit payable at retirement.
- No gratuity is payable on withdrawal if the employee has put in less than 5 year's service.

(Total 2)

a) iii) It is the combination of the method and assumptions that is important rather than the particular method itself.

Projected Unit Method

The projected unit method aims to keep the value of the assets in line with the value of the liabilities that have accrued to date, allowing for projected salaries. If the assumptions are borne out, the ongoing contribution rate will be equal to the value of the benefits accruing, allowing for projected salaries.

The modified contribution rate is calculated to cover the value of the benefits accruing over the next year to take account of any surplus or deficit that may exist in respect of past service.

Attained Age Method

The attained age method makes the same comparison of assets with past service liabilities as in PUM. However, the standard contribution rate (SCR) in respect of future service is set to be a level percentage over the future working lifetime of the active members. Again, the modified contribution rate will be the above future service contribution rate adjusted to reflect any surplus or deficit in respect of past service.

So, in comparison the attained age method tends to require higher contributions at an earlier stage than the projected unit method which is then offset by lower contributions once the funds build up.

The attained age method therefore tends to provide better security of the accrued benefits but is sometimes criticized for resulting in too high a level of funds in the pension scheme to the possible detriment of the employer's business.

The attained age method is thought ideal for closed schemes as it considers the current set of members as a closed group, i.e. it calculates a level contribution rate to cover their future benefits. Its SCR builds up funds in the early years at a faster rate than the value of the accruing benefits. However, if this surplus is then spread as a level percentage of pay over the members' remaining future service a stable modified contribution rate will result.

Conversely the projected unit method is more suited to an ongoing scheme as it implicitly assumes the membership profile will remain constant, for a stable contribution rate.

Reasons for the change in method

The attained age method tends to be more robust, eg. it will result in a more stable modified contribution rate when the scheme is closed to new entrants.

Maintaining the projected unit method would probably have resulted in a steadily increasing contribution rate.

The security of the members' accrued benefits will be higher under the attained age method.

How valuation assumptions are set and why changes may be made
The starting point is normally the last valuation. In order that the results are consistent from one valuation to the next, it is preferable to stick with the same basis unless there has been a significant event, eg. scheme closed to new entrants. These assumptions may then be adjusted to reflect any inter-valuation experience or beliefs that the previous assumptions are no longer appropriate for the future.

The valuation assumptions should reflect the expected experience of the scheme although this does not mean that they should necessarily be a best estimate.

If a scheme is closed to new entrants the long term investment strategy will change, eg. shorter period to invest, tighter cash flow restrictions.

(Total 8)

b) ***General points***

The problem here is that the subsequent transfer value appears inequitable with the transfer value that was previously received.

GN 11 specifically mentions the case of a withdrawing member for whom a transfer value had previously been received. It requires due consideration to be given of the transfer value received earlier while calculating subsequent transfer value. The fund position of the scheme can also have an impact on transfer values. Where there is surplus/deficit under a scheme, the GN11 allows the same to be taken into account in consultation with the client.

How the issue arises

For both added years and fixed pension, a change of actuarial basis or a change inmarket conditions during the period between transferring in and transferring out can have a significant impact…

For example, if market rates of interest have increased the transfer value of a fixed pension will fall.

In addition, for added years the transfer in would have been converted to additional years using a salary escalation ….

….However, when calculating the transfer out based on these added years, no escalation be applied.

For a unit-linked money purchase account, the investment risk is borne by the member. The level of risk involved depends on the nature of the underlying assets. Therefore, if the member has invested in volatile and risky assets then at the point of transferring out the value of the account may have been low compared to the value when transferring in.

What actions can be taken?

Only the trustees can decide what actions can be taken. Their advisers can highlight the issues and recommend a course of action but the trustees have the ultimate responsibility.

If the issue is arising from added years, there is a wide variety of possible remedies that the scheme could take. The transfer value could be set equal to :

a) the maximum of the normal transfer value and the previous transfer value in with/without interest.

b) the normal transfer value for service since joining the scheme plus the previous transfer value in with/without interest.

c) the normal transfer value for service since joining the scheme plus an amount required on the transfer-in basis to provide the added years previously provided.

Of the above three options, a) is the least generous. Options b) and c) are consistent in approach but c) adjusts the transfer in and credits the member with the benefit of survivorship.

An another action that can be taken is to remove the "added years" option from the menu of options that members can choose from ….

…This will reduce the problem in the future but does not deal with any problems arising from previous transfers in.

If the problem arises from a money purchase account losing value due to a fall in the value of the underlying assets, the trustees could look to remove some of the riskier funds available to members.

Choice could be restricted to certain funds.

The trustees should ensure that clear information and advice is available to the members investing in unit-linked accounts so that the members understand that they are taking the investment risk.

If the member has a fixed pension that is now worth less than the value of the transfer he brought into the scheme as a result of market movements, the trustees are unlikely to want to increase the transfer value out.

This is provided that the assessment of the fixed pension is fair and realistic. The remedy in this case would be to ensure that the transfer value quotation is accompanied by the necessary explanation.

Additional complications arising from the suggested actions

There may be small additional administrative and cost implications about doing extra calculations for added years' cases. Similarly if the trustees are going to organize investment advice for members taking the money purchase options there may be some additional administrative procedures.

If the transfer value in is to be returned on early leaving, this should be allowed for in the calculation of transferred-in benefits. The transfer-in credits will be reduced (i.e. fewer added years would be offered in lieu of a transfer in) if allowance is made for the full amount to be returned on withdrawal.

There is an issue of consistency between leavers and stayers. If leavers are given a benefit guarantee in the form of b) above, this is effectively a capital guarantee for their transferred-in service. Those who remain in the scheme until retirement will have no such guarantee that they will get fair value for the transfer in (eg. if their salary does not increase as much as expected).

(Total 15)

c) i) How different employees might benefit from different schemes;

Winners & losers

- What basis was used to calculate the 11% for the final salary scheme? If this was realistic, both the schemes will probably cost the same
- However, there will be cross-subsidies in the FS scheme and therefore winners and losers comparing each type of scheme
- If a prudent basis was used, FS should ultimately prove cheaper to the employer and so MP will be more beneficial to the average member

Final salary winners

- Old
- High salary growth, eg. high fliers
- Long stayers
- Risk averse (defined contribution benefit might not be at the level expected)
- Those with dependants
- People who retire early, in particular ill health cases
- People in scheme when investment performance is poor
- People retiring when annuity prices are expensive

Defined contribution winners

- Young
- Early leavers
- Unmarried
- Low salary growth
- Fairer to those contributing on overtime or part-time earnings
- Not risk averse
- Financially sophisticated members, who might want to direct their own investment policy
- Members who want the flexibility to choose different benefit to those provided in the defined benefit plan, eg. a different rate of pension increases
- People in scheme when investment performance is good
- People retiring when annuity prices are relatively cheap

[Max 8]

ii) ***Defined contribution underpin***

- Members will better appreciate the value of their benefits as the underpin will clarify the minimum worth of them
- Popular, since members get the best of both the worlds
- Will cost more, as no members are losers any more
- Unusual to give such a generous guarantee
- It might be unnecessary because competitors will be much less generous

- The underpin is less likely to apply at normal retirement age
- Early leavers likely to be main winners, but does the employer wants to give them much more?
- Ill-health pensions might be higher than under pure MP
- More difficult administration, therefore running costs higher
- The guarantee might restrict the investment policy
- The 8% p.a. investment return used to roll up the underpin could be considered as fairly generous in the current environment. Although it is consistent with the rate of interest used to calculate the final salary funding cost, the funding cost will be influenced much more by the gaps between the interest rate and other financial assumptions than by the nominal rates themselves. The 8% p.a. rate could prove expensive.

(Max 8)

iii) ***No life cover***

- Unusual to do this, most schemes provide life cover on top of any quoted contribution figure
- There is some merit in the suggestion as not everyone will need cover
- Popular with some members to give bigger contribution
- Eg. better for young, fit, unmarried, etc.
- Many people will not buy any life cover
- Unpopular for older members, those in poor health may not get cover

- Insurance more costly on individual basis
- No free cover limit
- Some individual lives uninsurable at normal rates
- Insurance costs vary a great deal with age
- There will be some death benefits as the accumulated fund can be returned

- ie. Little cover for short servers, but good cover for long servers
- Administration will become more complex

[Max 7]

[Total Max 50]

Q 2 (a)

Comparison of AS 15(rev.2005) with IAS 19, Employee Benefits (as amended in December 2004)

Revised AS 15 (2005) differs from International Accounting Standard (IAS) 19, *Employees Benefits*, in the following major respects:

1. Recognition of Actuarial Gains and Losses

IAS 19 provides options to recognise actuarial gains and losses as follows:

(i) by following a ‘Corridor Approach’, which results in deferred recognition of the actuarial gains and losses, or

(ii) immediately in the statement of profit and loss, or

(iii) immediately outside the profit or loss in a statement of changes in equity titled ‘statement of recognised income and expense’.

The revised AS 15 (2005) does not admit options and requires that actuarial gains and losses should be recognised immediately in the statement of profit and loss.

2. Recognition of Defined Benefit Asset

Both IAS 19 and AS 15 (rev.2005) specify an 'asset ceiling' in case of a situation of defined benefit asset. AS 15 (rev.2005) provides that the asset should be recognised only to the extent of the present value of any economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan. IAS 19, on the other hand, provides that the asset should be recognised to the extent of the total of (i) any cumulative unrecognised net actuarial losses and past service cost; and (ii) the present value of any economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan. IAS 19, however, also provides that the application of this should not result in a gain being recognised solely as a result of an actuarial loss or past service cost in the current period or in a loss being recognised solely as a result of an actuarial gain in the current period.

3. Termination Benefits – Recognition of Liability

IAS 19 provides that an enterprise should recognise termination benefits as a liability and an expense when, and only when, the enterprise is demonstrably committed to either (a) terminate the employment of an employee or group of employees before the normal retirement date; or (b) provide termination benefits as a result of an offer made in order to encourage voluntary redundancy. It further provides that an enterprise is demonstrably committed to a termination when, and only when, the enterprise has a detailed formal plan for the termination and is without realistic possibility of withdrawal. The AS 15 (rev.2005) provides criteria for recognition of liability in respect of termination benefits on the lines of AS 29, *Provisions, Contingent Liabilities and Contingent Assets*.

4. Transitional Provisions

In respect of transitional liability for defined benefit plans, IAS 19 provides that if the transitional liability is more than the liability that would have been recognised at the same date under the enterprise's previous accounting policy, the enterprise should make an irrevocable choice to recognise that increase as part of its defined benefit liability (a) immediately, under IAS 8 *Net Profit or Loss for the Period, Fundamental Errors and Changes in Accounting Policies*; or (b) as an expense on a straight-line basis over up to five years from the date of adoption subject to certain conditions. IAS 19 also requires that if the transitional liability is less than the liability that would have been recognised at the same date under the enterprise's previous accounting policy, the enterprise should recognise that decrease immediately under IAS 8.

The AS 15 (rev.2005), on the other hand, provides no choice in this regard, and requires that the difference between the transitional liability as per this Statement and the liability that would have been recognised as per the AS 15, should be adjusted against the opening balance of revenue reserves and surplus. This treatment is in line with the transitional provisions provided in other Indian Accounting Standards.

In respect of termination benefits, the AS 15 (rev.2005), specifically contains a transitional provision providing that where an enterprise incurs expenditure on termination benefits on or before 31st March, 2009, the enterprise may choose to follow the accounting policy of deferring such expenditure over its pay-back period. However, the expenditure so deferred cannot be carried forward to accounting periods commencing on or after 1st April, 2010. IAS 19 does not provide such a transitional provision.

Q 2 (b)

Objective

The **objective** of AS 15 (rev.2005) is to prescribe the accounting and disclosure for employee benefits . The Statement requires an enterprise to **recognise**:

- a liability when an employee has provided service in exchange for employee benefits to be paid in the future; and
- an expense when the enterprise consumes the economic benefit arising from service provided by an employee in exchange for employee benefits.

Scope on type of benefits

Scope

1. The AS 15 (rev.2005) should be applied by an employer in accounting for all employee benefits, except employee share-based payments.
2. It does not deal with accounting and reporting by employee benefit plans.

Type of Benefits

The employee benefits to which this Statement applies include those provided:

- under formal plans or other formal agreements between an enterprise and individual employees, groups of employees or their representatives;
- under legislative requirements, or through industry arrangements, whereby enterprises are required to contribute to state, industry or other multi-employer plans; or
- by those informal practices that give rise to an obligation. Informal practices give rise to an obligation where the enterprise has no realistic alternative but to pay employee benefits. An example of such an obligation is where a change in the enterprise's informal practices would cause unacceptable damage to its relationship with employees.

2. **(c)**

Treatment of Insured Benefits under AS 15 (rev.2005)

An enterprise may pay insurance premiums to fund a post-employment benefit plan. The enterprise should treat such a plan as a defined contribution plan unless the enterprise will have (either directly, or indirectly through the plan) an obligation to either:

- pay the employee benefits directly when they fall due; or
- pay further amounts if the insurer does not pay all future employee benefits relating to employee service in the current and prior periods.

If the enterprise retains such an obligation, the enterprise should treat the plan as a defined benefit plan.

The benefits insured by an insurance contract need not have a direct or automatic relationship with the enterprise's obligation for employee benefits. Post-employment benefit plans involving insurance contracts are subject to the same distinction between accounting and funding as other funded plans.

Where an enterprise funds a post-employment benefit obligation by contributing to an insurance policy under which the enterprise (either directly, indirectly through the plan, through the mechanism for setting future premiums or through a related party relationship with the insurer) retains an obligation, the payment of the premiums does not amount to a defined contribution arrangement

It follows that the enterprise:

(a) accounts for a qualifying insurance policy as a plan asset; and

(b) recognises other insurance policies as reimbursement rights, if the policies satisfy the specified criteria.

Where an insurance policy is in the name of a specified plan participant or a group of plan participants and the enterprise does not have any obligation to cover any loss on the policy, the enterprise has no obligation to pay benefits to the employees and the insurer has sole responsibility for paying the benefits. The payment of fixed premiums under such contracts is, in substance, the settlement of the employee benefit obligation, rather than an investment to meet the obligation. Consequently, the enterprise no longer has an asset or a liability. Therefore, an enterprise treats such payments as contributions to a defined contribution plan.

2 (d)

Pensions in India could generally be segmented as follows;

- Means tested and tax financed state assistance to destitute aged 65 and above (Defined Benefit).
- Pension of the Government employees who have joined the service before 1st Jan. 2004 (Defined Benefit)
- Complementary pensions like the proposed Defined Contribution fully funded individual account pension with universal access (Defined Contribution)
- Provident Fund; employee and public (Defined Contribution)
- Employees' Pension scheme 1995 (Hybrid but essentially Defined Benefit)
- Occupational Pension schemes (both Defined Benefit and Defined Contribution)
- Gratuity OR Severance Pay Benefit (Defined Benefit), And
- Personal pension offered by life insurers and Mutual Funds (essentially Defined contribution)

(2 marks)

Current Pension Regulatory Frame-work in India;

- Means tested and tax financed state assistance to destitute aged 65 and above is provided by the Government and hence there is no regulatory authority to supervise it.
- Pension of the Government employees who have joined the service before 1st Jan. 2004 is not funded and is managed on Pay-as-you go basis by the Government, hence there is no regulatory Authority to supervise it.
- Complementary pensions like the proposed Defined Contribution fully funded individual account pension with universal access would require a regulatory structure which proposed under PFRDA Bill.
- Public Provident Fund (PPF) is managed by the Government with 75% of the net accretions being passed on to State Governments as loan and balance credited to public account of the Government. There is no regulatory mechanism to supervise it.
- Employees' Provident Fund (EPF) is administered and regulated by the Employees' Provident Fund Organisation (EPFO), an institution under the Ministry of Labour.
- Employees' Pension Scheme 1995 (EPS, '95) is also administered and regulated by EPFO.
- Occupational Pension set up through approvals from Commissioners of Income Tax (CIT) under provisions of the Part B of Fourth schedule of the Income Tax Act 1961. There is no regulatory mechanism to regulated this.
- As in the case of Occupational Pensions, the Gratuity Funds set up through approvals from CITs under Part C of the Fourth schedule of the Income Tax Act 1961 are not under any regulatory mechanism.
- Personal Pensions and Group Pension products offered by life insurers atre regulated by the insurance regulator, IRDA and those offered by Mutual Funds are regulated by the Stock Exchange regulator SEBI.

(2 marks)

2 (e)

The **basic objective** of pension cost accounting standards is to ensure that an accurate picture of the financial impact of the pension arrangements is provided. To do this the expected cost of providing pensions needs to be recognized in a systematic and rational way over the period the employer derives benefits from the employee's services. Also this and other information needs to be disclosed in the company accounts. This is expected to allow shareholders to gain a better picture of the true finances of the company by providing them with the tools to investigate the realistic cost to the company of the pension scheme being run.

Before accounting standards concerning pension costs were introduced it was very common for the actual amount of the contribution paid by the company to be entered in to the company's Profit & Loss account as the cost of the pension scheme.

The basic idea behind the accounting standard, however, is that the cost reported each year should be a realistic value of the benefit accruing after deducting the value of employees' contributions during the year.

The common aims that most accounting standards attempt to achieve are;

- Recognizing the realistic cost of accruing benefits,
- Avoiding distortion resulting from fluctuations in the flow of contributions from the employer to the pension scheme,
- Consistency in accounting treatment from year to year,
- Disclosure of appropriate information.

The reported pension costs should be consistent with the following four fundamental accounting concepts;
Prudence – Provision is not made for revenues until their ultimate realization is reasonably certain. Provision is made for all known liabilities.
Ongoing – It is assumed that the business is not going to be wound up (unless it is).
Accruals – Costs are recognized when they are incurred rather than when they are actually paid.
Consistency – There is identical accounting treatment like items from year to year , or if there is not, the change is disclosed and effect shown.
The problems that might occur if the reported cost was stated to be the contributions to the scheme;

- If actual contributions paid fluctuate, the reported cost, and therefore, company profit, will be volatile even though the true cost of the benefits accruing might be stable,
- The cost could be deliberately manipulated to try to increase reported profit or decrease reported loss, which would depress security of benefits through inadequate contributions.
- Different companies might be advised by different actuaries, giving rise to different contributions to meet cost of the same benefits (unless the accounting standard required the use of a prescribed method and assumptions),

- Over time the funding advice could change eg a different method and/or assumptions might be used, giving rise to misleading trends in profit/loss.

2(f)

i) The key stages in the sale/purchase process;

- Buyer and seller start to discuss the possibility of the transaction
- Buyer and seller ask Actuaries to negotiate the terms relating to the transfer of past and future pension rights
- Agreement is formed and the business is sold (Completion date)
- The sellers employees are invited to join the buyer's pension scheme
- Any detailed or individual transfer terms are calculated
- The relevant members of the seller's scheme are informed of the transfer terms
- and are invited to transfer their past service rights to the Buyer's scheme
- The employees are admitted in to the Buyer's scheme (Transfer date). This usually follows a period in which various administrative requirements are met. (participation period)
- An interim transfer amount may be paid to the Buyer's scheme
- The transfer amount is calculated by the seller's actuary and agreed by the buyer's actuary
- The final transfer amount is paid to the buyer's scheme, including any interest or investment return from the date at which the original calculations applied.
- Any shortfall or excess clauses are excercised if the Trustees of the seller's scheme pay an amount that differs from that agreed by the companies

ii) The Trustees of the seller's scheme should look after all the members. This includes the transferring members. If the benefits to be received in the new scheme depend on size of the transfer value paid across, they will be looking to pay a transfer value that is fair to the transferring members whilst not leaving the scheme in a significantly worse position than it was before. "Fair" in this context will usually mean the value of past service rights on a realistic basis. The seller on the other hand may well be more interested in the financial implications of the whole deal and looking to pay as low a transfer value as possible whilst receiving as high a price as possible for the company, A low transfer value may not satisfy the trustees' objectives above.

(g)

i) No, the sale/purchase agreement may have a shortfall clause requiring the purchase price to be reduced to compensate for the shortfall in the transfer payment. The Buyer can then afford to maintain the level of benefits in the scheme. If there was no such shortfall clause, the buyer will still need to ensure compliance with agreement in terms of any commitment regarding past service rights eg to maintain past service rights, despite the shortfall in transferred funds.

ii) The transferring members may be unhappy if buyer's scheme provides better benefits, particularly if other members of buyer's scheme perform similar jobs. Their expectations will then be changed and they will probably feel unhappy despite the fact that they are no worse off than before. The transferring members could be worse off if the likelihood of discretionary benefits improvement is reduced. There may also be reduction in pensionable salary due to some change in the way part of the member's remuneration is defined. For example the definition of pensionable salary may include commission but not bonus. In this case pensionable salary would reduce if the employer were to change the emphasis of remuneration from commission to bonus. Alternatively the employer may replace part of cash salary with a non-pensionable-benefit-in-kind, such as a company car. OR there may be overall reduction in security if the new scheme is less well funded.

iii) There could be many reasons for such an approach;

- The cost of future accrual may be higher than under the current benefit structure
- Extra costs involved in running two benefits structure
- Could set a precedent for future acquisitions which may in some cases lead to the provision of more expensive benefits
- Different benefits may lead to complaint of unfairness
- There will be more administration costs and more difficulty in explaining the benefits to the members

iv) Advantages and disadvantages;

- The year-for-year credit makes things simple. Where very different benefits care awarded this may be fundamentally unfair to those transferring or very expensive for the buyer company.
- The broad brush approach needs a little more communication to members and is likely to result in slightly better value benefits for some a a slight reduction in value for others.
- With individual calculations it is necessary to present the result of the calculations on a per member basis. This should be the fairest method (although some members may not perceive it as such). The disadvantage of this approach is the large number of calculations that will be needed if there are a lot of transferring members.

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