# Actuarial valuation of leave benefits

## Issues for accounting under AS 15 and Ind AS 19

April 2017

# About this document

## THIS IS A TECHNICAL ARTICLE

This document provides technical guidance on the topic it is intended to cover. It is aimed at relevant specialists and decision makers to understand the specific issues from a technical perspective and provides guidance on how to deal with those issues.

## HOW TO USE THIS DOCUMENT

This document does not constitute a professional advice. This article is only intended to provide guidance on the specific topic covered. An independent analysis may be required to address the issues specific to your organisation.

## STRUCTURE OF THIS DOCUMENT

This paper is broadly split into the following sections:

1

### Background

Introduction to leave benefit schemes

Whether we need actuarial valuation of leave benefits

What types of leave schemes require actuarial valuation

2

### Current market practices

Reasons why multiple approaches exist

Areas of divergence

3

### What needs to be done for proper accounting

Reasons why multiple approaches exist

Areas of divergence

## Types of leave benefit schemes

Leaves, or compensated absences, are an integral part of the overall remuneration package for the employees of a company. Leaves entitle the employees to remain absent from work, for a qualifying reason, for a certain number of days every year and they still get paid for those days.

In certain cases, a cash payment in lieu of un-utilised leaves may be offered, either during service or on exit from the service. The rules and benefits of leave schemes are usually specified in a company's HR policy.

Companies are usually free to choose their own rules for the leave schemes they choose to run, subject to certain regulatory minimums. Therefore, rules of leave schemes vary greatly between the companies.

Most companies have different types of leave schemes running in parallel. For example[1]:

- Privilege or earned leaves (this is usually the main leave scheme)
- Half-pay leaves (usually observed in government undertakings)
- Sick leaves
- Leave awards
- Maternity leave

The accounting standards applicable to the employers, such as AS 15 and Ind AS 19, require that a liability be recorded in respect of various leave schemes in their financial statements.

[1] The list is illustrative only and there could be other types of leave benefits, or these schemes could be known by other names.

# Actuarial valuation of leave benefit schemes

Most types of leave schemes will require the employers to hold some liability under most accounting standards. However, before rushing to get an actuarial valuation done, it is important to understand what types of schemes require an actuarial valuation in the first place. There are three important issues to understand:

***Actuarial valuation is not required for all types of leave schemes.***

*Many companies spend resources on actuarial valuation of leave benefit schemes that don't require any, and fail to identify other schemes that may require one.*

**1 Type 1 leave benefits**

Actuarial valuation will be required when an employee has ‘earned’ or accrued some leaves in the past (i.e. prior to the balance sheet date) and is entitled to consume those leaves in the future, at least 12 months after the balance sheet date. For simplicity, let’s call these types of leaves, Type 1 leaves. If the unused leaves are set to lapse before the next 12 months, an actuarial valuation will not be applicable. This rules out any leave scheme which does not allow carry forward of unused leaves beyond 12 months from the balance sheet date from the scope of actuarial valuation[2].

**2 Type 2 leave benefits**

Actuarial valuation is also required where the leaves may not have accrued, but the employees will become entitled to a block of leaves after rendering service for a certain period. Let’s call these Type 2 leaves. For example, an award of say five paid leaves on completing three years of service.

[2] There is another layer of complication, related to the encashability of these leaves. This is discussed later.

## 3 Valuation of other leave benefits

Even though an actuarial valuation is not applicable on many leave schemes, employers still need to hold liability in respect of most schemes. Any accrued leaves which are expected to be wholly consumed within the 12 months following the balance sheet are classified as short-term benefits under most accounting standards. Any accumulated leave balances in respect of any leave scheme, such as privilege leave, sick leave or even maternity leave, irrespective of whether they are encashable or not, gives rise to an obligation which must be recorded on the balance sheet. Currently, most of the employers make no provision against this short-term liability.

# Current market practices

## A variety of approaches are currently in use

The accounting of leave benefits suffers from a lack of a holistic framework. Employers and actuaries follow a variety of approaches related to the classification of leave benefits, their valuation and disclosures. However, there are reasons why this heterogeneity arose in the first place:

*The provision to carry forward unused leaves for future consumption is not prevalent in other parts of the world. Therefore, international accounting standards do not provide adequate guidance as to how such leaves should be accounted for.*

- Unlike gratuity, companies design their own leave policies. There are varied provisions related to carrying forward, lapse, conditions for approval etc. This means each employer is unique and each of them could be running several different leave policies. Compare this with gratuity, where one single set of rules are applicable for a large proportion of employers.

- The provision to carry forward unused leaves, more or less indefinitely, is not common in other parts of the world. This is more uncommon in the developed world, where the major accounting standards such as IAS 19 originated. Therefore, these accounting standards may not provide an adequate explanation about how the leaves schemes should be treated from an Indian perspective. Since the Indian accounting standards are aligning ever more closely with IFRS, this gap continues to expand and employers apply their own interpretations of the accounting standards.

# Areas of divergence

Differences exist related to classification, valuation and disclosure of leave schemes.

### Classification of leave benefit schemes

Accounting standards classify benefit schemes into one of the following:

- ***Short-term benefits (STB)**:* those which fall due wholly within the 12 months following the balance sheet date.
- ***Post-employment benefits (PEB)**:* where the benefits under the scheme are payable only when an employee leaves service. Gratuity and pension fall under this category
- ***Other long-term benefits (OLTB)**:* those benefits which do not wholly fall due within the 12 months following the balance sheet date, but are not post-employment benefits. Such benefits are usually provided in-service.

Even though most employers run several leave schemes, very few perform a due diligence to understand how their leave schemes should be classified. The way a scheme is classified will ultimately determine how it should be valued and accounted.

The general market practice is to value privilege leaves with little consideration to the terms of the policy. Consequently, most privilege leaves are subjected to an actuarial valuation. Other types of leave schemes are ignored for reporting purposes.

The leave schemes that do undergo an actuarial valuation are classified as either PEB or OLTB, depending on the choice of the actuary. Both classifications are prevalent, but there is an increasing trend towards classifying leave schemes as OLTB.

### Methods of valuation

Three common methods are currently being used to value leave benefits:

**First-in-first-out (FIFO)**: Under this method, it is assumed that the leaves that were earned by an employee first, will be utilised first whenever leaves are consumed in future.

For example, let's assume that an employee has 30 leaves to their credit as at the balance sheet date, and a further 15 are due to be credited over the next year. If this employee is expected to avail 10 leaves over the next year, it is assumed that they will first utilise the leave balance that existed at the last balance sheet date (i.e. 30 days) and the next year's entitlement will get added to their leave balance.

At the next balance sheet date, they will have 30 (existing balance), plus 15 (yearly entitlement), less 10 (availed during the year), i.e. 35 leaves to their credit.

*Leaves are usually valued either using FIFO, LIFO or a hybrid method (x-LIFO), which allows for the possibility that some employees will consume more leaves than their annual entitlement. This approach is not recommended as it seems to be logically flawed.*

**Last-in-first-out (FIFO)**: This method is the opposite of FIFO; it assumes that the leaves earned last are utilised first.

Going by the same example as the previous paragraph, the 10 leaves the employee is expected to avail, will first be taken out from their next year's entitlement. This means that the 30 leaves that existed as at the balance sheet, will remain intact at the next balance sheet date, plus a further 5 will be added (annual entitlement of 15 less 10 leaves that are availed).

The number of leaves at the end of the year under this method will be the same as FIFO method; the only difference is 'hypothetical' related to the composition of the leave balance that exists at the next balance sheet date.

**There is another method** currently being used by many actuaries. It is not clear if this method has any specific name, but for the purposes of this article, it is referred to as LIFO with excess provisions, or **x-LIFO**.

This method is same as LIFO, except that an explicit assumption is made that some employees will exceed their annual entitlement and therefore draw upon the leave balance that existed at the last balance sheet date.

In the above example, if an employee availed, say 20 leaves instead of 10, they would first consume their annual entitlement of 15 leaves and then use 5 leaves from their previous leave balance.

***What is it about 'availment' of leaves?***

It is also important to note that out of the three methods listed above, FIFO and x-LIFO make an explicit allowance for 'availment' of leaves; i.e. the act of utilising leaves by being absent from work, rather than letting them accumulate. Accounting standards have prescribed that even though availment does not require making an explicit payment, it does represent an economic cost for the employer and therefore the liability should be measured.

These methods require an assumption to be made regarding availment pattern. A fixed annual rate of availment, either absolute (e.g. 10 leaves per year) or percentage (e.g. 40% of opening leave balance per year) are generally used. Further, some actuaries set the availment pattern at an individual employee level, whereas others use an umbrella assumption applicable for all employees.

The LIFO method does not make any assumption related to availment, unless evident from the scheme rules[4]. Where no allowance for availment is needed, LIFO method essentially assumes that the leaves that existed on the last balance sheet date will be consumed only on exit from the company. If the leave benefits were non-encashable; e.g. sick leave, no liability exists in respect of such a scheme. In contrast, a FIFO method may lead to a significant liability for the same scheme as the existing leave balance is expected to be consumed by availing leaves.

As far as the current market practice goes, all three methods are widely used, and often without due consideration to the scheme rules or the circumstances of the employer.

[4] For example, where scheme rules explicitly mention that the unused leaves will expire after 5 years, an allowance can be made to ensure that the existing leave balance will be availed during the fifth year.

## Level of disclosures

The information ‘required’ to be disclosed depends on how the leave schemes are classified - PEB, OLTB or STB.

Where leaves have been classified as OLTB, actuarial reports only mention the value of the actuarial liability. Where leaves are classified as PEB, usually full disclosures are provided. Both practices are in line with the applicable accounting standards.

However, where full disclosures are not provided, there is nothing in the actuarial reports to understand the drivers of change in actuarial liability. The issue is exacerbated when an employer switches to another actuary, who might use a different approach to the valuation.

SECTION III

# What needs to be done

*Leave schemes should be classified as OLTB and valued using LIFO method, unless limited by scheme rules. Voluntary disclosures justifying the movement in DBO should be included in the actuary's report.*

As described in the previous section, employers and actuaries use a variety of approaches for accounting of leave benefits. Often, the approach chosen is neither described nor appropriate for the given scheme. There is a clear need for a coherent and justifiable approach. One such approach is described in this section, but it is recognised that other approaches may exist.

## Classification

Any accounting exercise must start with a due diligence of all the leave benefit schemes. Companies' leave policies change very often, so the need to perform due diligence could be a recurring one. All leave schemes should be analysed and classified as STB or OLTB.

Leave schemes should not be classified as PEB even when the LIFO method is used for valuation, since the scheme rules allow the leaves to be availed while in service, before attaining the retirement age.

## Method of valuation

### Short term benefits

For all leaves classified as STB, estimation should be done separately by considering how many of the accrued leaves under each scheme are expected to be consumed within the 12 months following the balance sheet date.

### Other long-term benefits

Actuarial valuation should be performed for all leave schemes classified as OLTB. All the methods previously described have their merits. However, **the use of the x-LIFO method, in the way it is sometimes used, appears to be technically flawed as explained in the following paragraphs.**

#### *Type 1 leaves:*

For the valuation of leaves of Type 1 (accumulated leaves from past service), it is essential to make a logical estimate of when those accumulated leaves are expected to be consumed. The timing of consumption of leaves has a direct effect on the DBO in the following ways:

1. Timing of consumption determines what would the exit salary be and how long the benefits needs to be discounted for
2. It also determines the salary that will be used; leaves are availed on a cost-to-company (CTC) basis, whereas encashment is done on the basis of salary prescribed in the scheme rules, which could be zero in case of non-encashable leaves.

The central assumption of the x-LIFO method, that some of the employees will use leaves in excess of their entitlement is a reasonable assumption. However, this assumption is valid only for the 12 months following the balance sheet. Again, one needs to go back and assess when the accumulated leaves are expected to be consumed.

Let’s consider the following example:

- A company has 10 employees, each with a leave balance of 30 as at the balance sheet date, 31 March 20X7. The annual leave entitlement is 15 and the company expects any two employees to exceed their entitlement and consume 20 leaves over the next twelve months. Eight employees will consume 10 leaves only.
- As at the next balance sheet date, 31 March 20X8, two employees are expected to have 25 leaves, and eight will have 35 leaves. Effectively, from the ‘opening’ balance of 30 leaves each, two employees used 5 leaves and remaining employees used none.
- For the 12 months following 31 March 20X8, let’s assume the chances of exceeding the annual leave entitlement are the same; i.e. two employees will exceed their entitlement and consume 20 leaves while the remaining eight employees will consume only 10 leaves. Here, it will help if we consider two scenarios:
    - If the two employees expected to exceed their entitlement are those which did not exceed their entitlement the previous year, then they will first use the 5 leaves that were added to their credit last year. This effectively implies that the 30 leaves that existed on 31 March 20X7, are still intact. In this scenario, where anyone can exceed their annual leave entitlement, the assumption that some employees will continue to exceed their annual leave entitlement does not hold good beyond the first year[5]!
    - The only way in which a consistent over-utilisation assumption could be valid is when the same two employees exceed their entitlement, year after year. However, this assumption is also contradicted by the fact that they have a positive leave balance to start with, developed over time by not exceeding their annual leave entitlements. This assumption is not supported by the past experience.

[5] There is still a possibility that employees can draw upon their starting leave balances year after year. However, the probability, as well as the level at which the opening leave balance will be consumed in future decreases will drastically reduce as layers of new unused leaves are added to the opening balance.

Therefore, the central assumption of the x-LIFO method is a suspect and it is advised that this method be subjected to further scrutiny. However, this method does bring out a need to allow for the excess consumption that will be observed for the following 12 months – the expected 'availment' payout needs to be estimated and the resulting liability should be recognised as 'current liability' of the overall DBO of the scheme.

**Recommended approach for valuation**

The most appropriate method to value leave benefits would be the one that reflects the scheme rules and circumstances of the scheme. Here are some scenarios:

- If the scheme is a going concern and the leaves are accumulating and encashable, LIFO method would be the best in such a situation.
- If the scheme is a going concern and the leaves are accumulating but non-encashable, it would be fair to assume that employees will eventually avail some portion of the leaves prior to exit from the company. Therefore, LIFO method, with an availment outgo prior to exit would be reasonable.
- In the case of sick leaves which are accumulating but non-encashable, it will be worthwhile to understand how the sick leaves are usually approved by the employer:
    - If a medical evidence is needed, then there would be no reason to believe that employees will fall sick just before the exit. A LIFO method will result in nil liability in this case.
    - If a medical evidence is not needed, the method of valuation will be similar to point number 2 above – a LIFO method with some additional availment prior to exit, though the extent of availment may not be as much as that of a privilege leave.
- If LIFO method is used, the excess availment in the first 12 months, as described in the previous section, should be undertaken if this is expected to be material.

- A FIFO method is justified when the scheme is not a going concern; for example:
    - o In a merger or takeover, the value placed on the leave liability should be done on a FIFO basis as the purchasing party may not be under any obligation to continue the leave schemes of the selling party.
    - o If there is an expectation that the leave scheme is about to be curtailed or settled, the value placed on accrued leave balances should be assessed on FIFO basis.
- Where a leave valuation requires making an assumption about the leave availment pattern, it should be done at an aggregate level for all employees. Setting the availment pattern at a member level is not expected to provide any meaningful results, because the data usually will not be sufficient. For example, if a company has 10 employees, and supplies historical leave data for the last three years, member level assumptions will be based on three observations. On the other hand, an aggregate assumption will be based on 30 observations.

***Type 2 leaves:***

The valuation of Type 2 leaves (which are awarded on an ad-hoc basis upon satisfying certain vesting conditions) should be valued in the same way as other benefits with future payment outgo. Most accounting standards prescribe that their cost should be recognised on a straight-line basis as the service is rendered.

## Level of disclosures

Accounting standards do not usually require anything more than an assessment of liability for schemes that are classified as OLTB. However, where the liability being assessed is as complex as leaves, this disclosure is not enough. The liability estimate remains opaque and cannot be subjected to any validation by the employers or their auditors.

Actuaries should voluntarily disclose more information for the employers and auditors to understand the reasons for the change in DBO and to further validate their workings. The following disclosures will be useful:

### 1. Reconciliation of opening and closing DBO:

| | |
|---|---|
| **Opening DBO** | **1,000** |
| Current service cost | 250 |
| Interest cost | 125 |
| Benefit payments; *of which:* | (120) |
| *In-service encashment* | *(25)* |
| *Encashment upon exit* | *(20)* |
| *Salaries paid for availed leaves* | *(75)* |
| Leaves lapsed | (50) |
| Actuarial loss; *of which:* | (5) |
| *Lapsed leaves* | *(50)* |
| *Assumption changes* | *25* |
| *Scheme experience* | *20* |
| **Closing DBO** | **1,250** |

**2. Enhanced disclosures** related to the following are required to aid understanding of the employer and their auditors:

- Plan description – detailed explanation
- Justification of a choice of method and detailed explanation
- Assumptions related to availment and how they were derived
- Duration of liability and how that was used in setting discount rate

## Conclusion

- Accounting of leave benefits is a complex topic and a coherent framework is urgently needed to eliminate the lack of transparency that currently exists. Particularly, the use of a popular method for leave valuation, the one which allows for consumption in excess of the annual entitlement consistently, should be reviewed.
- Enhanced voluntary disclosures are required so employers and their auditors can understand the drivers of movement and the justification of choice of method should be provided.
- Adopting the approach set out in this paper will require making a significant transition from the current market practices and a significantly more effort will be required, both on part of the actuaries as well as employers.It is recommended that a Guidance Note is issued by Institute of Actuaries of India to be followed consistently by all practicing actuaries.

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