

A photograph of the interior of Antelope Canyon, showing smooth, undulating sandstone walls in warm orange and red tones, with light filtering through a narrow opening at the top.

# **Actuarial valuations for AS 15 and Ind AS 19**

Getting the basics right



# About this document

## Objective of this paper

This is a technical article authored by Numerica. It explains the basic concepts of actuarial valuations and accounting of employee benefit schemes under AS 15 and Ind AS 19. This document is appropriate for the audience below:

**Target audience:** Accountants and auditors

**Level of complexity:** Beginner

## Disclaimer

This document does not constitute professional advice and is only meant to provide guidance and education on general issues related to actuarial valuation of employee benefit schemes, and their role in the accounting standards referred to in this document. No decisions should be taken on the basis of this document alone without conducting an independent analysis to address issues specific to your organisation.

## Structure of this paper

This document is organised into three distinct sections, covering the following topics:

1

### What actuarial valuations are all about

- What is an actuarial valuation?
- Why do we need actuarial valuations?

2

### An introduction to AS 15 and Ind AS 19

- Main objectives
- How various benefits are treated

3

### Basics of AS 15 and Ind AS 19

- How to set actuarial assumptions
- How to interpret the results
- How to validate the results
- Next steps

# Section 1

## What actuarial valuations are all about

### 1.1 What is an actuarial valuation?

Before going into details of actuarial valuation process, let's first understand what 'valuation' actually means.



#### So, what is a valuation?

Any type of valuation aims to translate a future cashflow, or a series of cashflows, into a monetary value as at the current date.

For example, let's say Mr A will receive ₹100 in a year's time from now from Mr B. Another person Mr C can pay ₹X now to Mr A and in exchange C will receive ₹100 from B in a year's time. X can be calculated using the **Net Present Value (NPV)** method and involves 'discounting' the amount that is due to be received from B (i.e. ₹100), by the time in future when it is due to be received (i.e. 1 year). Using NPV method,  $X = ₹100 / (1 + i)^1$ . In this equation, 'i' is the **discount rate** and would reflect the return that the person doing the valuation (in this case, Mr C) would require. If 'i' is set to 10%, X would be ₹90.9. 'X' is Mr C's '**valuation**' of the amount that is due to be received from Mr B in future.

This is the general method of any valuation process – be it equity valuation, bond valuation, derivative valuation or even project appraisal. All valuation methods, in general, use the concepts of NPV.

### How are actuarial valuations performed?

In the context of employee benefit schemes, actuarial valuation aims to calculate the present value of benefit payments that would be paid to employees in future as part of a benefit plan. However, since the benefit payments to employees are contingent on certain events, the benefit payments themselves cannot be forecasted with certainty.

For a typical gratuity scheme, the benefits to be paid in future to any employee would depend on, for example:

- > Whether the individual would continue working till retirement or resign and leave early. There is also a small possibility of death or disability before retirement.
- > What the final salary of the individual would be at the time of exit

Actuaries will make an assumption about how likely an employee is to resign or die, prior to reaching retirement age. They will also make an assumption about how the salary of the individual would increase. If you have seen any actuarial valuation report, these assumptions would be reported as 'attrition rate' and 'salary escalation rate' respectively.

Actuaries make assumptions about timing and amount of future benefit payments and calculate 'expected present value'.

In order to allow for these uncertainties, an actuarial valuation assigns probabilities for various events that affect the timing and amount of benefits that will be paid in future. These probabilities are 'actuarial assumptions' that anyone who has dealt with actuarial valuations would easily recognise. Thus an actuarial valuation is a 'probabilistic' NPV of future benefits, better known as **Expected Present Value (EPV)**.



### An example

This example demonstrates the concepts of NPV, EPV and actuarial valuation. Suppose Mr Smith is exactly 58 years old now and is set to retire in two years. On retirement, Mr Smith will receive ₹1,00,000. Let's assume the discount rate for calculating NPV is the same as the interest rate offered by banks on Fixed Deposits, say 10%. In this case, the actuarial valuation is the same as the NPV:

$$\begin{aligned}\text{NPV gratuity benefit to Mr Smith} \\ &= 1,00,000 / (1 + 10\%)^2 = ₹82,644\end{aligned}$$

Now let's assume that there is 20% chance that Mr Smith will resign in exactly one year from now and will get Rs 75,000 in that case. In this case, the actuarial valuation is the EPV:

$$\begin{aligned}\text{EPV gratuity benefit to Mr Smith} \\ &= [1,00,000 / (1 + 10\%)^2 \times 80\%] + [75,000 / (1 + 10\%)^1 \times 20\%] \\ &= ₹79,751.\end{aligned}$$

This was an over-simplified example; a real actuarial valuation would be significantly more complex.

## 1.2 Why do we need actuarial valuations?

In the context of employee benefits, there are various reasons why an actuarial valuation may be needed. Some of the most common reasons are highlighted below:

1

### **Indian GAAP - AS 15 and Ind AS 19**

In India, the most important reason that companies require actuarial valuation is that Indian GAAP requires that a liability be recognised in a companies' balance sheet in respect of its employee benefit plans and certain disclosures be made. The accounting standard dealing with accounting for employee benefit plans is AS 15 and for companies now coming under the ambit of Ind AS, they would need to comply with Ind AS 19.

Most actuarial valuations are conducted due to the requirements of the accounting standards applicable to companies registered in India. But there are various other reasons too.

2

### **International accounting standards - IAS 19, ASC 715, FRS 17**

Actuarial valuations are also mandated by other accounting standards, such as IFRS (IAS 19) or US GAAP (ASC 715). Indian companies which are subsidiaries of companies registered outside India, will often require actuarial valuations and reporting to be done under either of these international accounting standards. This is required for consolidating their results into that of their parent companies. The requirement to conduct actuarial valuation under these accounting standards is incremental to the requirements of AS 15 or Ind AS 19.

3

### **Solvency assessment and funding**

Another important reason applicable to employee benefit plans that are funded, is to prudently assess the financial position and ensure that the assets in the fund would be enough to pay off the benefits when they fall due. Such an actuarial valuation is called a 'funding valuation' and this sometimes uses methods that are quite different from those used for accounting related actuarial valuations.

4

### **Mergers and acquisitions**



Actuarial valuations of benefit schemes are also done as part of mergers, acquisitions and other corporate transactions. AS 15, Ind AS 19 or funding valuations may not be appropriate for these purposes and a special actuarial valuation will be needed.

## Section 2

# An introduction to AS 15 and Ind AS 19

### 2.1 Main objectives of AS 15 and Ind AS 19

The main aims of these accounting standards are to ensure that:

-  A **liability** is recognised on the balance sheet that represents the actuarial value of the benefits that have been accrued till the balance sheet and expected to be paid in future.
-  An **expense** is recognised in the statement of profit or loss, representing the cost of running these benefit schemes over the reporting period

From the reporting company's perspective, the liability is the excess of Defined Benefit Obligation (DBO) over fund assets, if any.



In the absence of these accounting standards, the true financial position of companies will not be known. It is quite common that the costs in respect of employee benefit arrangements are not considered in corporate transactions such as an acquisition, which in the past has caused huge losses for the purchasing entity.


Ind AS 19 goes a step further and requires additional disclosures to set out the significant risks to post-employment plans, e.g. sensitivity disclosures showing the impact of changes in discount rate on the DBO.

### 2.2 How various employee benefits are treated under AS 15 and Ind AS 19

#### Classification of various types of employee benefits as per AS 15 and Ind AS 19

AS 15 and Ind AS 19 are applicable to all types of employee benefits, except those that are linked to shares. The benefits are categorised as follows:

-  **Short-term benefits**, such as salaries, bonuses etc. and these are expensed as and when incurred. These generally don't need an actuarial valuation.
-  **Long-term benefits** are further categorised into:
  - > **post-employment benefits** such as gratuity and pension, and
  - > **other long-term benefits**, such as jubilee awards, which are paid while in service

 Leave benefits can be categorised as either post-employment or other long-term benefits, depending on the scheme rules and assumptions whether a First-In-First-Out (FIFO) or a Last-In-First-Out (LIFO) method is used for actuarial valuation. More details are available in another Numerica article.



## Which employee benefits require actuarial valuations

Though AS 15 and Ind AS 19, both deal with the treatment of all employee benefits (except share based payments), it is sometimes not too clear which benefits require an actuarial valuation. For example, certain benefits, such as salaries, are recognised as and when they are paid and no liability is recorded in the balance sheet for future salaries. For other benefits, such as gratuity or pension, an actuarial liability is required to be held on the balance sheet.

It is not always clear which benefits need to be valued actuarially. Many companies spend money on valuations for schemes that don't require any.

The general principle is that a benefit needs to be valued actuarially only when:

1. The benefit has been accrued in the **past**,
2. The benefit is earned exchange for service rendered in the **past**,
3. The benefit will be paid in **future**, dependent on pre-defined triggers (such as retirement)
4. The amount of benefit should be reasonably certain

With this principle in hindsight, let's look at a few types of employee benefits and understand whether an actuarial valuation is required:



**Salaries:** Salaries are earned during the past month, in exchange for service rendered by employees that month and paid out at the end of the month. Since the benefits are paid out immediately and not withheld to be paid in future, no liability exists and an actuarial valuation is not needed.



**Annual bonus:** Under usual circumstances, bonuses are earned over the year, in exchange for service rendered during that year and paid out at the end of the year. It can be argued that the bonus earned in the initial part of a year is withheld to be paid at the end of the year and therefore the annual bonus could require an actuarial valuation. However, to be valued actuarially, a benefit needs to be 'long-term' and a general agreement is that means that benefit should be withheld for more than 12 months. Further, the amount of annual bonus is usually contingent on a number of other factors, such as individual and company performance, which implies that the amount of bonus is highly uncertain. Therefore an actuarial valuation of annual bonus is not necessary.



**Deferred bonus:** Now consider a situation where a service is rendered by an employee and bonus is earned for the period, but the bonus is deferred to be paid after 5 years. Such a benefit plan qualifies for an actuarial valuation because the benefit has been accrued in exchange for service rendered in the past, but will be

paid in future. Such schemes are quite common and known by various names such as Deferred Income Plan, Long-term Incentive Plan, Retention Bonus etc.



**Annual leave:** We will look at three different variants of annual leave policy:

> Let's first consider a leave policy where an employee is entitled for 20 days of leaves annually and any unutilised leaves lapse at the end of the year. Clearly since no benefit is held back to be paid into future, an actuarial valuation is not needed.

> Now consider another similar leave policy where unused leaves can be carried forward to the following year, but not beyond. In this case, some leave benefits that were earned in the past, will be payable in future, but not beyond 12 months. For such a scheme an actuarial valuation could be needed, however, most accounting standards do not require an actuarial valuation for any benefit payment falling due within 12 months and approximate methods of estimating the liability are acceptable.

> Now consider another leave policy where unused leaves can be carried forward indefinitely. In this case, an actuarial valuation will be needed.



**Maternity leave:** Generally actuarial valuation will not be required just by the virtue of having a policy in place because the benefit is not distinctly linked to past service and not yet earned. The benefit is deemed to be earned only when a maternity event becomes known. In theory, an actuarial valuation of the benefit will be needed for all employees who are currently availing maternity leave, or those who will be availing in near future. However, most of the maternity leave benefit would fall due within 12 months of the balance sheet date (therefore not 'long-term') and the quantum of benefit is likely to be immaterial, essentially meaning that an actuarial valuation will not be necessary.



**Leave Travel Concession (LTC):** An employee usually becomes eligible for an LTC every, say 4 years. This means that this benefit is earned over 4 years and at any given date, an employee would be accruing their next LTC benefit. Therefore an actuarial valuation will be required for the current block of LTC benefit. It is important to note that the accrual of the next LTC benefit has not yet started and therefore no liability in respect of the next block needs to be recorded.

The list of potential employee benefits is quite long; however the principles set out in the previous few paragraphs should help in determining whether actuarial valuation would be applicable for a given employee benefit plan.



**Summary:** How various types of employee benefits are treated under AS 15 and Ind AS 19

Type of benefit scheme	Classification and treatment
Gratuity	Post-employment benefit; actuarial valuation required
Leaves or compensated absence	Post-employment or other long-term benefit, depending on the rules of valuation; actuarial valuation needed if accumulation of unused leaves is allowed for more than 12 months
Pension or superannuation	Post-employment benefit; actuarial valuation required if the scheme is not exclusively Defined Contribution.
Exempt Provident Fund	Post-employment benefit; actuarial valuation required
Relocation award or retirement gift	Post-employment benefit; actuarial valuation required
Post retirement medical benefit	Post-employment benefit; actuarial valuation required
Long service or jubilee awards	Other long-term benefit; actuarial valuation required
Leave Travel Concession (LTC)	Other long-term benefit; actuarial valuation required
Retention bonus, long-term incentive scheme, deferred income plan or similar	Other long-term benefit; actuarial valuation required
Salaries, annual bonuses, Term Life insurance, Mediclaim or health insurance, car benefit or similar	Short-term benefits; actuarial valuation not required
Employee Stock Options (ESOPs), Share Appreciation Rights (SARs) or other share-based benefits	Outside the scope of AS 15 and Ind AS 19



The classification provided above is for a typical scheme under each category. However, the rules and benefits of a particular scheme could differ for various employers and therefore, the classification above may not hold true. The above classification would only be a guide and not a replacement for expert professional advice.

## Section 3

# Basics of AS 15 and Ind AS 19

### 2.3 How to set actuarial assumptions for AS 15 and Ind AS 19

The concept of actuarial assumptions is central to any actuarial valuation exercise. As mentioned earlier in [section 1.2](#) of this paper, an actuarial valuation requires a projection of benefits to be paid in the future and then discounting them back. Since the benefits to be paid in future to the employees is uncertain, assumptions are needed regarding when these benefits will be paid and their amounts. Below is an *introduction* to some important actuarial assumptions in the context of AS 15 and Ind AS 19:



**Salary escalation:** this assumption represents company's management's best estimate view of what the salary increments are going to be in **future**. This assumption is used to predict how the salary of an employee will grow in future and therefore what their final salary would be when they leave.

Salary escalation assumption should not be set equal to the salary increment rate provided over the reporting period.

Some thoughts on how to set the salary escalation assumption:

- > All types of future increments, including inflationary, performance and seniority should be considered
- > Should represent an average for all active employees as at the date of valuation
- > Should be expected annual increase over a long term – typically over expected future service
- > Should be consistent, but may not be the same as used in internal business plans.
- > There is no direct relationship with historical increments. It is important that this assumption is not set equal to historical increments over the last year or average of last few years, without first considering whether there are any reasons why future increments are likely to be different from the past.
- > Should only be changed when the management's about likely future long-term increments changes. This means that this assumption should not be changed over every reporting period.



**Employee attrition:** this assumption represents company's management's best estimate view of what the attrition experience is going to be in future.

Some things to consider when setting the attrition rate assumption:

- > All types of future attrition, including regular and redundancies
- > An average for all active employees as at the date of valuation
- > Expected annual attrition over a long term – typically over expected future service
- > Should be consistent, but may not be the same as used in internal business plans.
- > There is no direct relationship with historical attrition. It is important that this assumption is not set equal to historical attrition over the last year or average of last few years, without first considering whether there are any reasons why future attrition is likely to be different from the past.
- > Should only be changed when the management's about future long-term attrition changes. This means that this assumption should not be changed for every reporting period.



**Mortality:** both accounting standards require the management to take up responsibility of this assumption. However, given this assumption is fairly technical, and materiality for most schemes (except pension schemes) is quite low, companies often rely on the actuary's judgement.

However, the companies need to make sure that the actuary is using the latest current mortality rates prescribed by the Institute of Actuaries of India. If the nature of business of a company is such that the employees are exposed to hazardous activities, the company should let their actuary know so that an appropriate adjustment to the mortality rate can be made to reflect the higher mortality risk.

Companies running a pension scheme should take extreme care in ensuring that the mortality assumption recommended by their actuary is appropriate for their scheme. Globally, actuaries use separate mortality tables for pre-retirement mortality and post-retirement mortality, and it is the latter that is the most significant. General trend internationally is that mortality rates are coming down and people are living longer due to advances in medical technologies. Companies would need to ensure that an allowance is made for mortality improvements in their post-retirement mortality assumptions.

Mortality is a crucial assumption for companies running a pension scheme. For simpler schemes, such as gratuity or leave, the impact of mortality assumption is not significant.



**Numerica** has written a separate paper on setting mortality assumption for large pension schemes.





**Discount rate:** arguably, this is one of the most important actuarial assumption that directly affects the liability and undergoes the maximum scrutiny of the auditors and external analysts. Therefore, it is important that the management has complete understanding of how this assumption should be set.

AS 15 and Ind AS 19 prescribe that this assumption should be set in reference to the yield to maturity on Government of India securities having a term similar to the term of obligations ('G-Secs') as at the date of valuation.

It is important that companies understand completely what discount rate assumption is, its impact on financial position and how it should be set.

Actuaries would generally have access to the financial data on G-Secs to set the assumption, but companies should always request a full explanation to be provided in the actuary's valuation report, including the financial data the actuary has used in setting this assumption.

The process of fixing the discount rate typically requires the following steps:

- > Source the financial data on traded G-Secs from a stock exchange such as National Stock Exchange (NSE) or Bombay Stock Exchange (BSE). The data would show, as at the valuation date, which G-Secs were traded and at what price. With this information, the actuary would then calculate yield to maturity for each traded G-Sec.
- > It is important to understand that yields would be different for different types of G-Secs depending on the 'term' of that G-Sec. The term of a G-Sec is usually smaller than or equal to the duration of maturity of the G-Sec. If yields are plotted against the term of the G-Secs, one would get a curve of yields (called a raw yield curve). The actuary would produce a raw yield curve calculated straight from the traded G-Secs and then interpolate between them to produce a complete yield curve.
- > The actuary would calculate the term of the benefit obligations, which is usually an output of actuarial valuation. The term of a benefit plan is the average duration over which the benefits are expected to be paid. For a gratuity plan, this is the same as average future working life of all employees, but for other plans it could be shorter (e.g. leave) or longer (e.g. pension). Let's say, the term of obligations calculated to be 6 years.

> The actuary would then read the yield corresponding to the 6 years term from the yield curve. This point would be the discount rate to be used in actuarial valuation.

Globally, more sophisticated ways of fixing discount rate have been developed; e.g. using methods such as Cubic Splines or Smith-Wilson method to produce a yield curve, or back-calculating discount rate by running an actuarial valuation using a full yield curve. A discussion on these is beyond the scope of this paper.



**Other assumptions:** A number of other assumptions can be used in an actuarial valuation depending on the benefits and rules of the benefit scheme. For example, sometimes inflation is an important assumption for a pension scheme in which the benefits are linked to an inflation measure, such as Variable Dearness Allowance (VDA). Similarly assumptions need to be made about medical costs and medical inflation for a post-retirement medical benefit scheme.



Separate papers have been authored by **Numerica** to discuss issues related to other assumptions.

## 3.2 How to interpret the results

Getting an actuarial valuation report under AS 15 or Ind AS 19, signed by an actuary, is not the end of the story for companies. It is important that the company officials assess the information contained in these reports and ask the right questions to themselves and their actuaries.

The most important results of an actuarial valuation under AS 15 are the '**net liability**' and '**P&L expense**'. For Ind AS 19, there is additionally '**Other Comprehensive Income**' (OCI) is reported. Net liability reported in company's financial statements is the excess of Defined Benefit Obligation over the fund assets.

Companies should focus on analysing the table showing reconciliation of opening and closing DBO. It shows exactly what caused the liability to change.

In order to understand the results of an actuarial valuation, companies need to focus on the reconciliation of closing and opening DBO, which is a required disclosure under both AS 15 and Ind AS 19. This is a critical piece of information for anyone who wants to understand why the obligation has increased or decreased during the reporting period. A simplified table representing this reconciliation under AS 15 is shown below (reconciliation under Ind AS 19 follows a somewhat different format, but the principles are same):



**Example:** Reconciliation table showing reconciliation of opening and closing DBO as per AS 15

<b>Defined Benefit Obligation as at 31 March 20X5</b>	<b>1,25,000</b>
Current service cost	35,000
Interest cost	25,000
Benefit payments	(20,000)
Actuarial loss	15,000
<b>Defined Benefit Obligation as at 31 March 20X6</b>	<b>1,80,000</b>

Reconciliation table such as the one above reveals exactly what has caused the obligation to change. The various elements above are discussed below:

> **DBO at opening and closing dates** come from the results of actuarial valuations which have been discussed enough in previous parts of this paper.



> **Service cost** – This is the increase in obligation due to an additional year of service by employees; an employee who had rendered 4 years of service till the last year will now have 5 years of service and therefore entitled to a higher benefit if they resign now.

> **Interest cost** – This is the increase in obligation because the benefit payment date is now a year closer. For example, a person who was going to retire in 10 years time last year, would now retire in 9 years time this year. If they are to receive a benefit of Rs 1,000 at retirement, the PV of their benefit at the last valuation would have been Rs 800 (discounting for 10 years), but this year, the PV would be, say Rs 850 (discounting for 9 years). The difference 50 is on account of interest cost.

> **Benefit payments** – This is the amount of benefits that have been paid during the reporting period to employees who have left the company. This information is usually provided by the company to their actuary and should include:

- benefit payments paid directly by the company
- benefit payments paid by through the fund, if the benefit scheme is funded
- benefits that are due to employees who completed their last day at work, but not yet paid

However, the following should not be included:

- benefits payable to employees who have resigned but still serving their notice periods
- any amount received from the insurance company to cover future service benefit (usually paid if an employee dies while in service)

> **Actuarial loss** – when a full actuarial valuation has been carried out to assess the closing DBO, this represents the 'balancing item' in the table above, so that the sum of all the line items but last, add up to the last item. However, this is a very important number in an actuarial valuation and it is crucial that companies understand what this number represents. If this number represents a significant amount, it is important for company to request further details from the actuary to understand what this number is composed of. The next point talks about actuarial loss in more detail.



The example shown in this section is of reconciliation table for DBO required under AS 15. Such a reconciliation is also required under Ind AS 19, but the terms are slightly different; e.g. actuarial losses are referred to as 'remeasurements' under Ind AS19. However the concepts discussed above would remain applicable to Ind AS 19 too.

### 3.3 How to validate the results

Increasing focus on corporate governance implies that companies need to fully understand and validate the actuarial disclosures. Below are a couple of ways that can be really helpful in gaining comfort with the actuarial workings:

**1. Membership reconciliation:** It happens quite frequently that few employees are often inadvertently left out from the valuation. A data reconciliation table in the actuary's report should reveal any such data discrepancies. Such a table would look like this:



#### Example: Membership reconciliation table

Number of employees as at 31 March 20X5 (as per previous actuarial report)	1,000
Number of new joiners during the reporting period	200
Number of leavers during the reporting period	(150)
Number of employees (expected) as at 31 March 20X6	1,050
Number of employees (actual) as at 31 March 20X6 (as per the data submitted)	1,025
Number of employees missing (or unaccounted for)	25

As evident from the table above, a membership reconciliation table can immediately reveal any missing members that have not been included in the valuation. If some employees are missing in the data submission, that could imply that the liability has been understated.

Companies often miss some employees in their data submission. This could mean that the liability calculated by the actuary has been underestimated.

**2. Actuarial loss:** Broadly speaking, this number captures all of the following:

- > Differences between assumed and expected salary increases; e.g. if the salary increment assumption was 5% pa but over the reporting period, the company awarded 10% to their employees, this would create an actuarial loss
- > Differences between assumed and expected attrition experience; e.g. if the attrition rate assumed was 10% pa but more than expected employees left, say 15%, this would create either a gain or a loss, depending on a number of other factors

> Change in discount rate – when discount rate goes down, DBO increases and the impact of this is captured as actuarial loss

> Change in salary escalation rate – if the assumption related to future salary increases changes, this would lead to a gain or loss; generally an increase in salary escalation rate will cause an increase in DBO

> Change in attrition rate – if the assumption related to future attrition changes, this could lead to a gain or loss. However, a decrease in attrition rate could cause an increase or decrease in DBO.

A detailed split of actuarial loss is not a required disclosure under AS 15 or Ind AS 19. However, companies should still get this produced as it is a very useful tool to understand the source of actuarial loss.

Further details on actuarial loss, as shown in the table below, can help in not just understanding the source of the loss, but also can reveal any errors or other issues in the actuarial valuation.



#### Example: Analysis of actuarial loss

Impact of variances during the reporting period	
-- Deviation from assumed salary escalation rate	4,000
-- Deviation from assumed employee attrition rate	(1,000)
Impact of assumption changes at the end of reporting period	
-- Discount rate change	9,000
-- Salary escalation assumption change	6,000
-- Attrition assumption change	(2,500)
<b>Actuarial loss reported under AS 15 disclosures</b>	<b>15,000</b>
<b>Unexplained actuarial loss</b>	<b>(500)</b>

Unexplained actuarial loss on DBO, which is the difference between actuarial loss reported in disclosures should be within reasonable limits, usually not more than 5% of the total actuarial loss. A large unexplained actuarial loss, could indicate either a problem with the data submitted, or an error in the actuarial valuation.



### 3.4 Next steps

This paper touched upon the basics of actuarial valuations and how they are applied to AS 15 and Ind AS 19. The process of actuarial valuations is quite complex and there are number of factors that would affect how successfully this process could be managed in your organisation:

1. The process involves three parties - accountants (of the reporting company), auditors (external or internal) and the actuary. It is important that each party understands their own roles and responsibilities. Refer to a separate technical article authored by Numerica on this subject.
2. Apart from basics covered in this paper, there are a number of advanced technical issues that are scheme specific; e.g. gratuity, leave benefits, pension, exempt PF. Refer to Numerica papers on these topics for more information.,
3. The process of actuarial valuation is not a stand-alone process. It can be integrated into your other business processes. For example, companies can use advanced forecasting methods to predict actuarial liability numbers for interim reporting processes without spending significant resources needed for a full actuarial valuation. Another example - the costs of benefit schemes can be factored into the overall remuneration package (CTC) of employees.



Visit [numerica.in](https://numerica.in) for more articles and other publications on topics related to employee benefits.

## ABOUT NUMERICA

Numerica is a group of consulting firms providing actuarial and consulting services to companies arounds the world. Our services include the areas of employee benefits and social security, insurance consulting and data science.

© 2016 Numerica Actuarial Consulting LLP, a member of Numerica Group. All rights reserved



---

Visit [numerica.in](http://numerica.in) for more articles on employee benefits and a wide range of other topics.

---

## GET IN TOUCH

Main phone line: **+91.80.67590708**

Email: [info@numerica.in](mailto:info@numerica.in)

## KEY CONTACTS

Nasrat Kamal, FIAI, Partner & Actuary  
[nasrat.kamal@numerica.in](mailto:nasrat.kamal@numerica.in)

Navin Iyer, FIAI, Partner & Actuary  
[navin.iyer@numerica.in](mailto:navin.iyer@numerica.in)

## GLOBAL LOCATIONS

### BANGALORE:

Level 15 Concorde Towers UB City  
1 Vittal Mallya Road  
Bangalore 560001 India  
T: +91 80 67590708

### DELHI, NCR:

Level 3 Vasant Square Mall  
Pocket V, Sector B, Vasant Kunj  
New Delhi 110070 India  
T: +91 11 66481861

### MUMBAI:

Level 9 Platina,  
Block G, Plot C-59 Bandra-Kurla Complex  
Mumbai 400051 India  
T: +91 22 67000721

### LONDON:

28 Vantage Point  
174 Sanderstead Road  
South Croydon CR2 0LY  
T: +44 20 35606998