NUMERICA

EMPLOYEE BENEFITS · TECHNICAL PAPER

Actuarial valuations for AS 15 and Ind AS 19

Getting the basics right



2026 edition

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ABOUT THIS PAPER

Actuarial valuations for AS 15 and Ind AS 19

Most Indian companies have at least one employee benefit that an actuary must value: usually gratuity, often accumulated leave as well. This paper explains in plain terms what an actuarial valuation measures, which benefits need one, how the main assumptions are set, and how to read and check the actuary's report. A fuller comparison of AS 15 and Ind AS 19 is in our companion paper, Indian Accounting Standards: Employee benefits perspective.

WRITTEN FOR
HR and finance managers, and accountants and auditors new to actuarial work

LEVEL
Beginner

EDITION
2026 edition

Key takeaways

1. An actuarial valuation turns uncertain future benefit payments into one figure today, the defined benefit obligation (DBO), using the projected unit credit method that both standards require.
2. Only benefits paid more than twelve months after the end of the year in which they are earned need a valuation: gratuity, leave that can be carried forward, pensions, post-retirement medical cover and similar promises.
3. The discount rate comes from Indian government bond yields at the reporting date, matched to the term of the obligation. It is usually the assumption with the largest effect.
4. Under Ind AS 19, remeasurement gains and losses on post-employment benefits go to other comprehensive income. Under AS 15 they go through profit or loss.
5. Read the DBO reconciliation first. A large unexplained gain or loss usually points to a problem with the data or the assumptions.

This paper gives general information and guidance on the subjects it covers. It is not professional advice, and no decision should be taken on it alone without an analysis of your organisation's own circumstances. Laws, rules and standards change: it reflects them as at November 2026. © 2026 Numerica.

CONTENTS

In this paper

01 What an actuarial valuation does

02 AS 15 and Ind AS 19

03 Which benefits need a valuation

04 Setting the assumptions

05 Reading the results

06 Checking the results

07 Year-end checklist and FAQ

01

What an actuarial valuation does

Any valuation converts future cash flows into a single value today. If you are promised ₹100 in a year's time and money earns 10% a year, the promise is worth ₹100 ÷ 1.10 = ₹90.91 today. That is a net present value: the payment, discounted for the time until it is made.

Employee benefits add one complication: the payments are uncertain. Whether a gratuity is paid at all, when it is paid and how much it will be depend on whether the employee resigns, retires, dies or becomes disabled, and on their salary at the time. An actuary deals with this by attaching a probability to each of those events and adding up the present value of every possible payment, each weighted by its probability. The result is an *expected* present value.

Terms you will see in every report

- **Defined benefit obligation (DBO):** the present value of the benefits employees have earned for service up to the valuation date, allowing for expected future salary increases.
- **Projected unit credit (PUC) method:** the method both AS 15 and Ind AS 19 require. Each year of service earns one more unit of benefit, valued on the salary projected to the date of payment.
- **Current service cost:** the present value of the benefit earned by one more year of service.
- **Interest cost:** the unwinding of the discount as every payment comes a year closer.
- **Plan assets:** money held in a separate fund to pay the benefits, such as a gratuity trust invested with an insurer. The net liability on the balance sheet is the DBO less the plan assets.

A worked example: one employee's gratuity

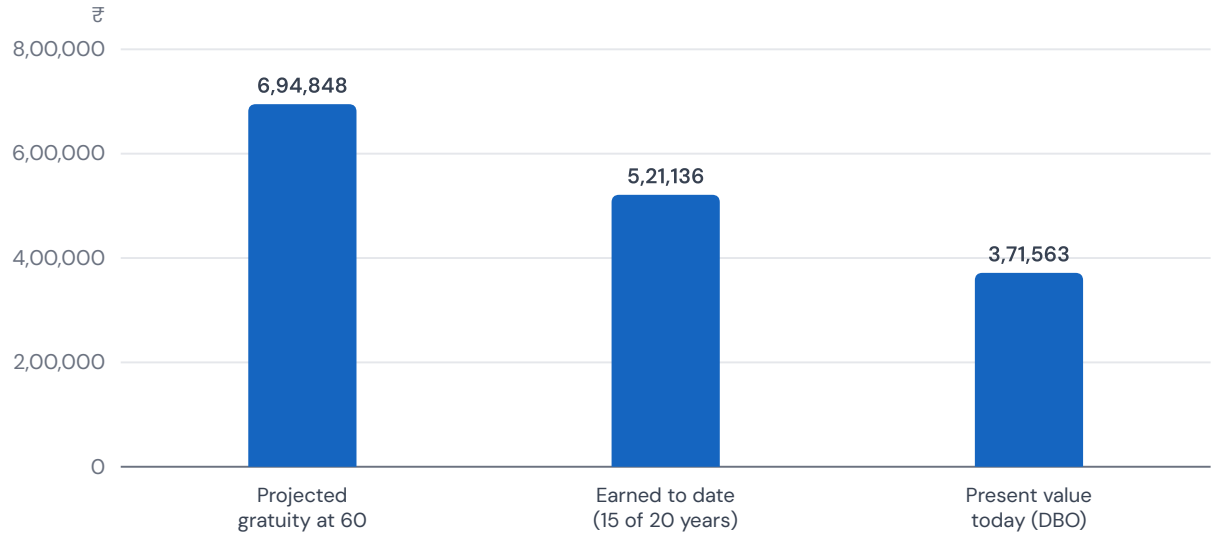
Take one employee aged 55, with 15 years' service, gratuity wages of ₹45,000 a month and a retirement age of 60. Gratuity is 15 days' wages for each completed year of service, which for a monthly-paid employee works out at 15/26 of a month's wages per year. Assume salaries rise by 6% a year and the discount rate is 7% a year. To keep the arithmetic visible, assume for now that the employee is certain to stay until 60.

Valuing one employee's gratuity by the projected unit credit method (illustrative)

Step	Calculation	Result
1. Project monthly wages to age 60	₹45,000 × 1.06^5	₹60,220.15
2. Project the gratuity at 60 (20 years' service)	₹60,220.15 × 15/26 × 20	₹6,94,848
3. Attribute it to service to date	₹6,94,848 × 15/20	₹5,21,136
4. Discount for five years	₹5,21,136 ÷ 1.07^5	**₹3,71,563 (the DBO)**

Step 3 is the projected unit credit method at work. The employee has served 15 of the 20 years that will make up the benefit, so 15/20 of the projected amount belongs to past service. The wages used are those projected to the date of exit, not today's wages, which is why the salary escalation assumption matters as much as it does.

From projected benefit to DBO for one employee. Attribution to past service and discounting both reduce the figure.



Illustrative figures

NOTE

Which wages?

The wages on which gratuity is calculated changed when the labour codes commenced on 21 November 2025, so the valuation should use the new wage definition. Our guides New Gratuity Rules India 2025 and New Labour Code FAQs and the 50% Wage Rule explain what changed.

Allowing for uncertainty

Now suppose there is a 20% chance that the employee leaves at 57 instead. At 57 the monthly wages would be ₹45,000 × 1.06^2 = ₹50,562, and the gratuity for the 15 years served so far would be ₹50,562 × 15/26 × 15 = ₹4,37,556. Discounted for two years at 7%, that is worth ₹3,82,178 today. The expected present value is:

80% × ₹3,71,563 + 20% × ₹3,82,178 = ₹2,97,250 + ₹76,436 = **₹3,73,686**

A real valuation repeats this for every employee, every possible year of exit and every cause of exit, using the attrition and mortality assumptions.

In practice the assumptions are never borne out exactly: salaries and exits turn out differently from what was assumed, and the assumptions themselves, above all the discount rate, are reset at each year end. The difference between the expected closing DBO and the one the actuary calculates at the year end is the actuarial gain or loss, called a remeasurement under Ind AS 19 (chapter 5).

02

AS 15 and Ind AS 19

Companies that have moved to Indian Accounting Standards (most listed companies, unlisted companies above the net-worth thresholds, and their holding, subsidiary, joint venture and associate companies) apply Ind AS 19 *Employee Benefits*. Other companies apply AS 15 *Employee Benefits* (Revised 2005). Both cover every kind of employee benefit except share-based payments, and both have the same aims:

- a liability on the balance sheet for benefits employees have earned but not yet been paid;
- an expense in each period for the cost of the benefits earned in that period, rather than when they are paid; and
- disclosures that let a reader understand the obligation and the risks it carries.

The two standards measure the obligation in the same way: the projected unit credit method, with the discount rate set by reference to government bond yields and the other assumptions set to the same tests (chapter 4). They differ mainly in where the movements are recognised and in how much is disclosed. The difference a beginner sees first is in remeasurements: under Ind AS 19, remeasurements on post-employment benefits go to other comprehensive income (OCI) and are never reclassified to profit or loss; under AS 15, all actuarial gains and losses go through profit or loss immediately.

> NOTE
>
> **Other long-term benefits**
>
> The OCI route under Ind AS 19 applies only to post-employment benefits such as gratuity. For other long-term benefits, which usually include leave encashment, every movement, remeasurements included, goes through profit or loss under both standards.

For the full comparison, see our paper Indian Accounting Standards: Employee benefits perspective.

03

Which benefits need a valuation

Two distinctions settle most cases.

Defined contribution or defined benefit

In a **defined contribution** plan the employer pays fixed contributions and has no obligation beyond them. The expense is the contribution due for the period, and no valuation is needed.

In a **defined benefit** plan the employer promises a benefit and bears the risk that it costs more than expected. Gratuity is the most common example. These plans need a valuation.

Some plans sit between the two. A provident fund run by a company's own exempt trust must credit members' accounts with at least the rate that the EPFO declares. If the trust's investments earn less, the employer makes up the shortfall. That interest guarantee is a defined benefit, and the actuary values it even though the contributions themselves are defined.

Short-term or long-term

Short-term benefits are those settled within twelve months after the end of the year in which the service is given. (Ind AS 19 looks at when they are *expected* to be settled in full; AS 15 at when they fall due.) Salaries, the annual bonus and leave that lapses at the year end are short-term. They are recorded at the undiscounted amount owed, with no valuation.

Everything paid later is either a **post-employment benefit**, paid after employment ends, or an **other long-term benefit**, paid later but during employment.

Leave: three versions of the same policy

- **Leave lapses at the year end.** Nothing earned is carried forward. This is non-accumulating leave, recognised only when it is taken. No valuation.
- **Leave can be carried forward for one year only.** A simple estimate of the cost is normally enough.
- **Leave accumulates without a time limit**, perhaps up to a cap, and is encashed on exit. This is accumulating, vesting leave and needs a valuation. It is usually an other long-term benefit, because some of it will be taken or encashed years later.

How common benefits are classified (typical schemes)

Benefit	Category	Valuation needed?
Gratuity	Post-employment, defined benefit	Yes
Pension promising a defined amount	Post-employment, defined benefit	Yes
Post-retirement medical cover	Post-employment, defined benefit	Yes
Exempt PF trust (interest guarantee)	Post-employment, defined benefit element	Yes
Leave carried forward beyond a year	Usually other long-term	Yes
Long-service awards	Other long-term	Yes
EPFO contributions, NPS, fixed-contribution superannuation	Defined contribution	No
Salaries, annual bonus, lapsing leave, group insurance premiums	Short-term	No

WATCH OUT

Read the rules, and the practice

The table describes typical schemes. Classification depends on your scheme's actual terms, and both standards also recognise obligations that arise from settled practice. A company that has always paid gratuity above the statutory amount, or always encashed leave above the policy cap, may have an obligation to keep doing so even if it is not written down.

04

Setting the assumptions

Assumptions are the company's responsibility. The actuary proposes and explains them; management adopts them and the auditor reviews them. Both standards set the same tests. Assumptions must be unbiased and mutually compatible, and must be best estimates. Unbiased means neither imprudent nor excessively conservative. Mutually compatible means they reflect the economic links between them: the inflation built into the discount rate should be the same inflation that drives the salary escalation assumption.

Discount rate

Ind AS 19 (para 83) and AS 15 (para 78) require the discount rate to be set by reference to market yields on government bonds at the reporting date, with a currency and term consistent with the obligation. In India that means Government of India securities.

A gratuity scheme with a duration (chapter 5) of six years needs the six-year yield, not the ten-year benchmark yield quoted in the news. Numerica publishes Indian government bond yield curves for this purpose on its discount rates page.

WATCH OUT

The discount rate is not a choice

It is set from the market at the reporting date. A bank deposit rate, a corporate bond yield, last year's rate or a rate read a month before the year end without adjustment will not meet the standards. Auditors examine this assumption more closely than any other because it usually has the largest effect.

Salary escalation

Under Ind AS 19 (para 90) and AS 15 (para 84), the salary assumption takes account of inflation, seniority, promotion and other factors such as supply and demand in the employment market. In practice it is a long-term average over the expected future service of current employees, not next year's increment budget. It should be consistent with the inflation implied by the discount rate, and should be changed when the long-term view changes, not every year as a matter of course.

Attrition

Attrition is the rate at which employees are expected to leave for reasons other than death or retirement. It should be based on the company's own experience, usually over three to five years, and set by age or service band, because young and recently joined employees leave far more often than long-serving ones. Higher attrition usually lowers a gratuity DBO, because more employees leave before qualifying.

Mortality and other assumptions

For employees in service, actuaries in India use the Indian Assured Lives Mortality (2012-14) table, IALM 2012-14, published by the Institute of Actuaries of India. Mortality has little effect on gratuity or leave. It matters a great deal for pensions and post-retirement medical cover.

Some benefits need more: the proportion of leave taken rather than encashed, medical cost inflation for post-retirement medical cover, or pension increases linked to dearness allowance.

05

Reading the results

The company has to understand the actuary's results well enough to put them in its accounts and answer the auditor. The DBO reconciliation, which explains why the obligation moved, is the best place to start.

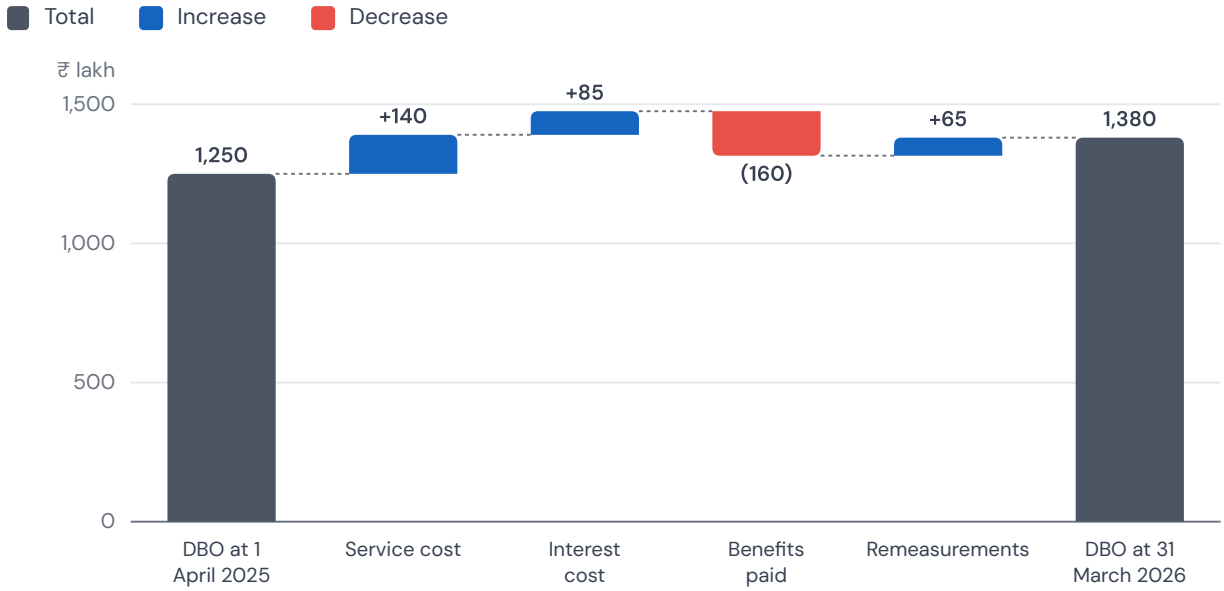
The DBO reconciliation

The example below is an unfunded gratuity scheme for the year to 31 March 2026. Its wages already met the labour codes' definition, so the codes added nothing to its obligation. Where they did raise a scheme's obligation, the increase is a past service cost, shown on a line of its own and not within the remeasurements (our paper Indian Accounting Standards: Employee benefits perspective explains).

Reconciliation of the DBO, ₹ lakh (illustrative)

Item	₹ lakh
DBO at 1 April 2025	1,250
Current service cost	140
Interest cost	85
Benefits paid	(160)
Remeasurement: change in financial assumptions	45
Remeasurement: change in demographic assumptions	(10)
Remeasurement: experience adjustments	30
DBO at 31 March 2026	**1,380**

What moved the DBO from ₹1,250 lakh to ₹1,380 lakh. Remeasurements are the net of the three lines in the table.



Illustrative figures. First and last bars are totals.

- **Current service cost** and **interest cost** are as defined in chapter 1.
- **Benefits paid** should include payments made directly by the company, payments made from the fund, and amounts due to employees who have left but not yet been paid. It should not include employees still serving their notice period, or insurance claims paid on death under a life cover policy.
- **Remeasurements** are the balancing item. Financial assumption changes are mostly the discount rate; demographic ones are attrition and mortality; experience adjustments compare what actually happened with what was assumed. A large figure needs an explanation (chapter 6).

Where each amount goes

Recognition of the movements above, ₹ lakh (illustrative)

Item	Ind AS 19	AS 15
Service cost, 140	Profit or loss	Profit or loss
Interest cost, 85	Profit or loss (net interest)	Profit or loss
Remeasurements, 65	OCI	Profit or loss
Charge to profit or loss	**225**	**290**

Sensitivity and duration

Ind AS 19 requires disclosure of how the DBO would change if each significant assumption changed, and of the timing of expected payments.

Sensitivity of the closing DBO of ₹1,380 lakh (illustrative)

Assumption change	DBO, ₹ lakh	Change
Discount rate +0.5%	1,337	−3.1%
Discount rate −0.5%	1,426	+3.3%
Salary escalation +0.5%	1,420	+2.9%
Salary escalation −0.5%	1,341	−2.8%

Duration is the average time to payment, weighted by present value, and roughly the percentage change in the DBO for a one percentage point change in the discount rate. With a duration of 6.3 years, a 0.5% fall in the discount rate raises the DBO by about 3.2%.

06

Checking the results

Finance teams and auditors do not need to repeat the actuary's calculations to gain comfort with them. Two checks catch most problems.

Reconcile the membership

Employees are often left out of the data by accident, for example by a payroll extract that misses one location. A membership reconciliation finds them.

Membership reconciliation (illustrative)

Item	Employees
At 31 March 2025, per last year's report	1,000
Joiners in the year	200
Leavers in the year	(150)
Expected at 31 March 2026	1,050
In this year's data	1,025
Unaccounted for	**25**

Twenty-five missing employees means the liability is probably understated. Also check that the data is taken at the valuation date, and look for salary changes well outside the increment cycle and leave balances above the policy cap.

Roll forward and analyse the change

From the reconciliation in chapter 5, the expected closing DBO is the opening figure plus service cost and interest, less benefits paid: 1,250 + 140 + 85 − 160 = ₹1,315 lakh. The actual figure is ₹1,380 lakh, so the remeasurement loss is ₹65 lakh. An analysis of change splits it by cause.

Analysis of the remeasurement loss, ₹ lakh (illustrative)

Source	₹ lakh
Salary increases higher than assumed	38
Leavers different from assumed	(10)
Other experience, including unexplained	2
Experience adjustments	*30*
Discount rate fell from 6.80% to 6.25%	45
Attrition assumption raised	(10)
Total remeasurement loss	**65**

The analysis is not a required disclosure under either standard, but most actuaries will provide it on request and it is the quickest way to find an error. A small unexplained residual is normal; a large one points to a data problem or a mistake in the valuation.

07

Year-end checklist and FAQ

A timetable agreed in advance with the actuary and the auditor avoids most delays.

Two months before the year end
Confirm any changes to scheme rules or pay structures. Agree the data template and timetable with the actuary and the auditor.

One month before
Agree the approach to each assumption, including whether an attrition study is due.

Valuation date
Extract employee data as at that date. Request plan asset statements from the fund or insurer at the same date.

First week after
Send the data. The actuary sets the discount rate from yields at the valuation date.

Two to three weeks after
Review the draft report using the checks in chapter 6 and share it with the auditor.

Before the accounts are approved
Finalise the report and disclosure notes, and record management's approval of the assumptions.

Frequently asked questions

Q Our gratuity is funded with an insurer. Do we still need a valuation?

Yes. The insurer's fund statement gives the value of the plan assets, not the obligation. The DBO still has to be measured by the projected unit credit method on the standard's assumptions, and the net liability is the difference. A contribution calculation from the insurer is a funding figure and is not a substitute.

Q Do small companies need a valuation?

AS 15 applies to companies of every size, although smaller entities have some relaxations in how they measure and disclose employee benefits. Check with your auditor which apply to you before deciding a valuation is unnecessary.

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About Numerica

Numerica is an actuarial consulting firm. Since 2010 we have helped companies and insurers measure, report and manage their employee benefits, share-based payments and insurance liabilities.

2010
Founded

400+
Clients in 7 countries

500+
Valuations a year

- Employee benefits: gratuity, leave and pension valuations under Ind AS 19, AS 15 and IAS 19, and end-of-service benefits in the GCC
- Insurance consulting: actuarial services for global insurers
- IFRS valuation services: share-based payments under Ind AS 102 and IFRS 2, and expected credit losses under IFRS 9

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