Post-Retirement Medical Benefits (PRMB): Actuarial Valuation and Accounting Challenges

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Post-Retirement Medical Benefits (PRMB) is one of the most complex defined benefit plans in large Indian organisations, especially public sector undertakings.

Unlike other defined benefit plans, PRMB is not formula-based plan but depends on various factors such as medical inflation and longevity. As medical costs continue to rise and life expectancy improves, these obligations have become material and sensitive to actuarial assumptions.

This article examines the actuarial valuation and accounting treatment of PRMB under Ind AS 19, with particular attention on consideration of assumptions, projection of medical cost per beneficiary, accounting treatment of employee contributions and tax and regulatory framework of PRMB Trusts. The article also highlights differences in accounting treatment between Ind AS 19 and AS 15, especially in recognition of actuarial gains and losses.

Background

In many large Indian corporates, particularly public sector undertakings, Post-Retirement Medical Benefits (PRMB) is one of the most complex and judgement-based employee benefit obligations.

Unlike gratuity, PRMB does not operate on a predetermined benefit formula. The ultimate liability depends on uncertain future medical costs and longevity. As healthcare costs have increased and life expectancy has improved considerably in recent years, PRMB liabilities are becoming material and more sensitive to changes in assumptions. As a result, even slight changes in assumptions such as medical inflation or discount rate can materially affect defined benefit obligation (DBO) as on reporting date.

Under Ind AS 19 – Employee Benefits, PRMB schemes are in the nature of defined benefit plans, because the employer bears both actuarial (longevity, medical inflation) and investment risks (in case of funded scheme). The obligation therefore represents the present value of expected future post-retirement medical expenses that the company expects to incur, which will include benefits extended to eligible dependents of employee.

One practical challenge observed in typical PRMB schemes is behavioural, when benefits are fully reimbursable and there is co-sharing of medical expenses by retirees. The way beneficiaries use medical benefits in such schemes may be very different from schemes that have co-sharing or spending caps.

Typical PRMB Structure

Generally, PRMB schemes usually have following features:

- **Coverage:** Benefits are given to retired employees and, in many cases, to their eligible dependents.
- **Nature of Benefit:** Medical expenses may be reimbursed on submission of claims by retiree and/or provided through a cashless facility.
- **Duration:** Benefits are generally available until death for the retiree and his/her eligible dependents.
- **Funding Arrangement:**
  - Unfunded (The company meets medical expenses as and when they arise.), or
  - Funded through separate Trust where Contributions are made based on actuarial gap (Difference between PRMB obligation and Fund Assets) calculated through Actuarial valuation at each year end .
- **Employee Contributions:**
  - Lump-sum contribution at the time of retirement,

    and/or
  - Periodic contributions during active service.

Actuarial Valuation under Ind AS 19

As per para 67, Ind AS 19 requires that *an entity shall use the projected unit credit method to determine the present value of its defined benefit obligations and the related current service cost and, where applicable, past service cost.* Under this method, each period of service give rise to an additional unit of benefit entitlement (para 70–74) and measures each unit separately to build up the final obligation (para 75–98). Even though medical benefits are only paid after retirement, the liability builds up year by year during active service. In practice, the expected benefit payable after retirement is spread across the employee's total service tenure.

The actuarial valuation includes the following steps:

1. Identification of eligible beneficiaries.
2. Calculation of medical cost per beneficiary.
3. Projection of future medical costs by applying medical inflation rate on current medical cost per beneficiary.
4. Estimation of the benefit payment period for each beneficiary based on applicable mortality tables.
5. Discounting the projected cash flows to arrive at the present value of the defined benefit obligation using discount rate.
6. Spreading the expected total benefit payout across the employee's service tenure using the PUC method

> "PRMB obligation is typically long term, often extending well beyond the maturity range of actively traded government securities. As per para 86 of Ind AS 19, in such situations there may not be a deep market in bonds matching the full term of projected benefit cash outflows."

Allocation of PRMB Obligation under the Projected Unit Credit Method

To understand the allocation of PRMB obligation under the Projected Unit Credit (PUC) method, the following simple example may be considered:

Employee A joins company X on 1 April 2025 and is expected to retire after 30 years of service, i.e., in the year 2055. Based on applicable mortality table, employee A is expected to avail post-retirement medical benefits for 20 years after retirement as on reporting date.

Although medical benefits will be utilised only during the 20-year post-retirement period, the total projected medical cost is required to be allocated over the 30 years of service under the PUC method during service tenure of Employee A.

Accordingly, the actuarially projected total post-retirement medical benefit is first estimated. This total expected cost is then attributed proportionately over the employee's entire service period of 30 years.

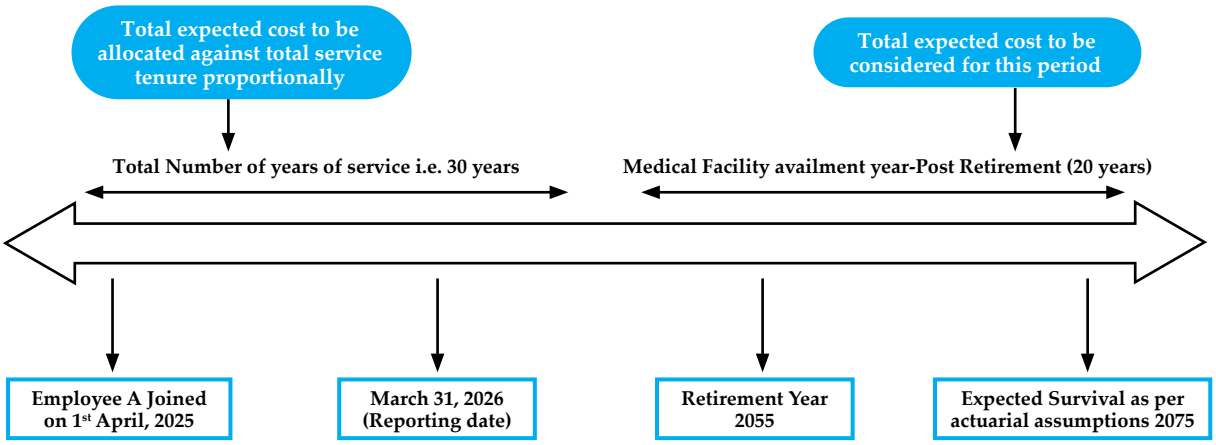
After completion of one year of service, 1/30th of the total projected benefit(discounted) need to be recognised as the defined benefit obligation (DBO) in the company X's books.

The conceptual allocation mechanism is illustrated in the diagram below.

Fig. 1 shows the fundamental principle underlying actuarial valuation of PRMB schemes under Ind AS 19. Although medical benefits are expected to be paid only after retirement, the obligation accrues progressively in line with an employee's service tenure.

The actuarial valuation first considers estimating the total

Fig 1: Acturial valuation of PMRB Schemes under IND AS- 19



expected post-retirement medical cost based on current medical cost per beneficiary and actuarial assumptions relating to medical inflation, discount rate, attrition rateand longevity. This total obligation is then allocated proportionately over the employee's entire service period using the PUC method.

The portion attributable to service rendered up to the reporting date is recognised as the defined benefit obligation (DBO) as on reporting date, while the balance relates to future service. This approach ensures that PRMB costs are recognised in tandem with service provided by employee.

Information Requirements for PRMB Actuarial Valuation

Compared to other defined benefit plans like gratuity, PRMB requires more detailed and specific data which typically includes following:

- Details of active employees and retirees including date of birth, date of joining and expected retirement date.
- Details of eligible dependents.
- Medical claims data for past years to calculate medical inflation rate .
- Current medical costs per beneficiary based on Medical cost incurred on retired employees.
- Employee contribution details, if any (periodic or lumpsum).
- Fair value of plan assets as at the reporting date and movement during the year (where the scheme is funded)
- Scheme features such as monetary ceilings and cost sharing by employee clause (if applicable).

Changes in scheme over time — such as the introduction/changes in co-pay clauses or monetary caps can make past claims data less reliable for current actuarial valuation. In addition, abnormal years, such as the COVID period, may distort average medical costs and therefore need necessary adjustments while before being used for estimation of future medical costs and medical inflation rate.

> "In Funded schemes, Companies contribute to trust annually based on actuarial gap funding which is difference between the defined benefit obligation (DBO) and the fair value of plan assets as at the reporting date."

Key Actuarial Assumptions

(a) Discount Rate

As per para 83 of Ind AS 19, the rate for discounting post-employment benefit obligations, whether funded or unfunded, is determined with reference to market yields on government bonds at the reporting date.

PRMB obligation is typically long term, often extending well beyond the maturity range of actively traded government securities. As per para 86 of Ind AS 19, in such situations there may not be a deep market in bonds matching the full term of projected benefit cash outflows. Accordingly, organisations discount shorter-term cash flows using observable market yields and estimate rates for longer maturities by extrapolating the yield curve.

Therefore, selection of the discount rate in PRMB valuation needs careful judgement, particularly in determining the extrapolation methodology and ensuring consistency from year to year.

(b) Medical Cost Inflation Rate

Medical cost inflation is the most sensitive assumption in PRMB actuarial valuation. Medical inflation are influenced by factors such as new medical technology, more advanced treatments involving increased medical costs and higher usage of medical benefits, especially in schemes where there is no cost sharing of medical treatment expense by beneficiary.

Ideally, the medical inflation assumption should be based on the company's own past claims experience, after necessary adjustments for unusual years or changes in scheme design. Since PRMB obligations are long term in nature, the assumption should consider long-term period rather than short-term fluctuations.

(c) Medical Cost per Beneficiary

Medical cost per beneficiary forms the basis for projecting future medical expenses. In existing PRMB schemes, sufficient past claims information is generally available to analyse and calculate annual medical cost per retiree. Using actual past data strengthens the reliability of the actuarial valuation.

(d) Mortality Assumptions

Different mortality tables are generally used for the pre-retirement and post-retirement periods, as the risk profile changes once an employee retires. Actuaries often refer to the Indian Assured Lives Mortality (2012–14) table for the active employees and the Indian Individual Annuitant's Mortality (2012–15) table for the retired employees.

(e) Employee Turnover Assumptions

Employee turnover assumptions represent the probability of employees leaving the

organisation before retirement and, therefore, not qualifying for post-retirement medical benefits. Turnover rates are generally based on the company's historical experience.

Interdependence of Actuarial Assumptions

While individual actuarial assumptions are analysed separately, their interdependence in PRMB valuation should also be recognised. For example, an increase in medical inflation combined with a reduction in the discount rate can have a cumulative effect on the defined benefit obligation, thereby significantly increasing actuarial losses.

Accounting professionals and actuaries should therefore review assumption changes collectively and ensure that they remain consistent with broader economic and demographic conditions. Appropriate disclosure of key assumptions and sensitivity analysis, as required under para 144 and 145 of Ind AS 19, helps users understand the potential volatility in PRMB obligations.

Sensitivity Analysis of PRMB Obligation

The sensitivity analysis (as depicted in table 01) is indicative and has been prepared with reference to sensitivity disclosures made by large public sector enterprises in India in their annual reports. Actual sensitivities may vary depending on the specific scheme design applicable to the organization.

It may be noted that the above sensitivities are based on isolated changes in individual assumptions while keeping other assumptions constant. Generally, assumptions may change simultaneously, and the combined impact may not be a simple addition of individual sensitivities as shown in above table.

Table 01. Sensitivity Analysis

Assumption	Change	Impact on DBO
Discount rate	Decrease by 1%	Increase by 15-20%
Discount rate	Increase by 1%	Decrease by 12-16%
Medical cost inflation	Increase by 1%	Increase by 10-15%
Medical cost inflation	Decrease by 1%	Decrease by 8-12%

Actuarial Gains and Losses: Drivers and Accounting Treatment

Actuarial gains and losses arise when there are changes in assumptions or when actual experience differs from what was previously considered in assumptions.

In PRMB schemes, such gains and losses can be significant because the liabilities are long-term and highly sensitive to healthcare-related factors.

As per para 76–79 of Ind AS 19, actuarial assumptions represent an entity's best estimates of the variables that determine the ultimate cost of post-employment benefits. These assumptions comprise both demographic factors (such as mortality and employee turnover) and financial factors (such as discount rate and future medical costs). The Standard further requires such assumptions be unbiased and realistic.

Actuarial gains and losses typically arise from:

(a) Financial Assumption Changes

Changes in discount rate and medical cost inflation rate have material impact on PRMB obligations. A decline in discount rate or an upward revision in medical inflation generally results in actuarial losses.

(b) Demographic Assumption Changes

Improvements in post-retirement life expectancy increase the benefit payment period resulting into higher obligation.

(c) Experience Adjustments

If actual medical claims, retirements or mortality differ from earlier assumptions, the difference gives rise to actuarial gains or losses on account of experience adjustments.

Under Ind AS 19, remeasurements comprising actuarial gains and losses are recognised in Other Comprehensive Income (OCI) in accordance with para 120(c). Introduction of OCI concept in Ind AS framework prevents assumption-driven volatility from directly affecting operating performance.

In contrast, under AS 15, actuarial gains and losses are recognised immediately in the Statement of Profit and Loss as required by para 92. The differing accounting treatment can result in significant variation in reported profit trends between entities applying to Ind AS and those following AS 15.

In existing PRMB schemes, cumulative actuarial losses arising from sustained medical inflation may exceed the annual service cost, highlighting the importance of governance over selection of assumptions.

Case Study: PRMB Actuarial Valuation

Employee Profile

- Employee A joined Company X on 1st April 2025.
- Age at the time of joining: 30 years
- Superannuation Age: 60 years

- Date of Superannuation: 31st March 2055.
- Eligible Members: Employee and spouse
- Expected post-retirement survival years as per Mortality table: 20 years
- Annual medical cost per beneficiary: ₹50,000
- Medical Cost increase rate = 7 % per annum
- Discount rate = 7 % per annum

For easy understanding, medical inflation and discount rates are considered as equal and , attrition rate, mortality rate during service are ignored. The total projected post-retirement medical benefit is spread evenly over the 30-year service period under the Projected Unit Credit method. Contribution from Employee are not considered in this example. (Refer to Table 02)

It is clear from the given example that changes in medical cost assumptions give rise to actuarial gains and losses. Further comparative analysis of Ind AS 19 and AS 15 shows that although total liability remains the same under both standards, accounting treatment in Profit & loss is different in both regimes. While under Ind AS 19, actuarial losses and gains are shown in Other Comprehensive Income (OCI), as per AS 15 they are

Table 02: PRMB Actuarial Valuation

Year 1 : As on 31.03.2026	**Year 2 : As on 31.03.2027**
Step 1: Annual medical cost: ₹50,000 × 2 beneficiaries = ₹1,00,000 **Step 2:** Total projected post-retirement medical cost for Employee A: ₹1,00,000 × 20 years = ₹20,00,000 **Step 3:** Using the PUC method over 30 years of service for Employee A: Service Cost for Year 1: ₹20,00,000 ÷ 30 = ₹66,667. **Step 4:** Defined benefit Obligation against Employee A at end of Year 1: ₹66,667 **Note:** In the year 1, there will not be interest cost and Actuarial losses/gains against Employee A in the books of Company X.	Revised annual medical cost per beneficiary for Employee A: ₹60,000 **Step 1:** Annual medical cost for Employee A: ₹60,000 × 2 beneficiaries = ₹1,20,000 **Step 2:** Total expected post-retirement medical cost for Employee A: ₹1,20,000 × 20 years = ₹24,00,000 **Step 3:** Service Cost for Year 2 for Employee A: ₹24,00,000 ÷ 30 =₹80,000. Net interest cost on opening DBO for Employee A: ₹66,667 × 7% = ₹4,667. **Step 4:** Closing DBO after two years of service against Employee A at end of Year 2: ₹24,00,000 × (2 ÷ 30) = ₹1,60,000. Actuarial loss recognised in OCI for Employee A: ₹1,60,000 − (₹66,667 + ₹80,000 + ₹4,667) = ₹8,666.
Impact on Profit & Loss under IND AS 19 and AS 15 in Year 1 **Under Ind Accounting Standard 19** Recognised in Profit & Loss: • Current Service Cost = ₹66,667 Recognised in OCI: • Nil (no remeasurement in Year 1) Total impact on P&L (Year 1): ₹66,667 **Under Accounting Standard -AS 15** Impact on Profit & Loss: • Service Cost = ₹66,667 (OCI concept does not exist under AS 15) Total impact on P&L (For Year 1): ₹66,667 For year ended 31st March 2026, impact is the same under both standards.	**Impact on Profit & Loss under IND AS 19 and AS 15 in Year 2** **Under Ind Accounting Standard 19** Recognised in Profit & Loss: • Current Service Cost = ₹80,000 • Net Interest Cost = ₹4,667 Total P&L impact (Year 2) = ₹84,667 Recognised in OCI: • Actuarial Loss = ₹8,666. **Under Accounting Standard -AS 15** Impact on Profit & Loss: • Service Cost = ₹80,000 • Interest Cost = ₹4,667 • Actuarial Loss = ₹8,666 Total P&L impact (For Year 2) = ₹93,333

shown as expense in the Profit and Loss, which may lead to greater volatility in reported earnings , for Company X while comparing with previous year's earnings.

Funding Arrangements and Plan Assets

PRMB schemes may be either unfunded (pay-as-you-go) or funded through an separate trust. In funded schemes, contributions are invested in a mix of debt and equity instruments with the objective of meeting future medical obligations.

In Funded schemes, Companies contribute to trust annually based on actuarial gap funding which is difference between the defined benefit obligation (DBO) and the fair value of plan assets as at the reporting date.

In funded schemes, the investment performance of plan assets directly affects contributions required to be made by Company. Mismatch between asset returns and medical cost escalation may widen the funding gap, requiring additional contributions.

In contrast, unfunded schemes expose the entity directly to future cash flow volatility, as benefit payments are met by operating cash flows.

Accounting Treatment of Employee Contributions

Employee contributions under PRMB schemes may be periodic during the service period and/or made as a lump sum at retirement.

As per para 92 and 93 of Ind AS 19, Where employee contributions are linked to service and payable during the service period, such contributions reduce current service cost. If the contribution depends on years of service, it is attributed over the service period; if it is independent of service length, it may be recognised as a reduction of service cost in the period in which the related service is rendered, as further clarified in Appendix A to Ind AS 19. This treatment reflects the economic substance that employees bear part of the cost of benefits earned during service.

Where employee contribution is not linked for example, taken for reduction in deficit arising from losses on Plan asset or from actuarial losses, they will form part of remeasurement of the net defined benefit liability, in accordance with para 93.

In contrast, under AS 15, employee contributions are generally recognised as a reduction of service costs in the Statement of Profit and Loss, and the Standard does not distinguish between service-linked and non-service-linked contributions in the same manner as provided in Ind AS 19. Further, concept of recognition of remeasurements in Other Comprehensive Income (OCI) is not provided in AS 15.

Tax and Regulatory Framework for PRMB Trusts

PRMB trusts seeking income-tax exemption must comply with Section 10(23AAA) of the Income-tax Act, 1961, along with Rule 16C of the Income-tax Rules, 1962. One important requirement under Rule 16C (2) is that employees contribute to the fund through regular subscriptions. This makes the structure and timing of employee contributions significant not only from an actuarial and accounting perspective but also from a regulatory requirement. Trusts that rely on a single contribution at the time of retirement may need to consider whether such an arrangement truly meets the "periodical subscription" requirement for tax exemption status.

Role of Professional Judgement and Disclosure

Due to complex and long-term nature of PRMB scheme, professional judgement plays a crucial role in actuarial valuation as well as in accounting.

At the same time, the disclosure of these issues also assumes equal importance. Transparent communication of key assumptions, sensitivity analyses, and funding policies help users of financial statements understand the risks and uncertainties inherent in PRMB schemes.

Strong disclosures, supported by consistent application of assumptions, not only strengthen the credibility of financial reporting but also enable stakeholders to make better-informed decisions.

Conclusion and Way Forward

PRMB schemes are a long-term obligation requiring disciplined actuarial valuations, transparent accounting and disclosure. Transparent accounting and reporting practices demand reasonable assumptions and strict adherence to tax and regulatory laws.

With rising medical costs, organisations need to take a more thoughtful approach in managing these schemes. This includes aligning actuarial assessments with scheme design, funding and governance so that the benefits remain sustainable over time while continuing to support the health and well-being of employees' post-retirement.

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