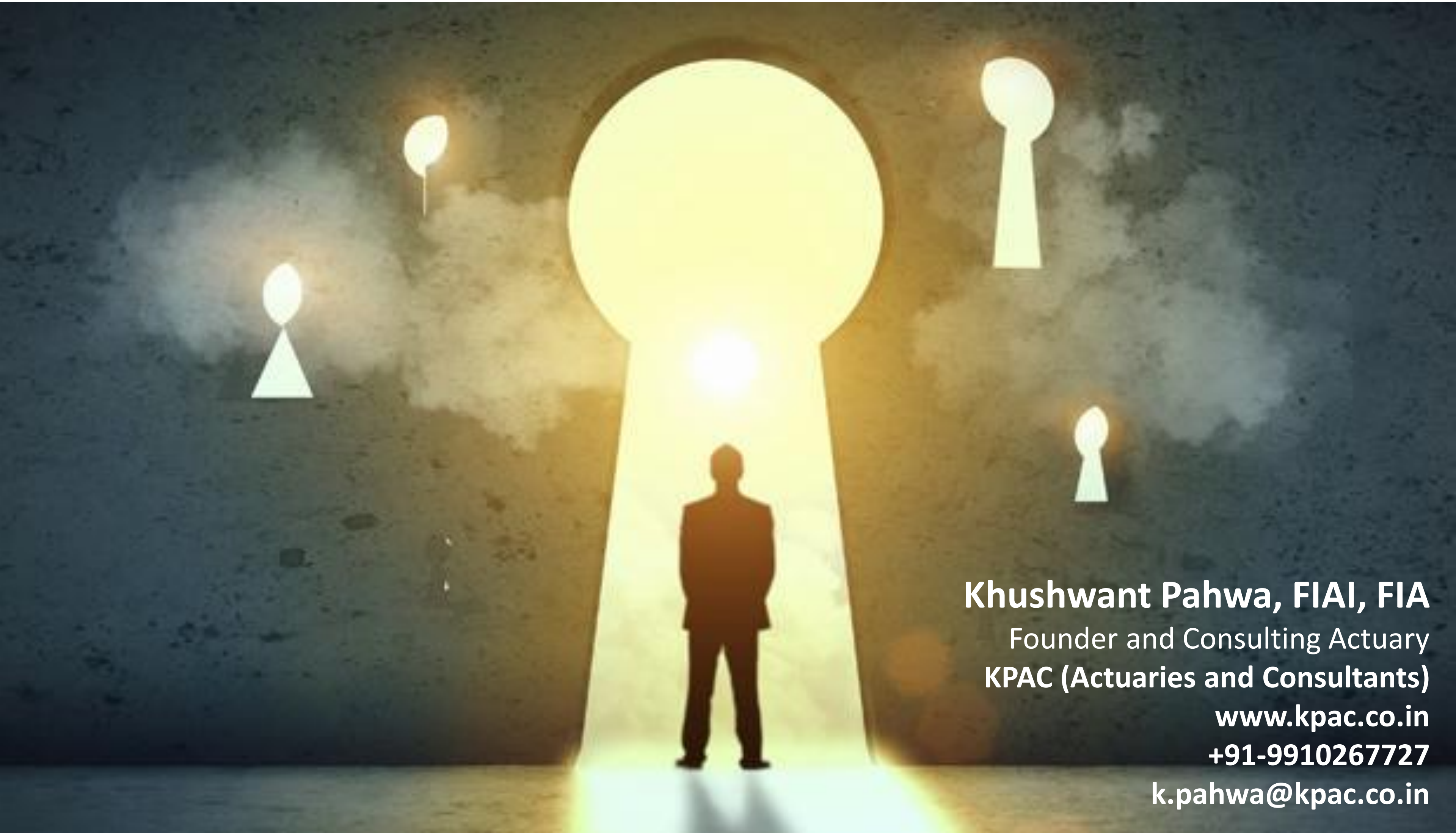
IND AS 19
Impacts and Examples



Khushwant Pahwa, FIAI, FIA
Founder and Consulting Actuary
KPAC (Actuaries and Consultants)
www.kpac.co.in
+91-9910267727
k.pahwa@kpac.co.in

Agenda

- **Modelling Gratuity Limit**
- Disclosures under Ind AS19 vs AS15
- Implementation

Impact on gratuity valuation

There are 4 kinds of models used in actuarial valuation of gratuity in India:

1. **Commutation function (No limit)**
2. **Commutation function (liability capped at limit)**
3. **Cash flow model (without limit pro-rated)**
4. **Cash flow model (with limit pro rated considering future service - Ind AS19)**

With standard being silent on how to tackle limit, all 4 models exist in India.

Let us consider a simple example of gratuity valuation under each of these valuation methodologies.

A simple example

- Consider an employee with:
  - Joining Age : **45 Years (beginning)**
  - Current Age : **55 years (beginning)**
  - Retirement Age : **60 years**
  - Salary on joining : **Rs. 100,000** per month
- **Assumptions**:
  - Discount Rate : **8% p.a.**
  - Salary Growth Rate : **5% p.a.** (from date of joining to date of retirement)
- For simplicity, assume No Attrition, No Deaths.
- Salary at retirement : **Rs. 207,892** (Rs. 100,000 * 1.05^15)
- Current Salary : **Rs. 162,889** (Rs. 100,000 * 1.05^10)

Approach 1 and 2: Commutation Functions

- Since no attrition / death assumed, the person will leave organization only on retirement.
- At age 55 (i.e. after having completed 10 years), the liability shall be :

(Past Service * 15/26 * Salary) * Commutation Function

=

$(10 * 15/26 * 162{,}889) * (1.05/1.08)^5$

=

$939{,}747 * (1.05/1.08)^5$

=

816,279

- Since liability is less than Rs. 10,00,000, Approach 1 and 2 both result in the same answer

Approach 3: Cash flow with limit not pro rated

- Liability calculated by projecting cash flows, as follows:

Age	Salary	Gratuity payable	Probability of payment	Cash Flow
55	162,889	939,747	0%	-
56	171,034	1,000,000	0%	-
57	179,586	1,000,000	0%	-
58	188,565	1,000,000	0%	-
59	197,993	1,000,000	0%	-
60	207,893	1,000,000	100%	1,000,000

- **Liability = Rs. 680,583** (Rs. 10,00,000 / 1.08^5)

Approach 4: Cash flow with limit pro rated (IndAS19)

- Liability calculated by projecting cash flows, as follows:

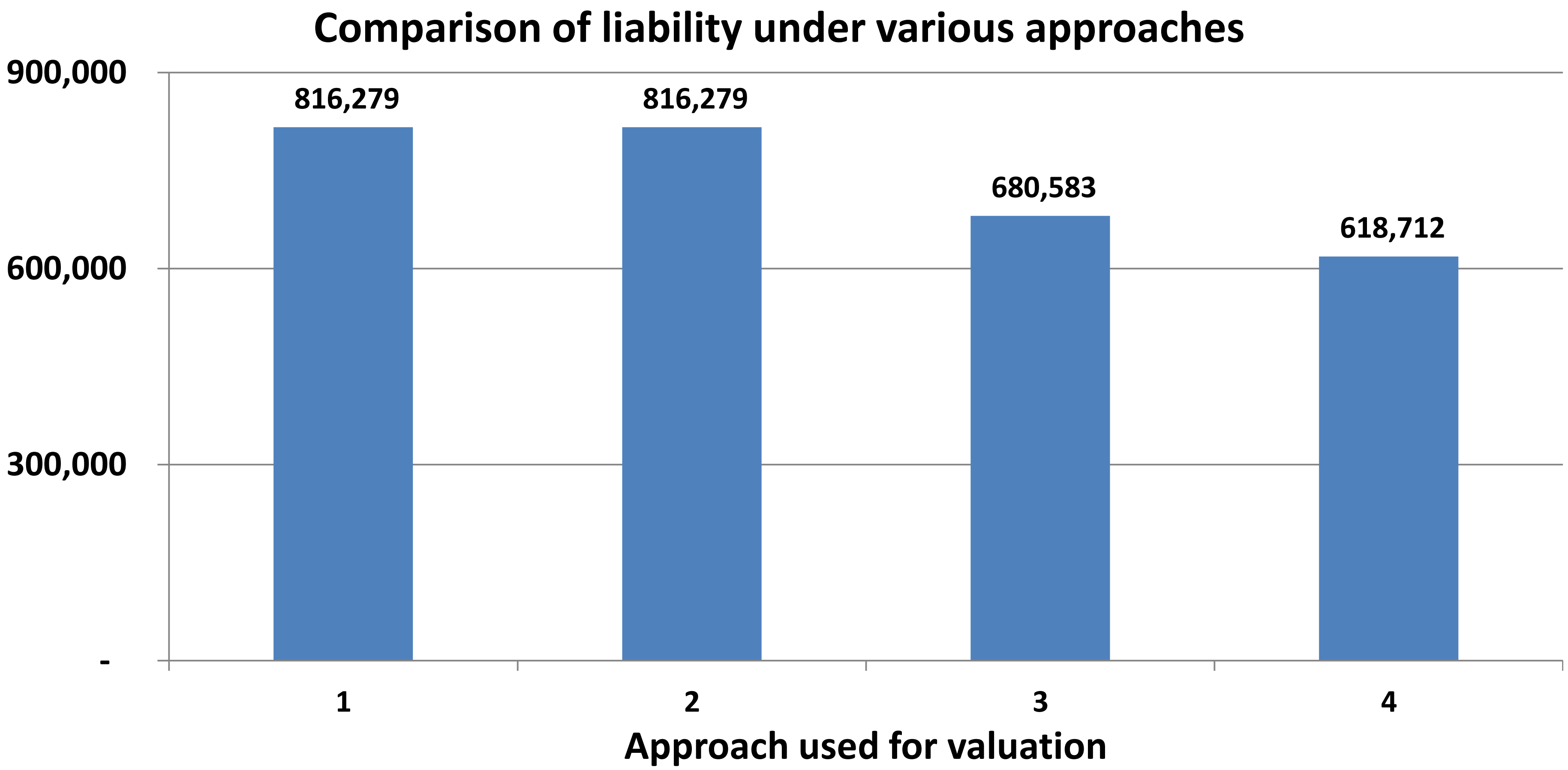
Age	Salary	Gratuity payable	Limit applicable at end of 10 years	Probability of payment	Cash Flow
55	162,889	939,747	10 / 11 * Rs. 10 lacs = 909,091	0%	-
56	171,034	1,000,000		0%	-
57	179,586	1,000,000		0%	-
58	188,565	1,000,000		0%	-
59	197,993	1,000,000		0%	-
60	207,893	1,000,000		100%	909,091

- Limit hit in 12^{th} year (45 to 56). Hence, the attribution of limit is done over 11 years.

- Thus, during the 10^{th} year, the limit to be considered is Rs. 10,00,000 *10 / 11

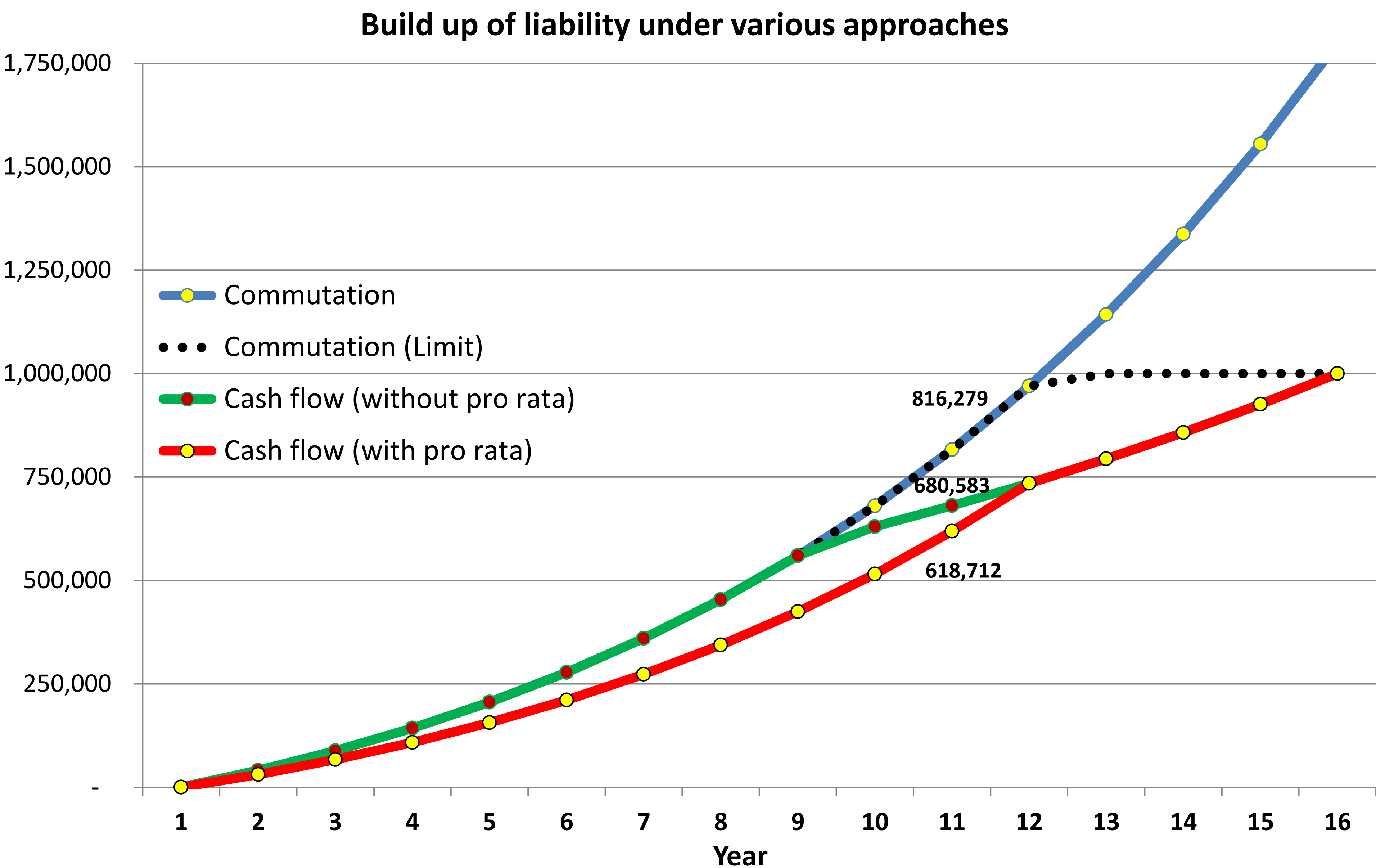
- **Liability = Rs. 618,712** (Rs. 909,091 / 1.08^5)

Comparison of all approaches at time 10



- Approach 3 vs Approach 1 / 2 : **17% difference in liability**
- Approach 4 vs Approach 1 / 2 : **24% difference in liability**
- Approach 4 vs Approach 3 : **9% difference in liability**

Impact on gratuity valuation



Impact on live valuations

- Impact on overall liability depends on combination of factors, including:

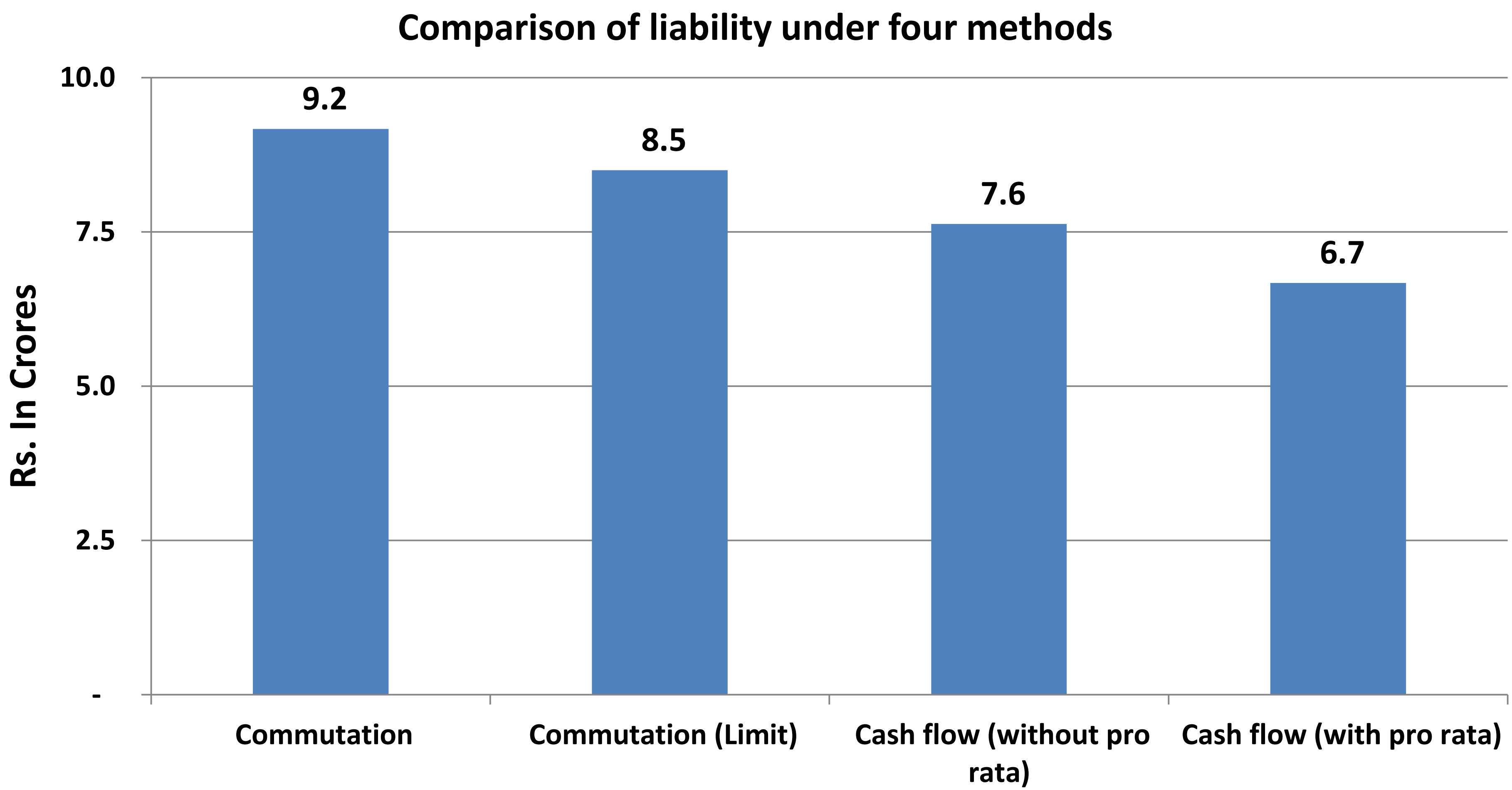
  - **Salary levels** (higher the salary, higher the gap)
  - **Completed years of service** (higher the service, higher the gap)
  - **Attrition** (Lower the attrition, higher the gap)
  - **Salary growth rate** (higher the assumption, higher the gap)

- Let us consider a valuation with following employee statistics and assumptions:

Number of Employees	1,871
Total Monthly Salary	25,155,355
Average Past Service	4.28
Average Age	34.12
Average Remaining Working Life	25.92
Total Completed Years valued	8,005
Retirement Age	60 years

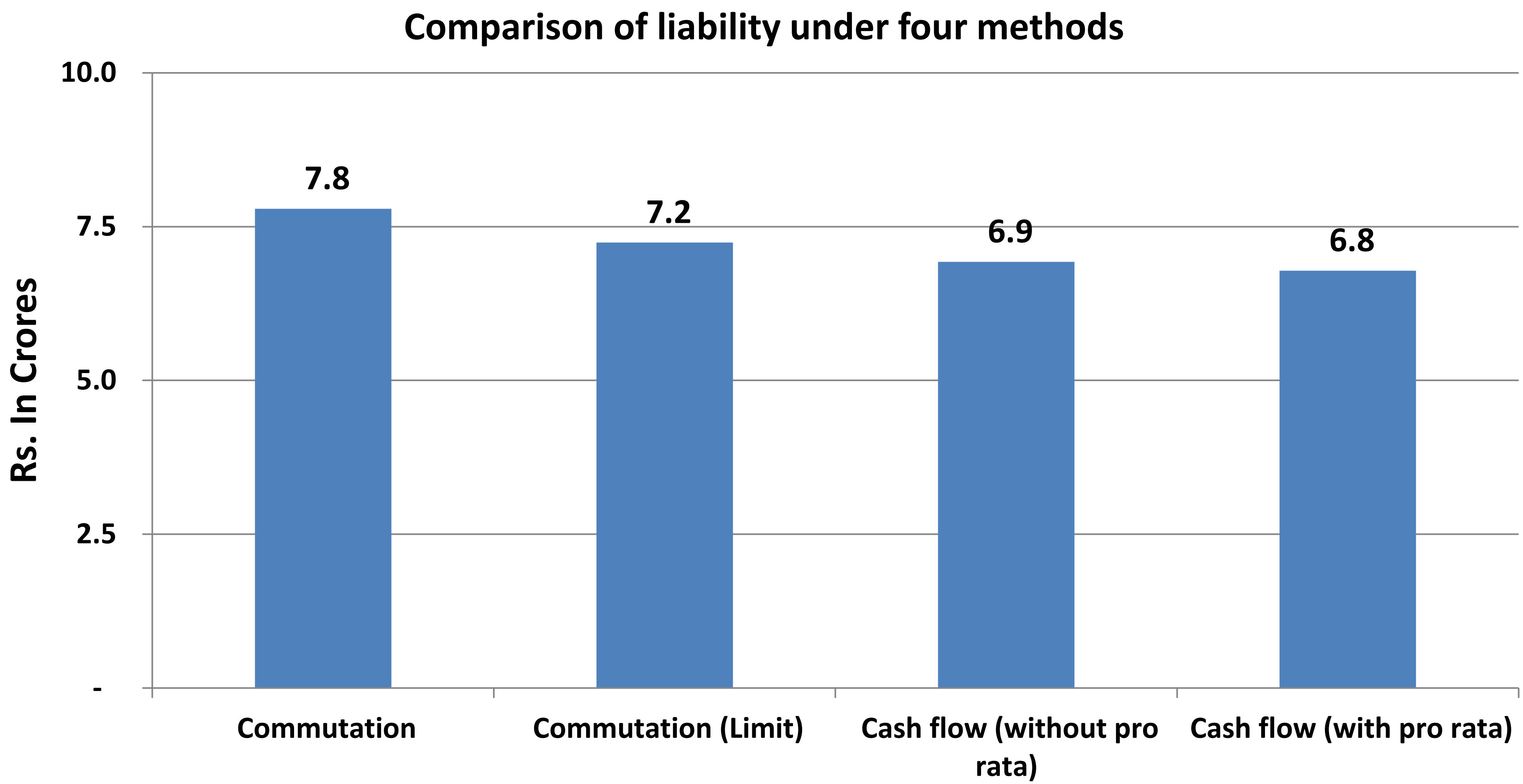
Impact on live valuations

- **Attrition 5%, salary growth rate 10% and discount rate of 7.8%**



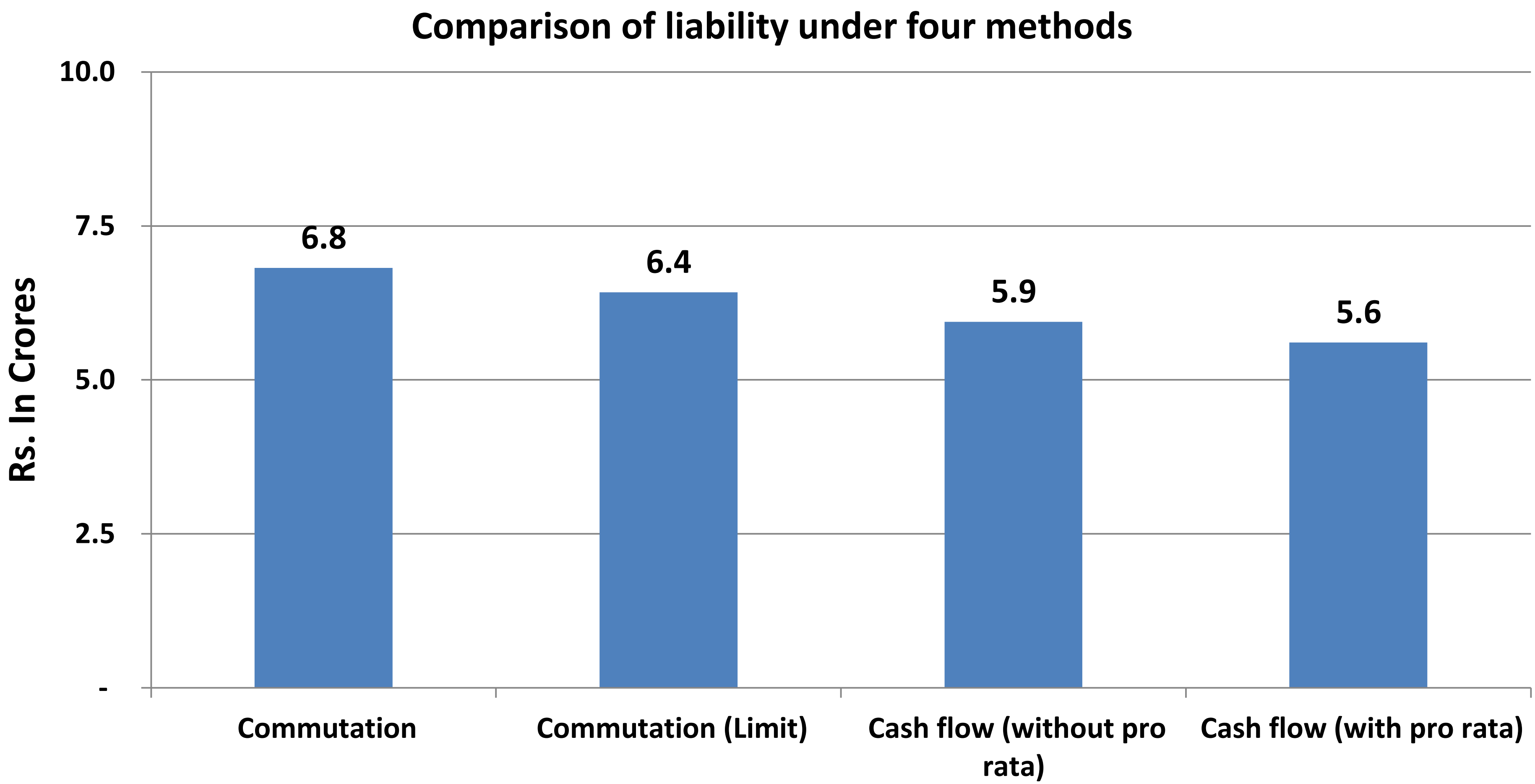
Impact on live valuations

- **Attrition 20%, salary growth rate 10% and discount rate of 7.8%**



Impact on live valuations

- **Attrition 5%, salary growth rate 7% and discount rate of 7.8%**



Agenda

- Modelling Gratuity Limit
- **Disclosures under Ind AS19 vs AS15**
- Implementation

Disclosures under Ind AS19

Characteristics of Plan and associated risks

Three kinds of disclosures

(Para 135)

Explain amounts arising in financial statements

Amount, timing and uncertainty of future cash flows

Reconciliation of liability (AS15 vs Ind AS19)

Liability reconciliation under AS15	For the period ending 31-Mar-15
Present Value of Obligation as at the beginning	**195,916,290**
Interest Cost	18,122,257
Past Service Cost	-
Current Service Cost	35,020,917
Benefits Paid	(19,071,726)
Actuarial (Gain) / Loss on the Obligation	38,018,395
Present Value of Obligation as at the end	**268,006,133**

Re-measurement costs (or actuarial gains and losses) to be broken down under Ind AS

- Impact of change in demographic assumptions
- Impact of change in financial assumptions
- Experience variance

Reconciliation of liability (Ind AS19)

Liability reconciliation under Ind AS19 (refer para 140(a)(ii) and 141 of Ind AS19)	For the period ending
	31-Mar-15
Present Value of Obligation as at the beginning	**195,916,290**
Current Service Cost	35,020,917
Interest Expense or Cost	18,122,257
Re-measurement (or Actuarial) (gain) / loss arising from:	-
- change in demographic assumptions	-
- change in financial assumptions	23,084,287
- experience variance (i.e. Actual experience vs assumptions)	14,934,108
Past Service Cost	-
Benefits Paid	(19,071,726)
Present Value of Obligation as at the end	**268,006,133**

Reconciliation of Asset (AS15 vs Ind AS19)

Asset reconciliation under AS15	For the period ending
	31-Mar-15
Fair Value of Plan Assets as at the beginning	**178,255,885**
Expected Return on Plan Assets **(@ 8.7%)**	15,508,262
Contributions	-
Benefits Paid	-
Actuarial Gain / (Loss) on the Plan Assets	1,45,040
Fair Value of Plan Assets as at the end	**193,909,187**

Calculated at discount rate (not a judgmental expected rate of return chosen in the past)

Called "Investment Income"

"Return on plan assets, excluding amount included in Investment Income above"

Actual Investment Income = Rs. 15,653,302

Reconciliation of Asset (Ind AS19)

Asset reconciliation under Ind AS19	For the period ending
	31-Mar-15
Fair Value of Plan Assets as at the beginning	**178,255,885**
Investment Income **(calculated @ 9.25%, which is the discount rate)**	16,488,669
Contribution	-
Benefits Paid	-
Return on plan assets , excluding amount recognized in net interest expense	(835,367)
Fair Value of Plan Assets as at the end	**193,909,187**

Actual Investment Income = Rs. 15,653,302

Reconciliation of Asset Ceiling

Change in the Effect of Asset Ceiling under Ind AS19	For the period ending
	31-Mar-15
Effect of Asset Ceiling at the beginning	**-**
Interest Expense or Cost (to the extent not recognised in net interest expense)	-
Re-measurement (or Actuarial) (gain)/loss arising because of change in effect of asset ceiling	-
Effect of Asset Ceiling at the end	**-**

Profit and Loss (AS15 vs Ind AS19)

Recognition of expense under AS15	For the period ending 31-Mar-15
Current Service Cost	35,020,917
Past Service Cost	-
Interest Cost	18,122,257
Expected Return on Plan Assets	(15,508,262)
Net Actuarial (Gain) / Loss recognized in the period	37,873,355
Expenses Recognized in Profit and Loss	**75,508,267**

Recognition of expenses under Ind AS19 is spilt into Income statement and OCI

Actuarial (gain) / loss on plan liabilities is part of OCI

Profit and Loss and OCI (Ind AS19)

Expenses Recognized in the Income Statement	For the period ending
	31-Mar-15
Current Service Cost	35,020,917
Past Service Cost	-
Net Interest income / (cost) on the Net Defined Benefit Liability (Asset)	1,633,588
Expenses Recognized in the Income Statement	**36,654,505**

Interest cost calculated as

=

Rs. 1,81,22,257

(interest cost as per liability reconciliation)

–

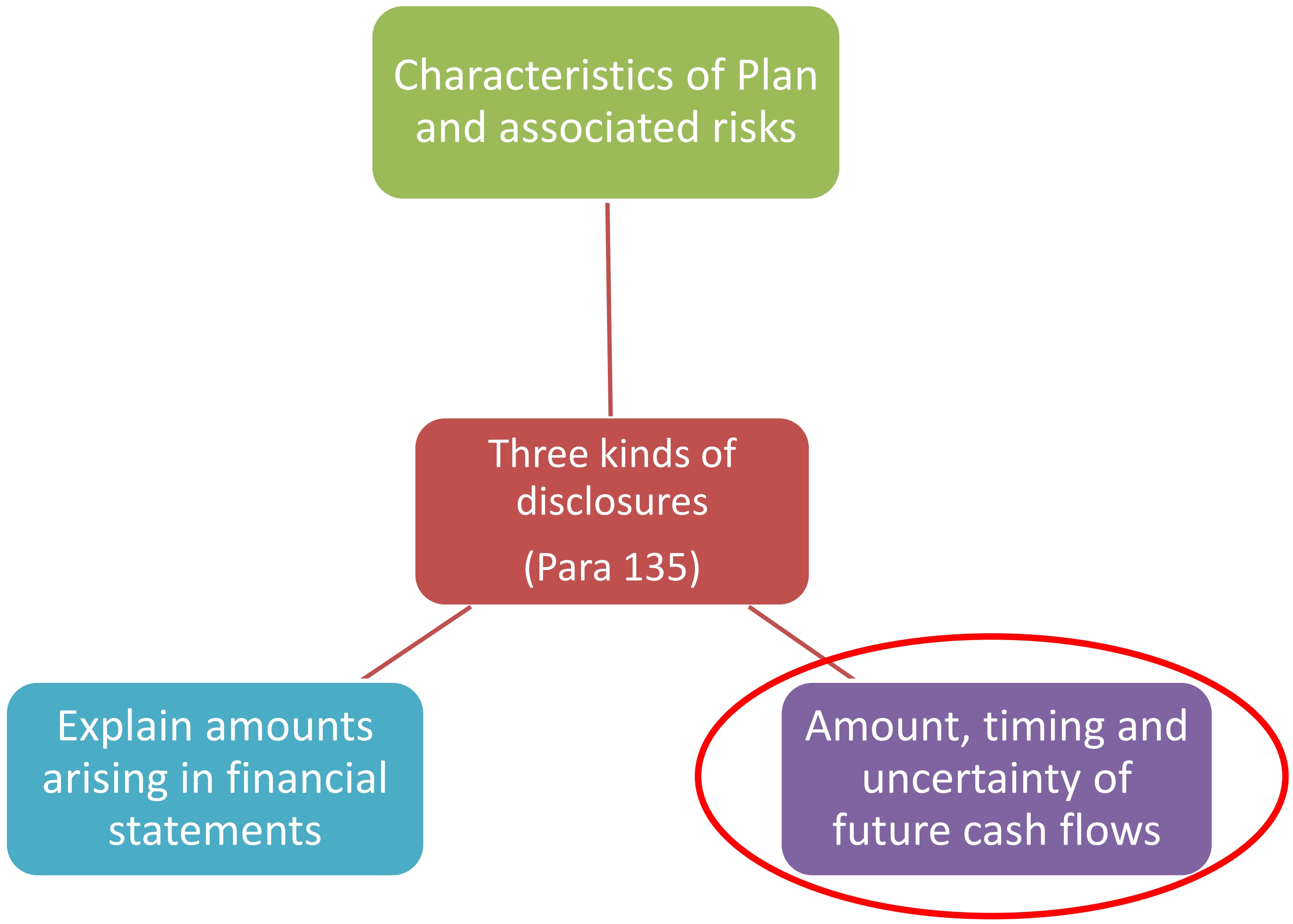
Rs. 1,64,88,669

(interest income on asset, calculated @ opening discount rate)

Profit and Loss and OCI (Ind AS19)

Expenses Recognized through the Other Comprehensive Income	For the period ending
	31-Mar-15
Re-measurement costs or Actuarial (gains) / losses	
- change in demographic assumptions	-
- change in financial assumptions	23,084,287
- experience variance (i.e. Actual experience vs assumptions)	14,934,108
Return on plan assets, excluding amount recognized in net interest expense	**835,367**
Re-measurement arising because of change in effect of asset ceiling	-
Components of defined benefit costs recognized in other comprehensive income	**38,853,762**

Disclosures under Ind AS19



Amount, timing & uncertainty of cash flows

Provide sensitivity analysis for each significant actuarial assumption:

Particulars	31-Mar-15	
	Decrease	Increase
Discount Rate (- / + 1%)	**289,362,815**	**249,233,435**
(% change compared to base due to sensitivity)	7.97%	-7.00%
Salary Growth Rate (- / + 1%)	**249,671,570**	**288,479,950**
(% change compared to base due to sensitivity)	-6.84%	7.64%
Attrition Rate (- / + 50%)	**258,100,769**	**274,364,898**
(% change compared to base due to sensitivity)	-3.70%	2.37%
Mortality Rate (- / + 10%)	**267,891,146**	**268,120,661**
(% change compared to base due to sensitivity)	-0.04%	0.04%

Disclose methods and assumptions used in preparing the sensitivity analyses

Disclose changes from the previous period in the methods and assumptions used in preparing the sensitivity analyses

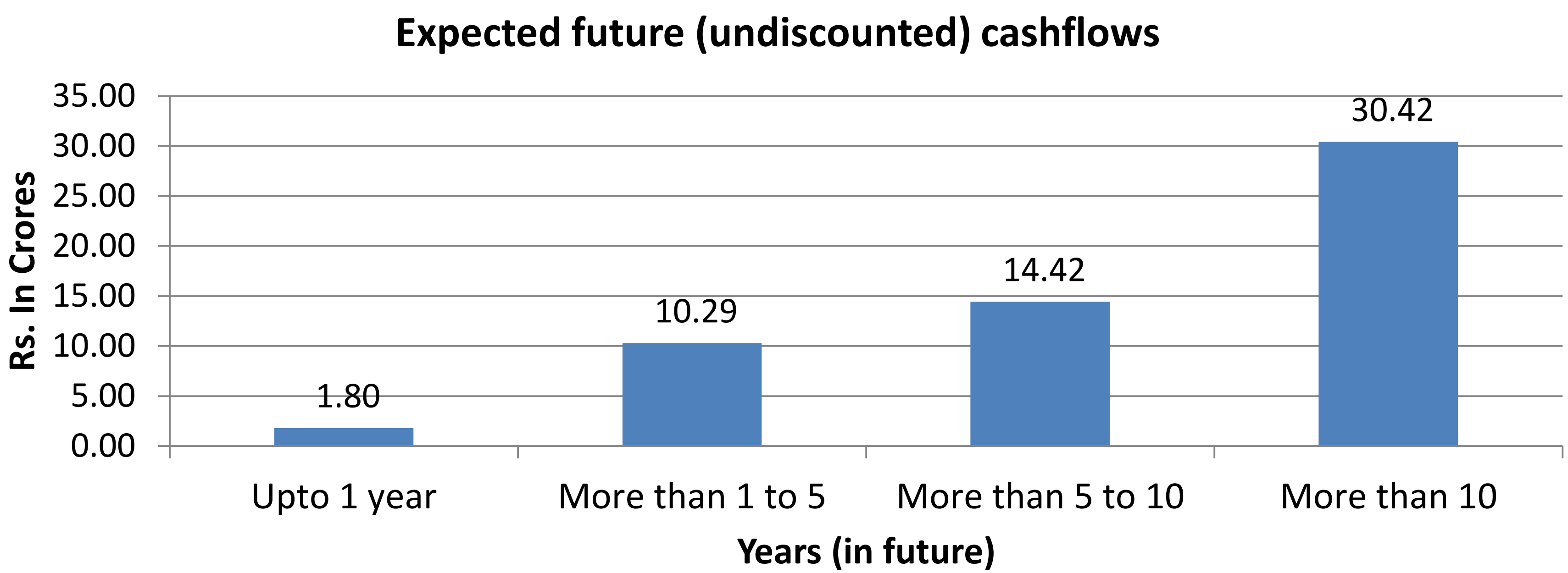
Amount, timing & uncertainty of cash flows

- Expected Contribution during the next annual reporting period (para 147(b))

The Company's best estimate of Contribution during the next year	Rs. 109,732,007

- Maturity Profile of Defined Benefit Obligation (para 147(c))

Weighted average duration (based on discounted cash flows)	8.18 years



Disclosures under Ind AS19

Characteristics of Plan and associated risks

Three kinds of disclosures

(Para 135)

- Explain amounts arising in financial statements
- Amount, timing and uncertainty of future cash flows

Characteristics of Plan and associated risks

Para 139: An entity shall disclose:

(a) **information about the characteristics of its defined benefit plans**, including:

(i) the nature of the benefits provided by the plan.

(ii) a description of the regulatory framework in which the plan operates and any effect of the regulatory framework on the plan.

(iii) a description of any other entity's responsibilities for the governance of the plan.

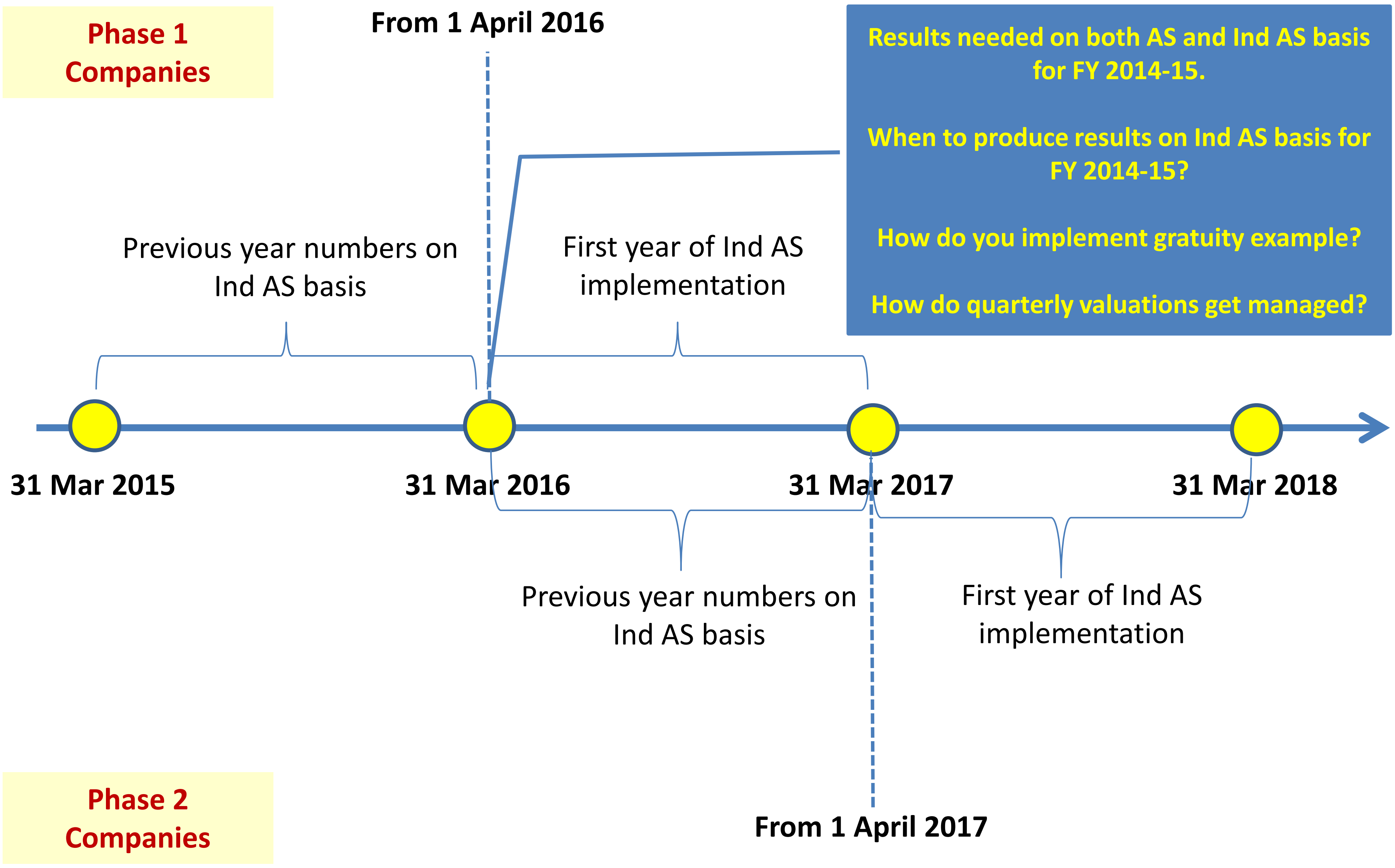
(b) a **description of the risks** to which the plan exposes the entity, focused on any unusual, entity specific or plan-specific risks, and of any significant concentrations of risk.

(c) a description of any plan amendments, curtailments and settlements.

Agenda

- Modelling Gratuity Limit
- Disclosures under Ind AS19 vs AS15
- **Implementation aspects**

Implementation timelines and issues



Questions?

BACK UP SLIDE: Modelling Gratuity Limit

- Para 70 to 74 of Ind AS19 deal with "**Attributing benefit to periods of service**".

- Para 73 states:

  "The obligation increases ***until the date when further service by the employee will lead to no material amount of further benefits****. Therefore, all benefit is* ***attributed to periods ending on or before that date****. Benefit is attributed to individual accounting periods under the plan's benefit formula."*

- Example 5 illustrating paragraph 73 **illustrates treatment of gratuity subject to ceiling** under Indian Gratuity Rules.

- Let us consider how does this impact calculation of gratuity liability?

BACK UP SLIDE: Text of example

Scenario / Question given in the example:

An entity has 1,000 employees.

As per the statutory requirements, gratuity shall be payable to an employee on the termination of his employment after he has rendered continuous service for not less than five years (a) on his superannuation, or (b) on his retirement or resignation, or (c) on his death or disablement due to accident or disease.

The completion of continuous service of five years shall not be necessary where the termination of the employment of any employee is due to death or disablement.

The amount payable is determined by a formula linked to number of years of service and last drawn salary. As per the law, the **amount payable shall not exceed Rs.1,000,000**.

BACK UP SLIDE: Text of example

Solution / Answer given in the example:

The amount of gratuity attributed to each year of service will be calculated as follows:

Number of employees not likely to fulfill the eligibility criteria will be ignored.

Other employees will be grouped according to period of service they are expected to render taking into account mortality rate, disablement and resignation after 5 years. Gratuity payable will be calculated in accordance with the formula prescribed in the governing statute based on the period of service and the salary at the time of termination of employment, assuming promotion, salary increases etc.

For those **employees for whom the amount payable as per the formula does not exceed Rs.1,000,000, over the expected period of service**, the amount payable will be divided by the expected period of service and the resulting amount will be attributed to each year of the expected period of service, including the period before the stipulated period of 5 years.

In case of the **remaining employees**, the **amount as per the formula exceeds Rs. 1,000,000 over the expected period of service of 10 years, and the amount of the statutory threshold of Rs. 1,000,000 is reached at the end of 8 years. Rs. 1,25,000 (Rs. 1,000,000 divided by 8) is attributed to each of the first 8 years**. In this case, no benefit is attributed to subsequent two years. This is because service beyond 8 years will lead to no material amount of further benefits