

# Discussion on Treatment of Past Service Cost Under Various Standards

In view of proposed increase in gratuity ceiling

14th Seminar on Current Issues in Retirement Benefits  
(14th CIRB) – 10<sup>th</sup> March 2018

Suranjan Banerjee, FIA, FIAI, CERA



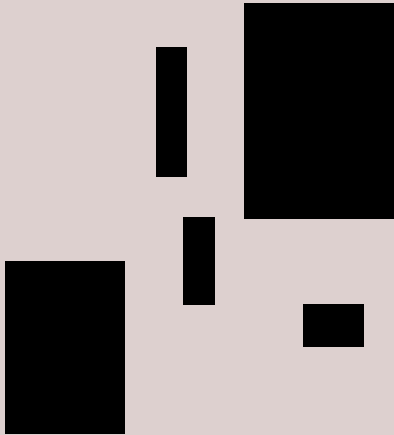
## Table of contents

---

Section 1	Background and Recent Developments	3
Section 2	Past Service Cost for Gratuity Benefit	7
Section 3	Treatment of PSC Under Different Accounting Standards	14
Section 4	Transitioning from AS15 to IND AS19	22
Section 5	Some Food for Thought	25
Appendix	References	28

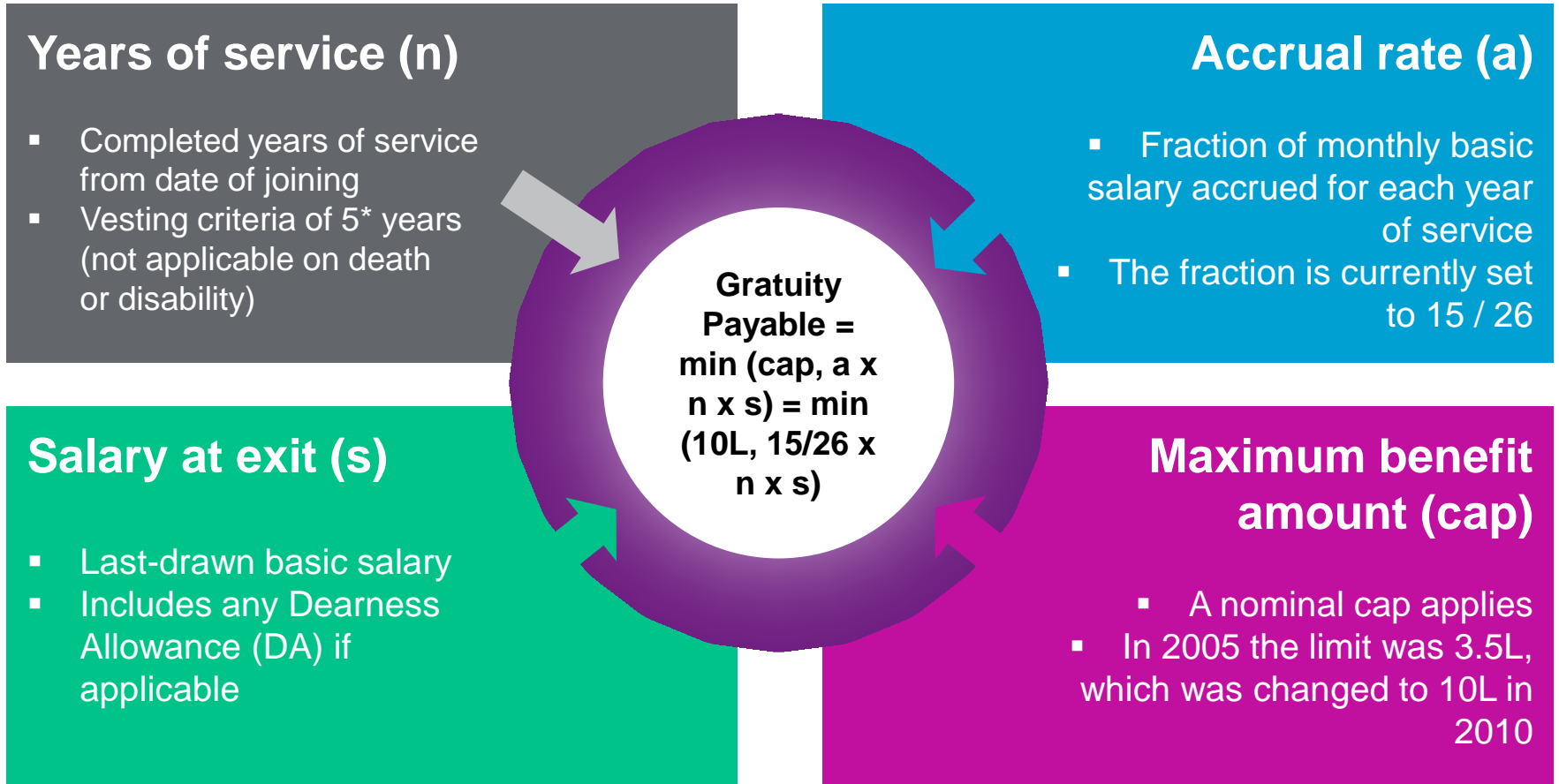
---

## Section 1 | Background and Recent Developments



# Gratuity Benefit as Defined by the PG Act

The gratuity benefit is a lump sum benefit and the amount payable depends on 4 key parameters



*Retirement age tends to vary between sector, industry and employer*

*\* In practice considered to be 4y 240d / 190d*

## What has changed...

...for Central Government Employees

7<sup>th</sup> Pay Commission –  
January 2017

The gratuity ceiling  
was revised for Central  
Government  
employees from INR  
10L to INR 20L

Change is meant to be  
'retrospective' to the  
extent that the limit will  
get enhanced at the  
time of exit including  
any service rendered  
before the effective  
date of the change

... for Private Sector employees

The Payment of Gratuity (Amendment) Bill, 2017 ([link](#))  
After receiving approval from the Cabinet in September 2017, the  
Bill was tabled in the winter session of 2017 for Parliament approval.  
The Bill was subsequently deferred to the extended Budget Session,  
which is currently in progress.

## The Proposed 'Amendment'

What is it?

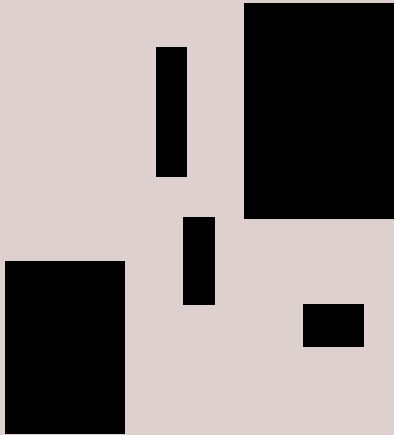
This means that the Central Government will then have the right to amend the ceiling amount without having to amend the 'Act' itself

*In section 4 of the principal Act, in sub-section (3), for the words "ten lakh rupees", the words "such amount as may be notified by the Central Government from time to time" shall be substituted.*

Future increases that apply likely to take in to account:

- increases in wage and inflation and
- future Pay Commissions

## Section 2 | Past Service Cost for Gratuuity Benefit



## Introducing the Past / Prior Service Cost (PSC)

Broadly defined as the **change in Past Service Liability (PSL)**<sup>1</sup> on account of **retroactive**<sup>2</sup> **benefit design changes**<sup>3</sup>

**1:** Immediate impact on liability measured on a particular date and assumptions as  $(PSL_{\text{changed design}} - PSL_{\text{old design}})$ ; can be positive representing a 'cost' or negative representing a 'credit'

**2:** Retroactive implies that the design change impacts benefits built up on account of service accrued before the date of change though only 'in service' employees at the time of the change implemented will receive the higher benefit

**3:** Benefit design would usually be classified as a component of the core benefit formula – whether changed due to legislation or by the management of the plan sponsor

For gratuity plans, this would typically be accrual rate or ceiling amount



## Sample calculation for X

Ceiling of INR 10L – vested employee

Data	31 March 2017	31 March 2018	Assumptions	31 March 2017	31 March 2018
Age	49	50	Pay Increases (j)	10% pa	10% pa
Ret Age	60	60	Discount Rate (i)	7.5% pa	7.5% pa
Monthly Salary (s)	18,182	20,000	Withdrawal and Other Pre Retirement Decrements	No allowance	No Allowance
Past Service (n)	9	10			

### Accrued Benefit at 31 March 2018

$$= \min (10L, 15/26 \times n \times s) = \min (10L, 15/26 \times 10 \times 20,000)$$

$$= \min (10L, 115,385) = 115,385$$

### Projected Benefit at Exit (in this case retirement)

$$= \min [10L, \text{Accrued Benefit at 31 March 2018} \times (1 + j)^{(\text{Ret Age} - \text{Age})}]$$

$$= \min [10L, 115,385 \times (1 + 10\%)^{(60 - 50)}]$$

$$= \min [10L, 299,278] = 299,278$$

No PSC as projected benefit is under 10L

### Liability at 31 March 2018

$$= \text{Projected Benefit at Exit} / (1 + i)^{(\text{Ret Age} - \text{Age})}$$

$$= 299,278 / (1 + 7.5\%)^{(60 - 50)} = 145,208$$

## Sample calculation for Y

Ceiling of INR 10L – vested employee

Data	31 March 2017	31 March 2018	Assumptions	31 March 2017	31 March 2018
Age	49	50	Pay Increases (j)	10% pa	10% pa
Ret Age	60	60	Discount Rate (i)	7.5% pa	7.5% pa
Monthly Salary (s)	90,909	100,000	Withdrawal and Other Pre Retirement Decrements	No allowance	No Allowance
Past Service (n)	9	10			

### Accrued Benefit at 31 March 2018

$$= \min (10L, 15/26 \times n \times s) = \min (10L, 15/26 \times 10 \times 100,000)$$

$$= \min (10L, 576,923) = 576,923$$

### Projected Benefit at Exit (in this case retirement)

$$= \min [10L, \text{Accrued Benefit at 31 March 2018} \times (1 + j)^{(\text{Ret Age} - \text{Age})}]$$

$$= \min [10L, 576,923 \times (1 + 10\%)^{(60 - 50)}]$$

$$= \min [10L, 1,496,390] = 10L$$

PSC triggered as projected benefit is above 10L

### Liability at 31 March 2018

$$= \text{Projected Benefit at Exit} / (1 + i)^{(\text{Ret Age} - \text{Age})}$$

$$= 10L / (1 + 7.5\%)^{(60 - 50)} = 485,194$$

## Sample calculation for Y

Ceiling of INR 20L – vested employee

Data	31 March 2017	31 March 2018	Assumptions	31 March 2017	31 March 2018
Age	49	50	Pay Increases (j)	10% pa	10% pa
Ret Age	60	60	Discount Rate (i)	7.5% pa	7.5% pa
Monthly Salary (s)	90,909	100,000	Withdrawal and Other Pre Retirement Decrements	No allowance	No Allowance
Past Service (n)	9	10			

### Accrued Benefit at 31 March 2018

$$= \min (20L, 15/26 \times n \times s) = \min (20L, 15/26 \times 10 \times 100,000)$$

$$= \min (20L, 576,923) = 576,923$$

### Projected Benefit at Exit (in this case retirement)

$$= \min [20L, \text{Accrued Benefit at 31 March 2018} \times (1 + j)^{(\text{Ret Age} - \text{Age})}]$$

$$= \min [20L, 576,923 \times (1 + 10\%)^{(60 - 50)}]$$

$$= \min [20L, 1,496,390] = 1,496,390$$

Projected benefit higher  
by 496,390

### Liability at 31 March 2018

$$= \text{Projected Benefit at Exit} / (1 + i)^{(\text{Ret Age} - \text{Age})}$$

$$= 1,496,390 / (1 + 7.5\%)^{(60 - 50)} = 726,039$$

Liability higher by  
240,845 = PSC!

## Sample calculation for Z

Ceiling of INR 10L – unvested employee

Data	31 March 2017	31 March 2018	Assumptions	31 March 2017	31 March 2018
Age	49	50	Pay Increases (j)	10% pa	10% pa
Ret Age	60	60	Discount Rate (i)	7.5% pa	7.5% pa
Monthly Salary (s)	386,364	425,000	Withdrawal and Other Pre Retirement Decrements	No allowance	No Allowance
Past Service (n)	2	3			

### Accrued Benefit at 31 March 2018

$$= \min (10L, 15/26 \times n \times s) = \min (10L, 15/26 \times 3 \times 425,000)$$

$$= \min (10L, 735,577) = 735,577$$

### Projected Benefit at Exit (in this case retirement)

$$= \min [10L, \text{Accrued Benefit at 31 March 2018} \times (1 + j)^{(\text{Ret Age} - \text{Age})}]$$

$$= \min [10L, 735,577 \times (1 + 10\%)^{(60 - 50)}]$$

$$= \min [10L, 1,907,897] = 10L$$

PSC triggered as projected benefit is above 10L

### Liability at 31 March 2018

$$= \text{Projected Benefit at Exit} / (1 + i)^{(\text{Ret Age} - \text{Age})}$$

$$= 10L / (1 + 7.5\%)^{(60 - 50)} = 485,194$$

## Sample calculation for Z

Ceiling of INR 20L – unvested employee

Data	31 March 2017	31 March 2018	Assumptions	31 March 2017	31 March 2018
Age	49	50	Pay Increases (j)	10% pa	10% pa
Ret Age	60	60	Discount Rate (i)	7.5% pa	7.5% pa
Monthly Salary (s)	386,364	425,000	Withdrawal and Other Pre Retirement Decrements	No allowance	No Allowance
Past Service (n)	2	3			

### Accrued Benefit at 31 March 2018

$$= \min (20L, 15/26 \times n \times s) = \min (10L, 15/26 \times 3 \times 425,000)$$

$$= \min (20L, 735,577) = 735,577$$

### Projected Benefit at Exit (in this case retirement)

$$= \min [20L, \text{Accrued Benefit at 31 March 2018} \times (1 + j)^{(\text{Ret Age} - \text{Age})}]$$

$$= \min [20L, 735,577 \times (1 + 10\%)^{(60 - 50)}]$$

$$= \min [20L, 1,907,897] = 1,907,897$$

PSC triggered as projected benefit is above 10L

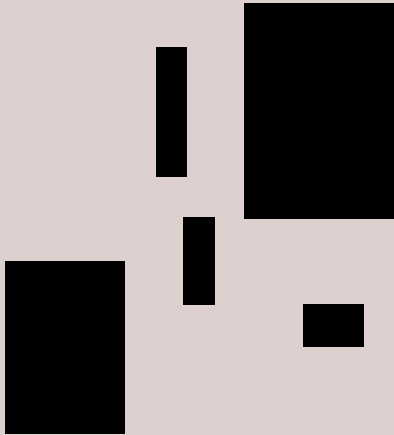
### Liability at 31 March 2018

$$= \text{Projected Benefit at Exit} / (1 + i)^{(\text{Ret Age} - \text{Age})}$$

$$= 1,907,897 / (1 + 7.5\%)^{(60 - 50)} = 925,700$$

Liability higher by 440,506 = PSC!

## Section 3 | Treatment Under Different Standards



## Treatment of PSC in Light of Gratuities Ceiling Changes

Regardless of accounting standard, should (eventually) be passed through the 'Profit and Loss (P&L)' account

	AS15	IND AS19 / IAS19	US GAAP
<b>Definition</b>	<i>...arises when an enterprise introduces a defined benefit plan or <u>changes the benefits payable under an existing defined benefit plan...</u></i>	<i>plan amendment occurs when an entity introduces, or withdraws, a defined benefit plan or <u>changes the benefits payable under an existing defined benefit plan</u></i>	<i><u>cost of benefit improvements attributable to plan participants' prior service pursuant to a plan amendment or a plan initiation</u></i>
<b>Calculation</b>	<i>...the <u>change in the present value of the defined benefit obligation for employee service in prior periods...</u></i>	<i>...is the <u>change in the present value of the defined benefit obligation resulting from a plan amendment...</u></i>	Retroactive benefit design changes (PBO changed design – PBO original). Can be positive (i.e. Cost) or negative (i.e. Gain)
<b>Recognition</b>	vested PSC recognized immediately; unvested PSC recognized on a straight-line basis over average period left to vest	entire P&L impact is immediate and reported in the period over which the event occurs	entire P&L impact spread across average EFWL of active employees on a straight-line basis

## Sample calculation for XYZ Corporation

Let us assume the Corporation employs only X, Y and Z

The table below sets out a generic liability reconciliation between 31 March 2017 and 31 March 2018

- Salary increases were in line with assumption = 10%
- There has been no change in discount rate = 7.5%
- No members left during the year; the plan is unfunded
- The gratuity ceiling change was made effective on 31 March 2018

(INR '000)	X	Y	Z	Plan
<b>Liab at 31 March 2017 (10L)</b>	<b>122</b>	<b>451</b>	<b>451</b>	<b>1,024</b>
Service Cost	14	0	0	14
Interest Cost	9	34	34	77
Benefit Payments	0	0	0	0
Actuarial (Gain) / Loss	0	0	0	0
<b>Liab at 31 March 2018 (10L)</b>	<b>145</b>	<b>485</b>	<b>485</b>	<b>1,115</b>
Past Service Cost	0	241	441	682
<b>Liab at 31 March 2018 (20L)</b>	<b>145</b>	<b>726</b>	<b>926</b>	<b>1,797</b>



# Recognition in IND AS 19

## Similar treatment for IAS 19

All figures in INR thousands

Components of Employer Expense (For the period ending 31 March 2018)	
Current Service cost (including risk premiums for fully insured benefits)	14
Net interest on net defined benefit liability / (asset)	77
Expected Return on Plan Assets	0
Curtailment Cost / (Credit)	0
Settlement Cost / (Credit)	0
Past Service Cost	682
Immediate recognition of (gains)/losses – other long term employee benefit plans	0
Total employer expense recognized in P&L	773

Change in Defined Benefit Obligation	
DBO at beginning of the period	1,024
Service Cost (including PSC)	696
Interest Cost	77
Amount recognized in OCI	0
Employer contributions	0
Benefit paid directly by the Company	0
Acquisitions credit/ (cost)	0
Divestitures	0
Cost of termination benefits	0
DBO at end of the period	1,797

# Recognition in US GAAP

All figures in INR thousands

Change in Defined Benefit Obligation	
DBO at beginning of the period	1,024
Service Cost	14
Interest Cost	77
Plan Participants' Contributions	0
Net Actuarial Loss/(Gain) due to Assumption Changes	0
Net Actuarial Loss/(Gain) due to Plan Experience	0
Benefit Payments from Fund	0
Benefit Payments Directly by Company	0
Expenses Paid from Assets (if included as an annual cost)	0
Acquisition/Divestiture	0
Plan Amendments	682
Curtailement Loss/(Gain)	0
Settlement Loss/(Gain)	0
Special Termination Benefit Cost	0
Inflationary Effect	0
Other	0
Currency Impact	0
DBO at end of the period	1,797

# Recognition in US GAAP

All figures in INR thousands

Components of Employer Expense (For the period ending 31 March 2018)	
Company Service Cost	14
Interest Cost	77
Expected Return on Plan Assets	0
Other Adjustments	0
Amortization of :	
• a. Net Transition Obligation/(Asset)	0
• b. Net Prior Service Cost/(Credit)	0
• c. Net Losses/(Gains)	0
Total Amortization	0
Net Periodic Benefit Cost/(Income)	0
Cost/(Income) of SFAS 88 Events	0
Total Expense/(Income) for the Period	91

The PSC of INR 682K will be amortized over the average future lifetime of 10 years and will start getting recognized in next year's P&L  
 The amount recognized in next year's P&L will be INR 68.2K

# Recognition in AS 15

All figures in INR thousands

Components of Employer Expense(For the period ending 31 March 2018)	
Current Service cost	14
Interest cost	77
Expected Return on Plan Assets	0
Curtailment Cost / (Credit)	0
Settlement Cost / (Credit)	0
Past Service Cost	241
Actuarial Losses / (Gains)	0
Total employer expense recognized in P&L	332

Change in Defined Benefit Obligation	
DBO at beginning of the period	1,024
Service Cost	14
Interest Cost	77
Curtailment Cost / (Credit)	0
Settlement Cost / (Credit)	0
Plan Amendments Cost/(Credit)	682
Acquisitions credit/ (cost)	0
Benefit Payments	0
DBO at end of the period	1,797

# Recognition in AS 15

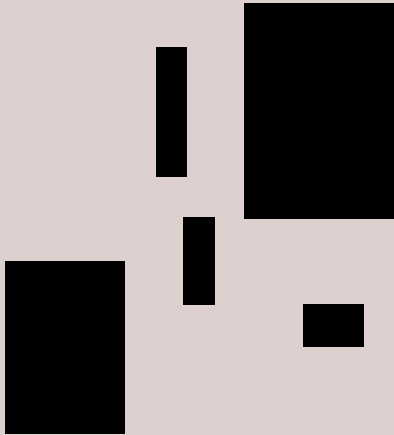
All figures in INR thousands

Net Asset/(Liability) Recognised in Balance Sheet – 31 March 2018	
Present value of Defined Benefit Obligation	1,797
Fair Value of Plan Assets	0
Funded status [Surplus/(Deficit)]	(1,797)
Unrecognized Past Service Costs	441
Net Asset / (Liability) recognized in the Balance Sheet	(1,356)

**unvested**

- The Unvested PSC of INR 441K will be amortized over the average remaining time to vesting = 2 years for employee Z
- On account of this, 220.5K will be recognized in 2019 and 2010 – unless the Plan adopts IND AS 19!

## Section 4 | Transitioning from AS15 to IND AS19

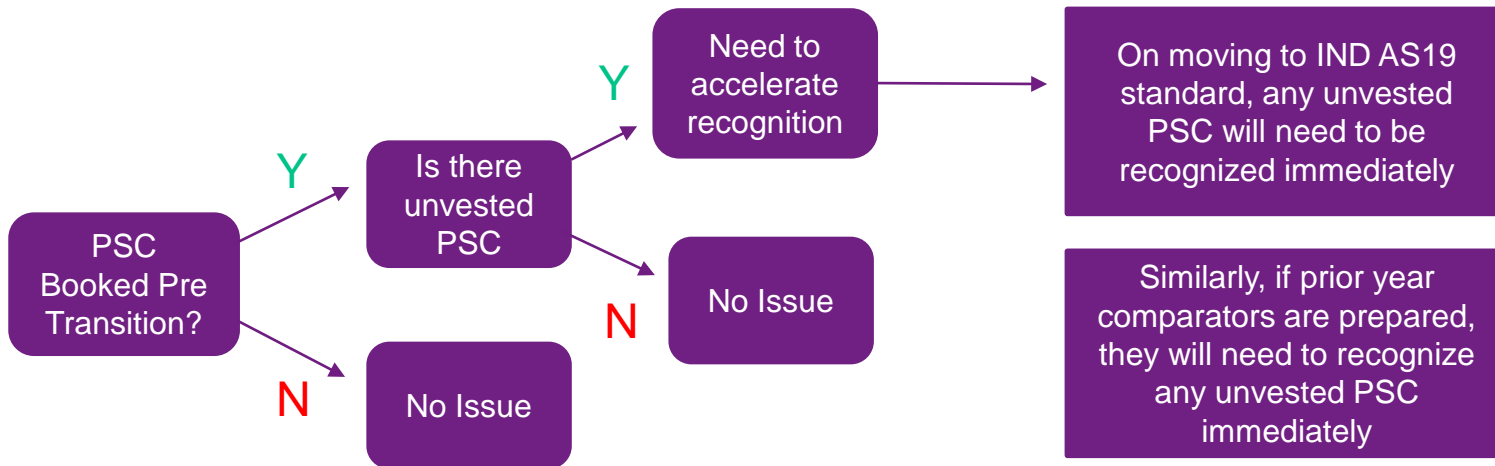


# Move from AS15 to IND AS19

In line with the roadmap laid out by the Ministry of Corporate Affairs, companies will gradually move towards adopting the IND AS19 standard.

Many have already moved and some will be moving for reporting period ending 31 March 2018.

The following table will assist in understanding if there are any implications from a gratuity ceiling PSC perspective.



# Recognition in AS 15

All figures in INR thousands

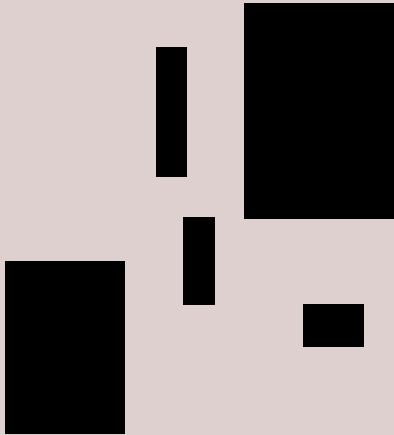
Net Asset/(Liability) Recognised in Balance Sheet – 31 March 2018	
Present value of Defined Benefit Obligation	1,797
Fair Value of Plan Assets	0
Funded status [Surplus/(Deficit)]	(1,797)
Unrecognized Past Service Costs	441
Net Asset / (Liability) recognized in the Balance Sheet	(1,356)

**unvested**

- The Unvested PSC of INR 441K will be amortized over the average remaining time to vesting = 2 years for employee Z
- On account of this, 220.5K will be recognized in 2019 and 2010 – unless the Plan adopts IND AS 19!
- **Once IND AS 19 is adopted (or comparators are prepared), the 441K will need to be recognized immediately through the P&L account**



## Section 5 | Some Food for Thought



# Challenges for Actuaries and Companies – Food for Thought!

## Legislative Uncertainty



- Given there is uncertainty about future revisions in ceiling, should this be accounted for under 8.3.3 of APS 27?
- Does this mean we need additional information in reports going forward?

## Actuarial Valuation



- Would it be appropriate to make an assumption about future increases in ceiling?
- Are these likely to be annual or discretionary or periodic or linked to a measure of inflation?

## Additional Disclosure



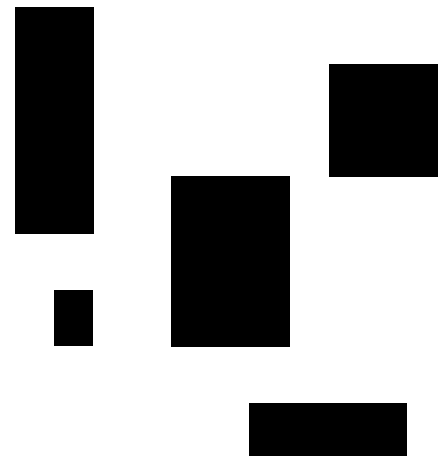
- In light of the uncertainty, would it be appropriate to include additional valuation results to consider impact of future increases in ceiling?
- For example through illustrations which include increases on ceiling

## Timing of the PSC



- When is the PSC deemed to be triggered – before the 'year end' or just after?
- If before, PSC calculated on year start assumptions and if after on end year assumptions

Thank you



## Appendix | References

- International Accounting Standard 19 – Employee Benefits, International Accounting Standards Board, June 2011
- Indian Accounting Standard (Ind AS) 19, Employee Benefits
- Accounting Standard (AS) 15, Employee Benefits
- The Payment of Gratuity Act, 1972
- The Payment of Gratuity (Amendment) Bill, 2017 – Bill No. 205 of 2017