1st TechTalk on Employee Benefits
July 9, 2020
1700 - 1800 IST

Institute of Actuaries of India

Compensated Absences and other long term employee benefits

Welcome Instructions

Mute

Q&A

IAI support

Recording

Feedback

Research Opportunities with AGPEBSS

Implications of the Social Security Code(SSC) on Funding of Gratuity Benefits

❑ The Draft Code on Social Security, 2019 by Union Ministry of Labour and Employment
❑ Compulsory Insurance: Mandatorily pre-fund gratuity benefits, Regulations
❑ Choices employers will need to make and considerations
❑ Highlighting funding valuations and longer term planning
❑ What areas of Governance and regulations should go hand in hand with this
❑ Projection and modelling opportunities

Making DC decumulation sustainable and greater value to members/ subscribers in India

❑ How to make DC pensions outcomes more valuable for beneficiaries?
❑ Are Annuities are an efficient vehicle for decumulation?
❑ Collective DC: Drawdown
❑ Investment risks, longevity risk and other risks involved
❑ Government schemes like NPS / Hybrids of APY changing the Indian pension landscape
❑ Projections and modelling opportunities

Speaker's Profile

Sapna Malhotra
Founder and Actuary at Mithras Consultants

Sapna is founder of Mithras Consultants. She has 14 years of actuarial experience in life insurance and employee benefits domain.

Her experience covers a variety of actuarial functions within insurance companies that includes statutory valuation, shareholder reporting, embedded value, business planning, ALM and Solvency II. In recent years, she is practicing in life insurance domain as well as employee benefits area that includes valuation and other advice to corporates for their employee benefits. She is also consulting actuary at Postal Life Insurance.

Sapna is a Fellow of the Institute of Actuaries of India and is a member of the advisory board on examinations at the Institute.

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Agenda

- Leave Policy

- Classification of Compensated absences

- Methodology Leave Valuation

- Measurement

- Assumptions specific for absences

- Practical issues
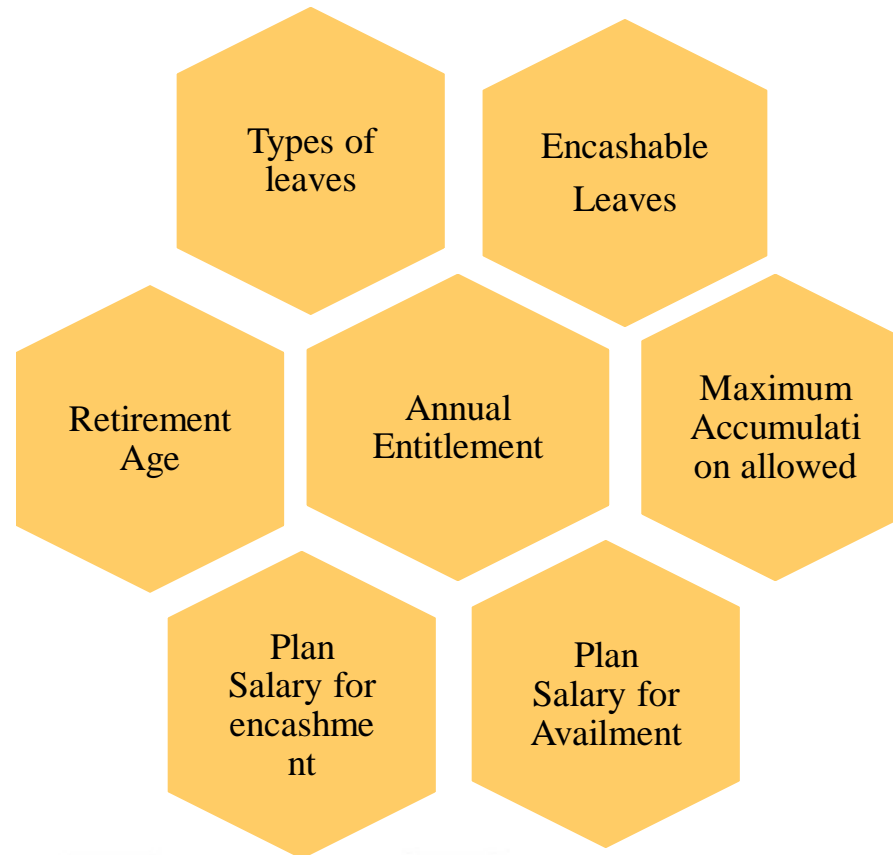
- Other long term benefits

- Q & A

Poll Question 1

When Corona virus is over…..And it will be soon..
Where will be your next holiday destination in India?

- **Goa**
- **Kerala**
- **Leh ladakh**
- **Sikkim**
- **Rajhasthan**

Leave policy

Types of leaves

Encashable Leaves

Retirement Age

Annual Entitlement

Maximum Accumulation allowed

Plan Salary for encashment

Plan Salary for Availment

- Annual
-Privilege
- Sick
-Half paid
- Casual
-Others

Classification of Leaves


```
Types of leaves
 ├── Non-accumulating compensatory absences
 │    (do not carry forward and they lapse)
 │        └── No need for actuarial valuation
 └── Accumulating compensatory absences
      (Can be carry forward and encashed)
          ├── Short term
          │   (can be availed and encashed within 12 months)
          └── Long term
              (can be availed and encashed even beyond 12 months)
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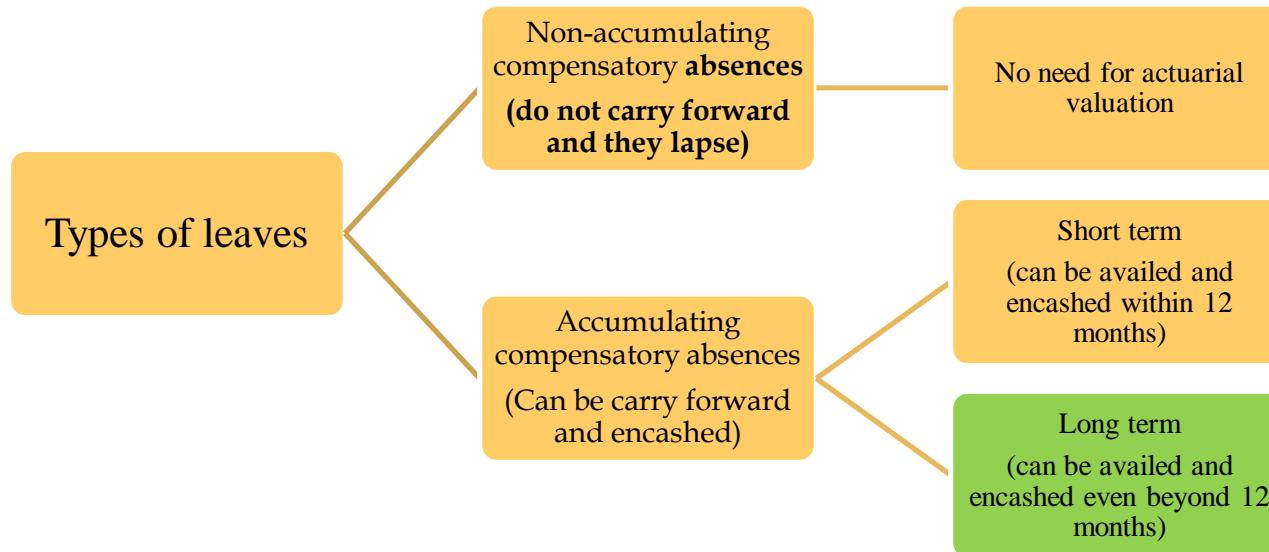
Long-term Compensatory absence may be of following three types:
a) Only be availed during the service but cannot be encashed at any point of time;
b) can be availed while in service and any unutilized leave that can be encashed on separation
c) can be availed or encashed while in service and any unutilized leave that can be encashed on separation.

Sick Leave – category (a)

Annual/PL – category (b) or (c)

Measurement

Short-term Compensatory Absences require measurement on an **actual basis** and not on actuarial basis. Measurement should take into account the following points:-

- ❖ Credited Leaves to be availed within twelve months
- ❖ Cost to Company (CTC)
- ❖ Leave that can be encashed within 12 months period
- ❖ Probability that a portion of leave may lapse without giving rise to any Liability.

Long-term Compensatory Absences require measurement on **Actuarial basis**. Measurement should take into account the following points:-

- ❖ Availment of Leave on Cost to Company Salary:-
Measurement of availment of leave should be based on gross salary

- ❖ Encashment of leave:-
Measurement of encashment of Leave on Qualifying Salary (basic/gross depending upon leave policy)

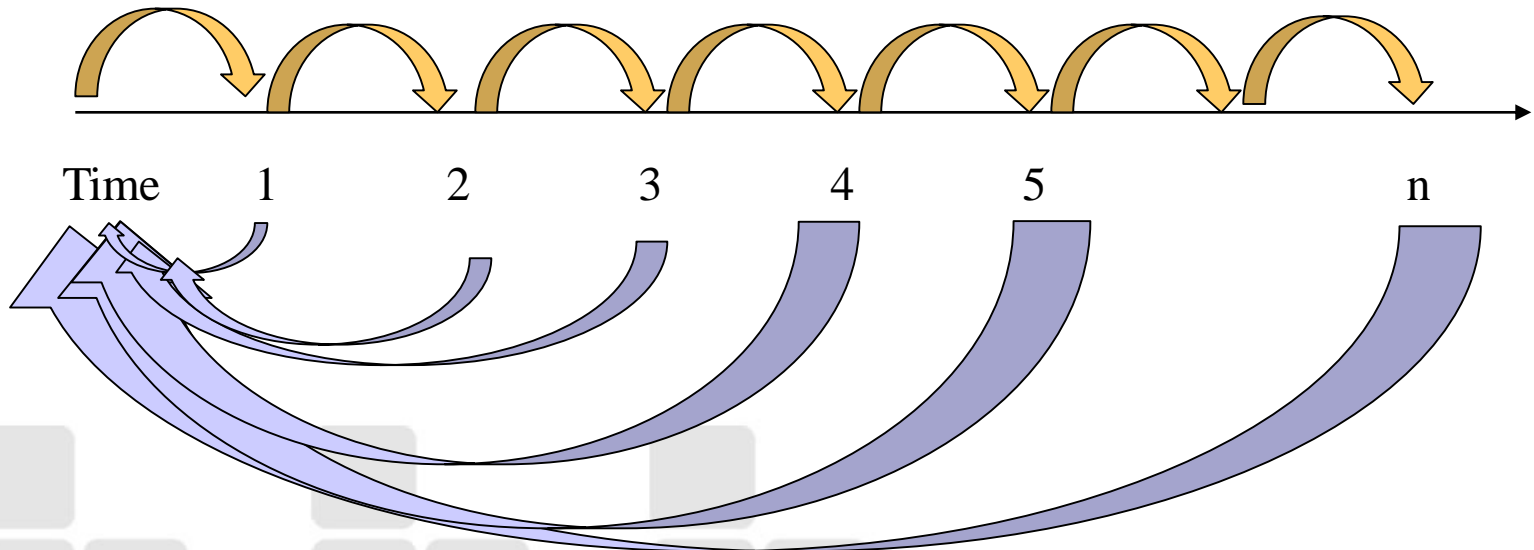Method – Projected unit credit method is used
Present Value of All Accrued Benefit on valuation Date on Projected Salaries at Exit(PBO).

Projected Unit Credit Method

Step 1: Project salaries in future years

Step 2: Calculate expected benefits in future using decrements

Step 3: Calculate Present value of expected benefit payouts

Time   1   2   3   4   5   n

Data Requirements

- Employees ID
- Date of joining
- Date of Birth
- Accumulated leave balance
- Basic and Gross monthly Salary
- Normal Retirement Age

Data Checks:

- Duplicate entries
- Report missing entries
- Check for consistency from year on year (DOB, Salary, DOJ)
- Consistency check on leave balance over the year

Measures taken:

- Ask the Client for missing entry
- Remove leaves over and above maximum cap
- Age exceeding normal retirement age
- Request Client to provide correct data to remove inconsistencies

Assumptions

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Assumptions shall be appropriate for the purpose of valuation

Salary Growth Rate	• Factors : Inflation level, Career progression, Management long term view etc
Discount Rate	• Depends on Accounting standard • N term g-sec yield for AS15 R and IND AS19
Attrition Rates	• Company's own experience and industry specific experience • Long term management view on employees attrition
Mortality/Disability Rates	• Latest available mortality table in the Industry • Mortality experience analysis may be done if large group
Leave Availment Rates	• Assumption used for projecting future consumption of leaves • Calculated based on Company's experience
Leave Encashment Rate (in service)	• If encashment in service is allowed, then this assumption is made • Calculated based on Company's experience
Expected Return on Plan Assets, if funded	• If scheme is funded, Expected return on plan assets is set equals to BoP discount rate (IND AS 19)

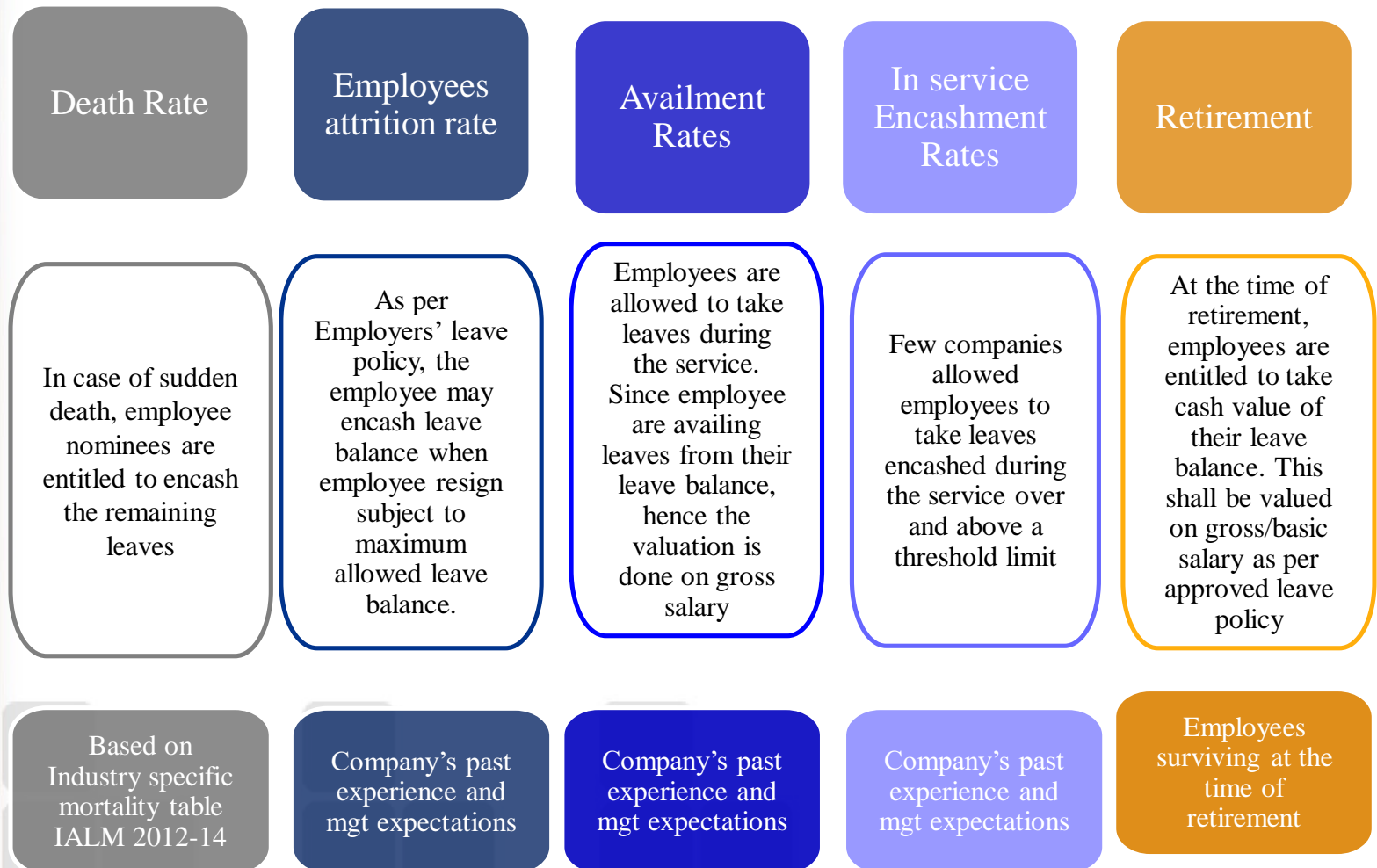**APS 27 prescribed the principles that must take into account**

Poll Question 2

In Industry, what is generally the range for Availment rate assumption?

- 0%-2%

- 2%- 5%

- 5%-10%

- 10% -20%

- More than 20%

Decrements

Death Rate	Employees attrition rate	Availment Rates	In service Encashment Rates	Retirement
In case of sudden death, employee nominees are entitled to encash the remaining leaves	As per Employers' leave policy, the employee may encash leave balance when employee resign subject to maximum allowed leave balance.	Employees are allowed to take leaves during the service. Since employee are availing leaves from their leave balance, hence the valuation is done on gross salary	Few companies allowed employees to take leaves encashed during the service over and above a threshold limit	At the time of retirement, employees are entitled to take cash value of their leave balance. This shall be valued on gross/basic salary as per approved leave policy
Based on Industry specific mortality table IALM 2012-14	Company's past experience and mgt expectations	Company's past experience and mgt expectations	Company's past experience and mgt expectations	Employees surviving at the time of retirement

Availment rates

Availment rate follows "Last In First Out" (LIFO) method

Availment rate calculates Availment from opening leave balance

For each employee, calculate
Leave outstanding (BOY) less Leave outstanding (EOY)

If negative then Availment is equal to 0.

Example:
Leave outstanding (BOY) = 10
Leave outstanding (EOY) = 16

Leave outstanding (BOY) less Leave outstanding (EOY) = -6
Hence, the employee has not availed opening leaves

Availment rate at entity level =
Sum of above for all employees * 100 / Total leave outstanding BOY

Illustration

Benefit Structure:
- Annual Leave credit in a year = 10
- Cap on annual leave encashment = 60
- Encashment in service is not allowed
- Encashment in case of exit (separation) is allowed
- Encashment is done on basic Salary
- Retirement Age is 60 years
- Days in a month = 22

Assumptions:
- Salary growth rate = 10% p.a.
- Attrition Rate = 5% p.a.
- Discount Rate = 7%
- Mortality = 0.1% per annum

Mr A joined the Company 3-Aug-2016
Date of Birth = 16-Jul-1964

	31-Mar-2019	31-Mar-2020
Basic Monthly Salary	25,000	27,500
Gross Monthly Salary	50,000	55,000
Annual Leave balance	40	38

Valuation date is 31-Mar-2020

Decrements in Cashflow projections

Availment ratio = (40-38)/40 = 2/40 = 5%

Table A

Year	Age last Birthday	Start	Death rate	Attrition rate	Availment rate	Encashment in Service
0	55	1	0.10%	5%	5%	0%
1	56		0.10%	5%	5%	0%
2	57		0.10%	5%	5%	0%
3	58		0.10%	5%	5%	0%
4	59		0.10%	5%	5%	0%
5	60		0.10%	5%	5%	0%

Table B

Year	Age last Birthday	Start	No. of Deaths	No. of attritions	No. of Availments	No. of Encashments	Inforce at the end
0	55	1.00	0.0010	0.05	0.05	-	0.90
1	56	0.90	0.0009	0.04	0.04	-	0.81
2	57	0.81	0.0008	0.04	0.04	-	0.73
3	58	0.73	0.0007	0.04	0.04	-	0.65
4	59	0.65	0.0007	0.03	0.03	-	0.59
5	60	0.59	0.0006	0.03	0.03	-	0.53

Benefits in Cashflow projections

Table C

Year	Age last Birthday	Basic Monthly Salary	Gross Monthly Salary	Death Benefit	Attrition Benefit	Availment Benefits	Encashment in Service benefit	Retirement benefit
0	55	27,500	55,000	47,500	47,500	95,000	-	-
1	56	30,250	60,500	52,250	52,250	1,04,500	-	-
2	57	33,275	66,550	57,475	57,475	1,14,950	-	-
3	58	36,603	73,205	63,223	63,223	1,26,445	-	-
4	59	40,263	80,526	69,545	69,545	1,39,090	-	-
5	60	44,289	88,578	76,499	76,499	1,52,998	-	76,499

Death benefit (Y1) = 30,250 *38 /22 = 52,250

Availment benefit (Y4) = 80,526 *38 /22 = 1,39,090

Discount rate in Cashflow projections

Table D

Discount Rate is 7% per annum which is calculated as $1/(1+i)^n$

Year	Discount rate
0	1.000
1	0.935
2	0.873
3	0.816
4	0.763
5	0.713

Valuation Formula using cashflow method

Liability is calculated using Projected Unit Credit Method

Liability $= \sum_{n=1}^{\infty}$ **Benefit amount * Probability * Discounting factor**

Present value of obligation (Liability) =
Liability arises from expected death outgoes +
Liability arises from expected attrition +
Liability arises from expected availment of leave days during service +
Liability arises from expected encashment of leave days during service +
Liability arises from expected number of retirements

Probability of event to occur

Probability of survival

Liability Calculation

Table E

Liability is calculated as **Expected Present Value**
Table B * Table D* Table C

> **Expected -> Table B**
> **Present value -> Table D**
> **Value -> Table C**

Year	Age last Birthday	Liability arises from expected death outgoes	Liability arises from expected attrition	Liability arises from expected availment	Liability arises from expected encashment during service	Liability arises from retirement
0	55	48	2,375	4,750	-	-
1	56	44	2,195	4,390	-	-
2	57	41	2,029	4,057	-	-
3	58	37	1,875	3,750	-	-
4	59	35	1,733	3,466	-	-
5	60	32	1,601	3,203	-	28,794
Total		236	11,808	23,615	-	28,794
Grand Total		64,453				

Actuarial Liability = INR 64,453/-
This is called Present Value of Benefit Obligation (PBO)

Movement from Yr(n) to Yr(n+1)

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Opening PBO at the year ended Yr (n)

(+) Past Service Cost → Liab pertaining to last year if not accounted

(+) Current Service Cost → Increase in Liab due to one year

(+) Interest Cost → Unwinding over a year

(-) Benefit Paid → Benefit amt paid over a year

(+/-) Actuarial Gain Loss

Closing PBO at the year ended Yr (n+1)

Actuarial Gain/loss is change in the liability over the year due to:
- Change in Economic Assumptions like discount rate, salary inflation etc
- Change in Demographic assumptions like mortality, attrition rate, Availment rates etc
- Experience variance e.g. More employees have resigned over the year compared to your expectation

Recognition

As per IND AS 19, long term compensatory leave valuation is categorised as "other long-term employee benefits" that are not due to be settled within twelve months after the end of the period in which the employees render the related service.

Amount recognised as liability =
the present value of the defined benefit obligation at the end of the reporting period (see paragraph 64);
minus
the fair value at the end of the reporting period of plan assets (if any) out of which the obligations are to be settled directly (see paragraphs 102–104).

Expense to be recognised in Profit and Loss account = sum of current service cost, past service cost (if relevant), interest cost, expected return on plan assets, Net actuarial (gain)/loss.
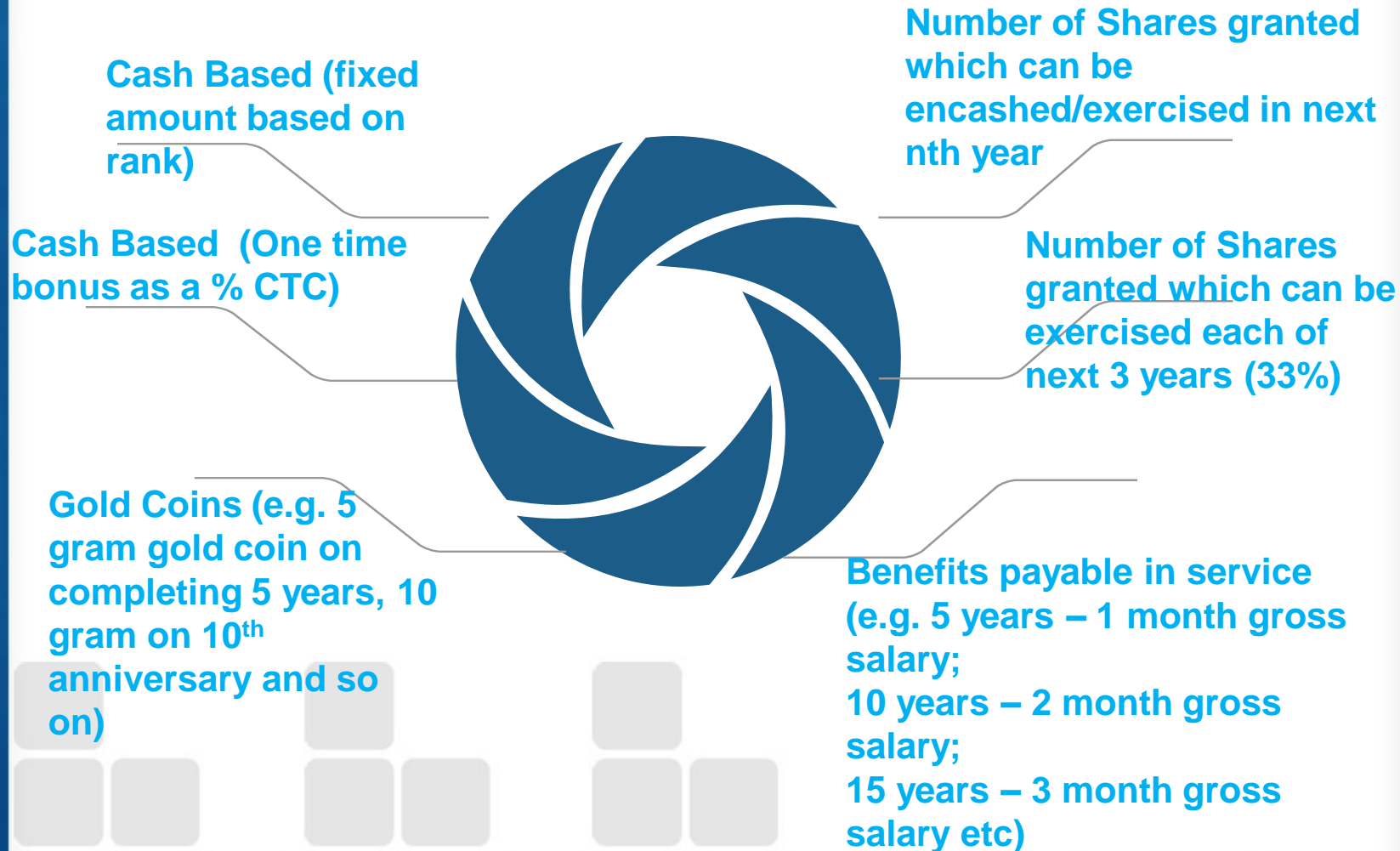
Practical Issues

- Non-availability of past years data to calculate Availment Rates

- Different leave rules for different category of employees e.g. factory versus Head office employees. Hence, excel models must be flexible enough to incorporate various benefits

<u>Impact of COVID-19 and lockdown</u>

- Employees are building up unused leave days

- Higher accumulated leaves due to lockdown and hence, liability will increase subject to maximum cap on accumulated leave days

- Few companies are altering leave policy e.g. Paytm Cancels Earned Leaves Of All Employees (upto 45 Privileged Leaves 'Vanish' From Leave Portal)

- Companies in US like Walmart, McDonald's, Apple etc have alter their sick leave policy amid Covid-19 to provide its employees with paid sick leave to allow those who feel ill to stay home.

Other long term benefits

Cash Based (fixed amount based on rank)

Cash Based (One time bonus as a % CTC)

Gold Coins (e.g. 5 gram gold coin on completing 5 years, 10 gram on 10th anniversary and so on)

Number of Shares granted which can be encashed/exercised in next nth year

Number of Shares granted which can be exercised each of next 3 years (33%)

Benefits payable in service (e.g. 5 years – 1 month gross salary; 10 years – 2 month gross salary; 15 years – 3 month gross salary etc)

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Other long term benefits

Liability = Expected Present Value

- Long term incentive plans (cash based)

Year	Benefits	Discount	Probability	
1	0	$1/(1+i)^1$	1	
2	0	$1/(1+i)^2$	0.9	
3	10,000	$1/(1+i)^3$	0.8	
4	20,000	$1/(1+i)^4$	0.7	
5	30,000	$1/(1+i)^5$	0.6	

- We may also need to consider attribution of employee current eligibility for benefit vs. total eligibility required for cash benefit.

- Long term incentive plans (share based)
    - Project share price using Black Scholes model
    - First calculate mean and variance using past performance of share price
    - Then project future share prices
    - Re-work the above table to calculate the liability

Webinar	Date	Time
Webinar on Impact of IFRS 17 on Product Design and Pricing	16 July, 2020	1600-1730
Webinar on Ayushman Bharat Scheme	24 July, 2020	1600-1730
Webinar on Risk Management	31 July, 2020	1600-1730
Webinar on IFRS 17	6 & 7 August, 2020	TBC
CIRB Part 1 - Exempt Provident Fund Actuarial Valuations-Overview of industry opinions and way forward presented by Special Task Force	18 August, 2020	1730-1900
CIRB Part 2 - To Annuity and beyond… i. Overview of Indian Annuity market and how they cater to pension in India ii. Alternatives to annuities in payout phase - Global Experience and their actuarial implications	19 August, 2020	1730-1900
CIRB Part 3 - Pensions in a low to very low interest rate environment	Mid September	TBC
CIRB Part 4 - Latest trends and impacts on ESOP design and valuations	Mid September	TBC