

22nd Current Issues in Retirement Benefits Seminar

28th August 2025

UPS Vs NPS - Actuarial Perspective and Financial Impact on Governments/PSU's

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What we will cover today

Overview and Key features of UPS

Qualitative Observations: Risks and Mitigations inherent in UPS

Qualitative Actuarial perspectives

Quantitative Illustrations: Actuarial perspectives
(Government Sponsor angle)

Quantitative Illustrations: Benefit calculation perspectives
(Employee angle)

Reflections, actuarial opportunities and group discussion

Unified Pension Scheme – the big picture



- ✓ • Defined Benefit scheme?
- ✓ • Hybrid scheme?
- ✓ • Target benefit scheme?

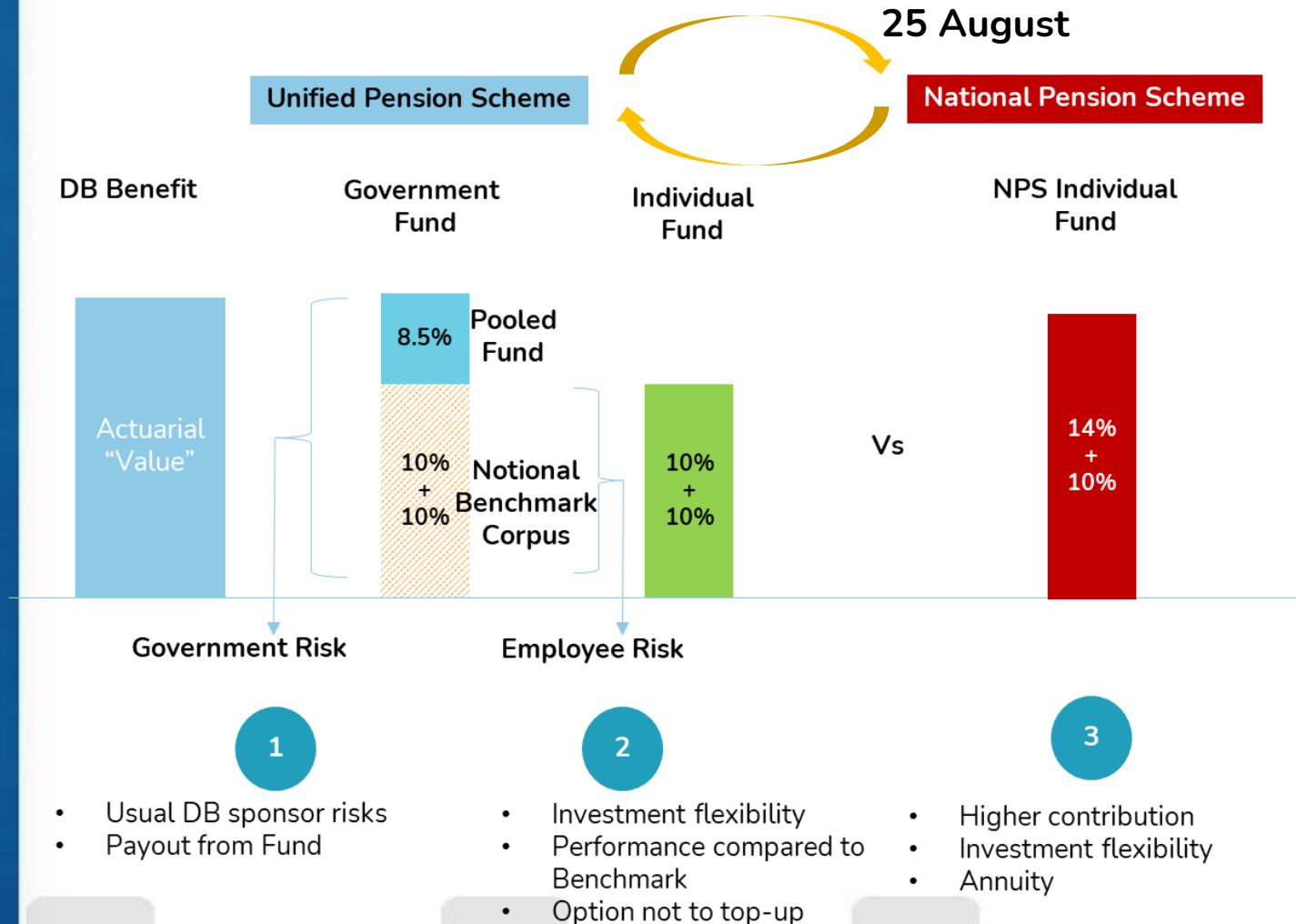
- OPS is payable from tax revenues
- UPS pre-funded system

**MODI CABINET
APPROVES UNIFIED
PENSION SCHEME**

Announced 24 August 2024
Effective 1 April 2025

Existing Employees and Retirees choice
30 September 2025

How the UPS will work



Unified Pension Scheme DB Benefit - Summary

1. NRA 60
2. Eligibility 10 year service
3. Maximum 25 years for accrual
4. Max. monthly pension 50% of 12 months average basic pay
5. Indexation in payout phase
6. Contributions on Basic + DA
7. Post 10 years, minimum monthly pension is Rs. 10,000
8. On death post retirement , 60% of employee's last monthly payout to survivor
9. Pro-rata benefits between 10 years and 25 years
10. Added lump sum $1/10^{\text{th}}$ of last drawn emoluments (Basic Pay + DA) for every completed six months of service
11. Death in service, choice of NPS or OPS benefits

What does this mean actuarially?



Actuarial Valuation Purpose: Funding Sustainability and Contribution requirements

Funding method for valuations: Aggregate method

(PV of Total Projected Benefit c.f. PV of Projected contributions plus current corpus)

Specific assumptions:

- Salary projections
- $IC < BC$ not topped up so need IC projection with withdrawals)
- Dearness Relief post retirement

Experience tracking: Ensure data obtained for retrospective vs new joiners, withdrawals timing and quantum, top ups made or not

Cashflow projections: Will aid communication with key stakeholders

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Complexity of Government salary progression

Basic Pay

Is the fixed, guaranteed amount of money an employee earns before any additions or deductions are made

Dearness Allowance

An allowance paid by the government to its employees and pensioners to help them mitigate effect of inflation

Wage Revision

On wage revision, some or all of DA gets merged into basic as well as there is addition increase in basic

Pay Band	5200-20200					9300-3	
Grade Pay	1800	1900	2000	2400	2800	4200	4600
Entry Pay (EP)	7000	7730	8460	9910	11360	13500	17140
Level	1	2	3	4	5	6	7
Index	2.57	2.57	2.57	2.57	2.57	2.62	2.62
1	18000	19900	21700	25500	29200	35400	44900
2	18500	20500	22400	26300	30100	36500	46200
3	19100	21100	23100	27100	31000	37600	47600
4	19700	21700	23800	27900	31900	38700	49000
5	20300	22400	24500	28700	32900	39900	50500
6	20900	23100	25200	29600	33900	41100	52000
7	21500	23800	26000	30500	34900	42300	53600
8	22100	24500	26800	31400	35900	43600	55200
9	22800	25200	27600	32300	37000	44900	56900
10	23500	26000	28400	33300	38100	46200	58600
11	24200	26800	29300	34300	39200	47600	60400
12	24900	27600	30200	35300	40400	49000	62200
13	25600	28400	31100	36400	41600	50500	64100

Complexity of Government salary progression



Summary of Salary Progression

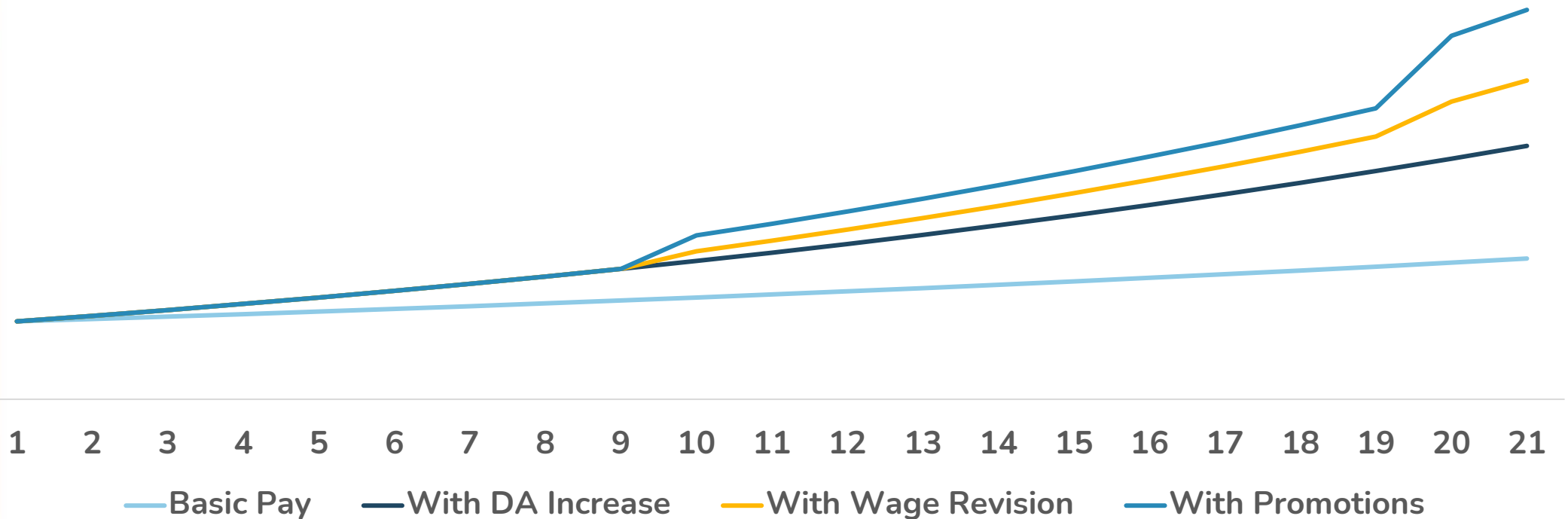


Pay is expected to increase in line with below rates over the tenure of an employee

Grade	Pay Increase Rate
Basic Salary Escalation	3.00% p.a.
DA Rate Increase	4.00% of Basic Salary p.a.
Wage Revision	Every 10 Years
Pay Revision Basic Escalation	15.00%
DA Merger	100.00%
Promotion Increase	16.00%
Promotion Year (Maximum)	Every 10 Years

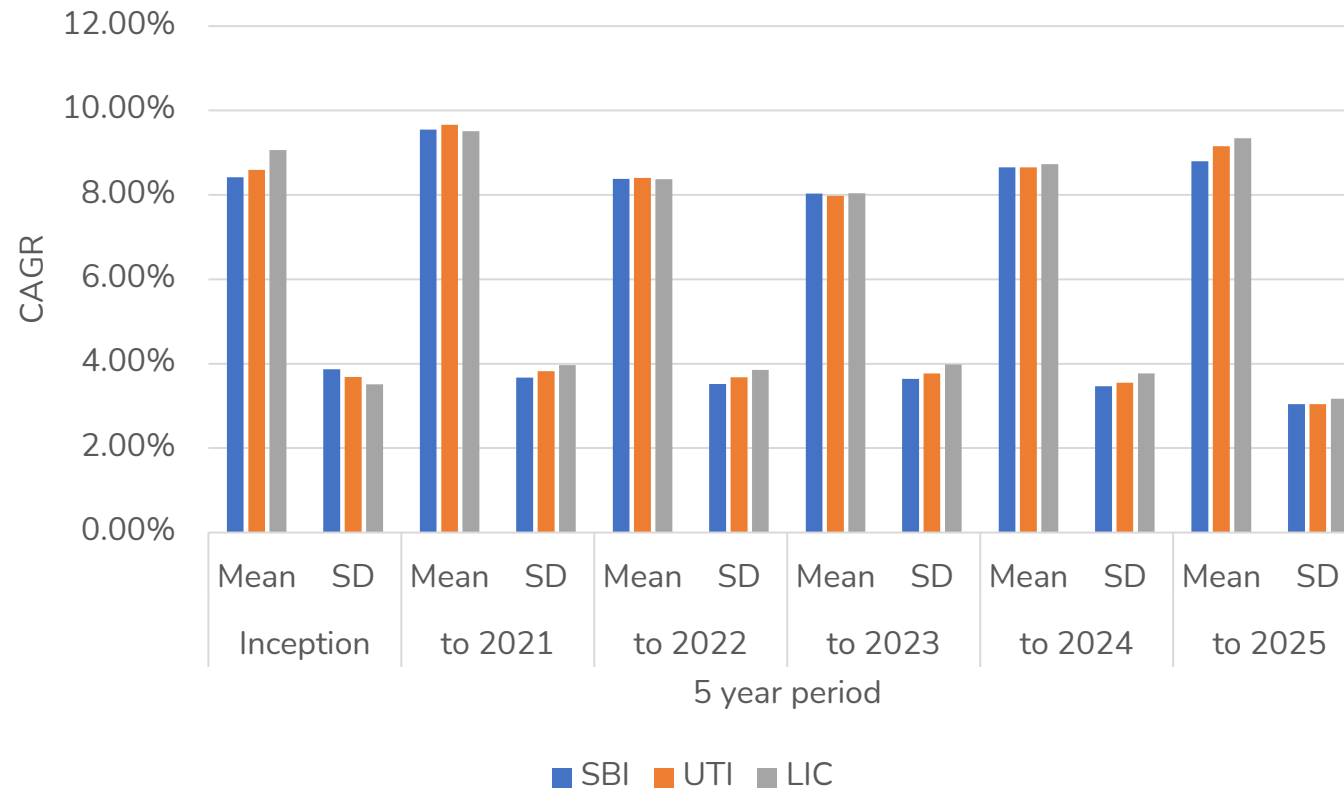
Sample Salary Progression

Impact of different factors on Salary Progression



Stochastic ERoA

NPS Daily NAVs log returns to 31 March 2025 (for CG)



Data Analysis

Collected historical NAV data.
Computed mean and standard deviation of returns.



Stochastic Modelling

Applied Geometric Brownian Motion (GBM).
Simulated multiple return paths to capture a range of potential future outcomes.



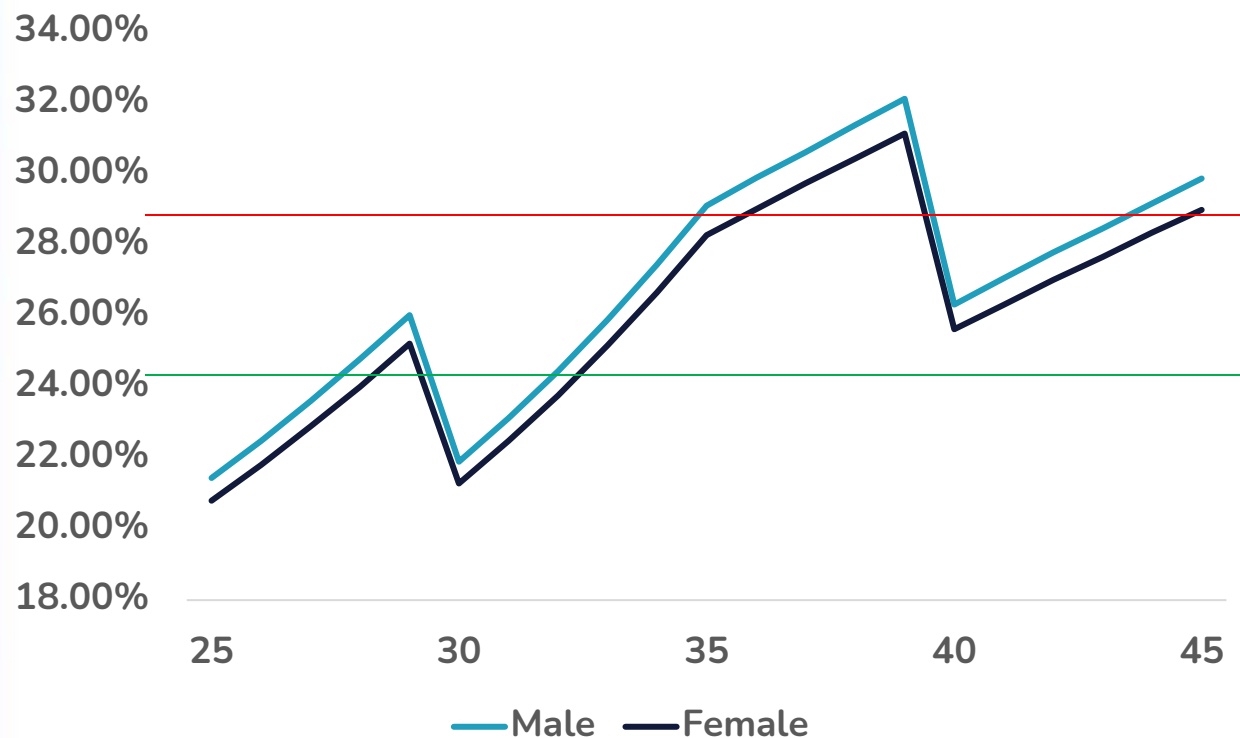
Application

Utilised simulated stochastic returns to compile scenario-based results.

Results – Entry Age Method



Recommended Contribution Rate Median from
1,000 scenarios ERoA = Discount rate



- Age difference between member and spouse is assumed to be 3 years.
- Latest available mortality tables used with an improvement factor of 10%.
- No attrition has been considered in service.
- Recommended Contribution Rate at lower ages is less than 28.5%.
- There are steep declines in the rates based on the number on wage revisions or promotions one may receive.
- Slope is slightly decreasing post age 35 as full pension is not accrued at retirement.
- These results are highly sensitive to the basic/DA escalation rate and attrition rate.
- $DR = DA \text{ rate} / \text{Discounting} = ERoA$

Employee Side

25-year-old member joining today

UPS Payout	NPS Payout
Monthly Payout after Superannuation	
Admissible Payout + DR	Annuity Payout
₹ 59,745 + DR	₹ 1,41,021
(i) Lumpsum Payout at Superannuation	
₹ 10,14,061	N/A
(ii) Final Withdrawal Payout at Superannuation	
₹ 0	₹ 0
(iii) Total monthly payouts to subscribers in retirement phase	
₹ 2,84,92,391	₹ 4,04,73,129
Aggregate expected benefits to be received by the subscriber (i + ii + iii)	
₹ 2,95,06,452	₹ 4,04,73,129

35-year-old member joining today

UPS Payout	NPS Payout
Monthly Payout after Superannuation	
Admissible Payout + DR	Annuity Payout
₹ 31,754 + DR	₹ 44,270
(i) Lumpsum Payout at Superannuation	
₹ 3,84,978	N/A
(ii) Final Withdrawal Payout at Superannuation	
₹ 0	₹ 0
(iii) Total monthly payouts to subscribers in retirement phase	
₹ 1,51,43,483	₹ 1,27,05,376
Aggregate expected benefits to be received by the subscriber (i + ii + iii)	
₹ 1,55,28,461	₹ 1,27,05,376

These scenarios are based on the UPS calculator available on <https://npstrust.org.in/ups-calculator#> assuming a 10% pa. return on corpus. NPS seems to be beneficial for a younger member, while UPS is beneficial for an older member. It considered only the amount of money and not the value of money.

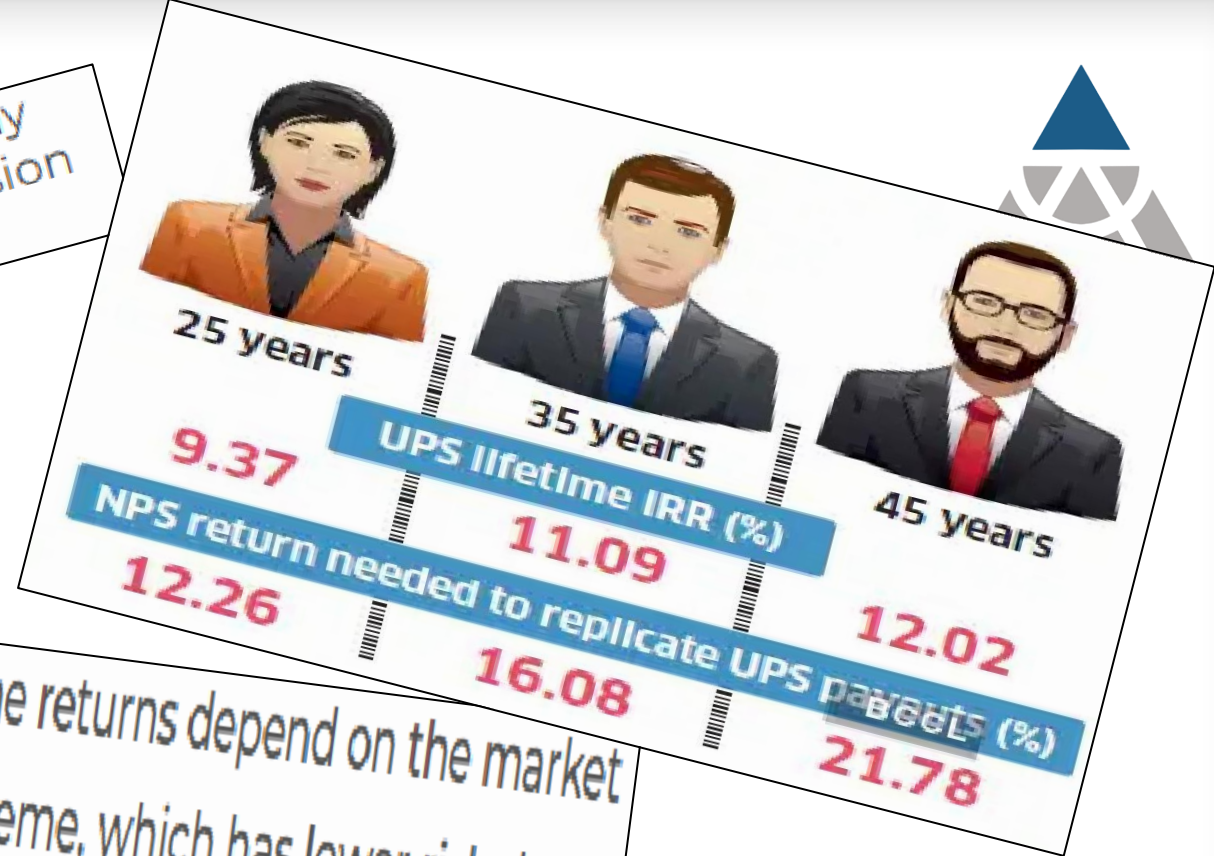
Some Newspaper Snippets

The biggest gripe with NPS is that it took away the fixed security net of the guaranteed pension under the previous 'defined benefit' regime.

NPS is a market-based investment scheme in which the returns depend on the market condition. In contrast, UPS is a guaranteed pension scheme, which has lower risk due to

UPS not a retreat from NPS but a step forward

Only 1.35% central government staff opt for Unified Pension Scheme.



Employees' choice – New entrants in particular



Complex Choice

- Income stream alone not give total picture
- Present value calculation with expectations (actuarial value) best way to assess

NPS may be better for many?

- **More likely NPS 24% contribution to corpus may be better if**
 - Younger joiners (e.g. age 20-25)
 - Anyone who may leave government service voluntarily before 10 years of service (UPS no benefit at all)
 - If one plans to take voluntary retirement at any time. Earlier ones takes compared to superannuation age the more likely NPS better. Even more stark if join before age 30 (where full pension reached age 55)
 - Wants more flexibility in post retirement corpus to choose type of annuity

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Group Discussion

A

How do we add value to the employee communications and narratives?

B

Discuss UPS sustainability and any suggestions to improve that?

Reflections, actuarial opportunities



Actuarially brings a great opportunity – PSUs are enquiring!

There will be winners and losers so not straight forward choice

Opportunity to bring stochastic modelling based recommendations

We have to advocate appropriate employee communications

Actuaries working with fund managers, CRA, PFRDA is key

Can Pay structure be simplified?

THANK YOU