

Towards estimating India's Implicit Pension Debt

Gautam Bhardwaj S.A. Dave

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Implicit Pension Debt

- What is Implicit Pension Debt (IPD)?
- Why should we measure IPD?

Components of India's IPD

- Central government employees,
- Defence employees,
- State government employees,
- Central government pensioners and family pensioners,
- Defence pensioners and family pensioners,
- State government pensioners and family pensioners,
- The funding gap in EPS.

Scope of our IPD estimates

- At present, no IPD estimates for the Indian State exist.
- We have computed the IPD for only two of these seven components – central and state government employees. And we have taken the last actuarial valuation as the IPD of EPS 95.
- Our estimates are only a part of the overall IPD of the India State.

- Demographic characteristics of government employees.
- All computations at 2004 Rupees.
- Actuarial aspects embedded in LIC's annuity prices.
- Future pension payments are outsourced.
- All existing employees will continue till age 60.
- All government employees come under NPS on 01 January 2005.
- Future evolution of wages:
 - Wage-experience profile of workers,
 - Future pay commissions.
- Discounting future purchase of annuities.

Our Conservative Assumptions

- Fresh flows of addition to the IPD freeze on 01 January 2005.
- Modest impact of future Pay Commissions at less than 2% per annum on an average.
- Use of *nominal* LIC annuity prices.
- LIC annuity prices offer only 25% survivor pension.
- Annuity prices stay constant over time.

IPD: Pension for central (civil) employees

Year of retirement	Number retiring	2004 wage (Rs.)	Predicted pension (Rs.)	Annuity price (Rs.)	Total cost - FV (Rs. crore)
2006	503,992	84,000	43,697	625,133	31,506
2011	727,971	80,599	54,659	781,955	56,924
2016	1,108,022	84,000	62,879	899,552	99,672
2021	951,621	84,000	82,080	1,174,244	111,743
2026	850,937	72,000	77,554	1,109,500	94,411
2031	528,436	74,563	104,739	1,498,418	79,181
2036	465,110	65,000	100,785	1,441,844	67,061
2041	149,435	36,000	72,830	1,041,924	15,570

IPD: Gratuity for central (civil) employees

Year of retirement	Number retiring	2004 wage (Rs.)	Predicted Gratuity (Rs.)	Total cost - FV (Rs.crore)
2006	503,992	84,000	120,166	6,056
2011	727,971	80,599	150,311	10,942
2016	1,108,022	84,000	172,916	19,159
2021	951,621	84,000	225,350	21,445
2026	850,937	72,000	213,274	18,148
2031	528,436	74,563	288,035	15,220
2036	465,110	65,000	277,158	12,890
2041	149,435	36,000	200,284	2,993

NPV of Central Government IPD

- IPD estimates are based on 5,285,523 workers.
- The NPV of IPD for central (civil) employees on account of pension is Rs.388,629 crore.
- The NPV of IPD for central (civil) employees on account of Gratuity is Rs.74,704 crore.

IPD: State government employees

Year of retirement	Number retiring	2004 wage (Rs.)	Predicted pension (Rs.)	Annuity price (Rs.)	Total cost - FV (Rs.crore)
2006	1,340,895	84,000	43,697	625,133	83,824
2011	2,643,722	84,000	56,965	814,950	215,450
2016	3,181,843	78,000	58,387	835,299	265,779
2021	3,265,364	72,907	71,123	1,017,503	332,252
2026	3,356,840	72,000	77,554	1,109,501	372,442
2031	2,372,499	62,000	87,093	1,245,961	295,604
2036	1,570,199	56,029	86,875	1,242,847	195,152
2041	706,949	41,244	83,439	1,193,693	84,388

IPD: Gratuity for State Government employees

Year of retirement	Number retiring	2004 wage (Rs.)	Predicted Gratuity (Rs.)	Total cost - FV (Rs.crore)
2006	1,340,895	84,000	120,166	16,113
2011	2,643,723	84,000	156,654	41,415
2016	3,181,844	78,000	160,565	51,089
2021	3,265,365	72,906	195,589	63,867
2026	3,356,840	72,000	213,274	71,593
2031	2,372,499	62,000	239,505	56,822
2036	1,570,200	56,029	238,906	37,513
2041	706,950	41,244	229,458	16,221

NPV of State Government IPD

- IPD estimates are based on 18,438,515 workers.
- The NPV of IPD for state government employees on account of pension is Rs.1,273,182 crore.
- The NPV of IPD for state government employees on account of Gratuity is Rs.244,738 crore.

Trends in EPS actuarial valuations

Valuation Dates	Liability in Rs.Crore	Future contributions in Rs.Crore	Future balance in Rs.Crore	Surplus in Rs.Crore
16.11.1996	55,566	44,380	12,875	1,689
31.03.1998	79,472	63,464	17,247	1,239
31.03.1999	99,246	77,736	22,242	732
31.03.2000	126,614	98,920	27,764	70
31.03.2001	98,285	65,119	33,123	(-) 43
31.03.2002	139,691	83,513	39,042	(-) 17,136
31.03.2003	159,005	90,671	49,043	(-) 19,291
31.03.2004	176,288	52,745	101,522	(-) 22,021

Summary Estimates

Component	Implicit Pension Debt	
	Rs.crore	As % of GDP
1. Central civil employees	463,464	14.92
2. Central civil pensioners		
3. Central defence employees		
4. Central defence pensioners		
5. State civil employees	1,517,920	48.88
6. State civil pensioners		
7. Funding gap in EPS 95	22,021	0.71
Total		

Conclusion

- We have obtained IPD estimates for only three of the seven components.
- The NPV of these adds up to an IPD of Rs.2,003,405 crore.
- This is 64.51% of GDP (2004-05).
- The explicit internal public debt of GOI is 84.86% of GDP (2004-05).

Thank you

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