Pension Reforms

Asian Institute of Transport Development

Objectives of Pension Systems

- To provide security against destitution in old age, when the individual is no longer able to support himself as before.
- To smoothen the distribution of consumption spending over a life span, shifting a part from the more productive years to the least, thereby spreading it more equitably over the life of an individual.
- To provide insurance for the individual against the risks of a longer than average life, disablement before reaching the pensionable age, and leaving behind dependants without support.

Need for State Interventions for providing Old-age Security

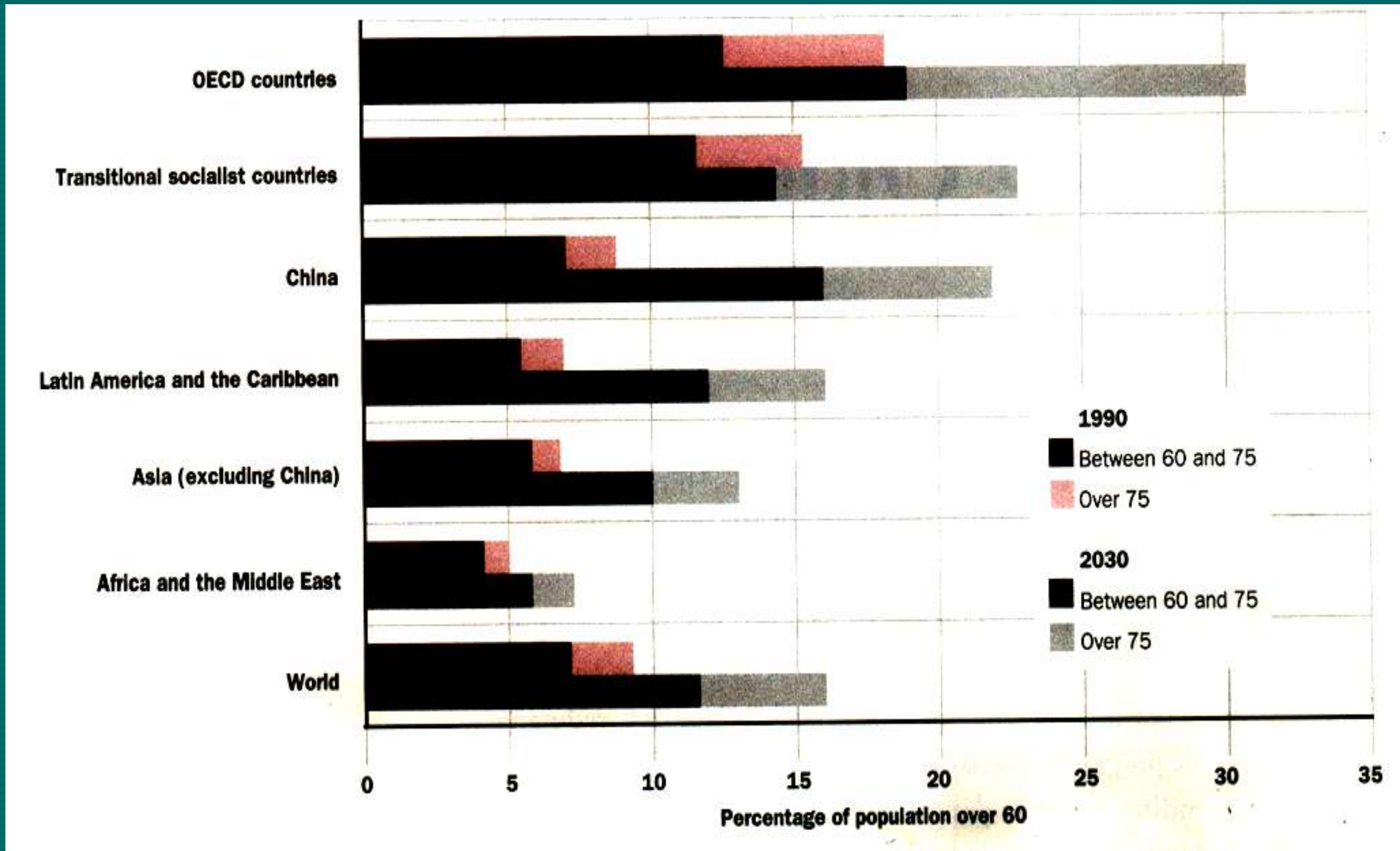
Voluntary actions by individuals remain unsatisfactory for following reasons

- **Shortsightedness: some people may not be farsighted enough to save for their old age**
- **Inadequate savings instruments: capital markets are underdeveloped in many countries**
- **Long-term poverty: some people do not earn enough during their working lives to save for their old age**
- **Information gaps: people may be unable to assess the productivity of alternative investment programmes**

A Historical Overview

- Pension schemes began in Europe in late 19th century.
- Before World War II all pension schemes provided benefits ranging from 15-20% of average wages.
- Increased financial burden on pension systems on account of generous benefits offered.
- Decline in fertility rate and a simultaneous increase in the number people over 65 years.
- Developing countries with younger populations also adopted old age pension schemes.

Percentage of Global Population over 60 Years Old



Source: World Bank

Typology of Pensions

Pension systems can be classified by three criteria:

1. How benefits are calculated?
2. How benefits are financed?
3. Who manages the system?

- Benefit calculation can be based on replacing some income level. Such systems are known as defined benefit systems. The government covers any shortfall in revenue related to expenditure.
- Alternatively, benefits can be based on what individuals contribute to the system, allowing some rate of return, compounded annually. This is known as defined contribution system. All risks are borne by the individual in the form of higher or lower pensions.

Typology of Pensions

(contd.)

- **Defined benefits are financed through either Pay-As-You-Go (PAYG) or through full funding.**
  - ➢ **Under PAYG, current workers' contributions are used to pay benefits to current retirees.**
  - ➢ **Under full funding, current workers' contributions are accumulated in pension funds and invested.**
- **Defined contribution systems are always fully funded.**
  - ➢ **People receive only what they have accumulated.**
  - ➢ **In some countries minimum pension or rate of returns guarantees are offered. These may result in some public costs.**

Typology of Pensions

(contd.)

- Defined benefits systems are generally publicly administered.
- Defined contribution systems are often privately managed, though the large national funds common in Asia and Africa are publicly managed.
- Private management of funds allows funds to be separated from the political process and hence serve the retirees interest better.

PAYG schemes and dependency ratio

Contributions rates under PAYG schemes are a function of the replacement rate and system dependency ratio. This is described in table below:

(Figures in %age)

Benefits* (%)	System Dependency Ratio					
	1/5	1/4	1/3	1/2	2/3	3/4
80	16	20	27	40	53.6	60
60	12	15	20	30	40.2	45
50	10	12.5	17	25	33.5	37.5
40	8	10	13.3	20	26.8	30
20	4	5	7	10	13.4	15

= % of average life time wages

Source: Report of Tata Consultancy Services, 1996

PAYG schemes and dependency ratio

(Contd.)

- When the pension benefit ratio is a function of **final wage**, the contribution rates increase.
- The following table indicates the contribution rates estimated for a 50% benefit rate when wages escalate 3-4% per annum.

(Figures in percentage)

Working life (years)	Retired Life (Years)			
	15	16	18	20
33	40	42	48	53
35	39	41	46	51
40	37	39	44	49
45	35	37	42	46

International Experience

- Defined benefit systems with PAYG features have caused the problem of funding.
- Many countries reneging from committed pension payment – Austria, France, Japan.
- Difference between future pension outgo and tax revenue to be 150–300 per cent of GDP of OECD countries by 2050.
- Pension as percentage of GDP in emerging economies now ranging from 3 per cent (China and Sri Lanka) to 15 per cent (Poland).
- Systems established in Latin America and Eastern Europe proved to be financially unsustainable.

Old Age Income Security in Sri Lanka

- Sri Lanka is under pressure from the World Bank to change its existing DB type civil servant pension scheme to a funded DC type scheme.
- Arrangements for other workers and individuals are inadequate or non-existent implying increasing pressure for more direct government involvement.
- A number of possible options for reform, without changing the funding basis, are possible but require wide-spread debate within the society for understanding the issues.
- Sri Lanka has a short window of opportunity during the next two decades to cope with the potentially negative impacts of population aging on the country’s economy and society.

Old Age Income Security in Bangladesh

- In Bangladesh, people over the age of 60 were 5.1 percent of the population in 2000. This is likely to increase to 7.4 percent in 2020 and 12.1 percent in 2040.
- Sources of pension finance: Govt. financed mandatory public pillar; a privately managed fully-funded and publicly regulated pillar and voluntary privately managed fully-funded pillar.
- The present pension and PF systems provide comparatively high benefits for only 2.6 percent of the working age population, mainly civil service, Bangladesh Railway, etc.
- The un-funded PAYG system for civil servants is imposing increasing burden on government's budget. In 1998, actual pension payments were Tk7.14 billion. It is expected to rise to Tk22.0 billion in 2007.

Civil Service Pensions in Thailand

- **Govt. Pension Fund, established in 1997, is a DC scheme with 1.16 million members.**
- **Applicable to government officials, university and school teachers and member of armed forces**
- **Pension benefits consist of two components:**
  - **A DB, non-contributory component financed out of budget allocations. Provides a maximum replacement rate of 60%.**
  - **A DC, mandatory component where both employer and employee contribute 3% of wages. Accumulated balances are returned in lump sum at retirement.**
- **In addition, there is voluntary DC scheme for permanent government employees.**
- **Govt. pension fund (GPF) is professionally staffed using modern investment management techniques. Control of GPF remains with the Ministry of Finance.**
- **System designed in a manner that keeps pension expenditure under reasonable check.**

Unique Features of the Indian Setting

- Demographic transition: India is the last major country in the world to experience the demographic transition. Sharp decline in the fertility rate and increase in life expectancy.
- Dependency ratio is as yet lower but is expected to increase faster than the western economies.
- Survival rates are likely to increase as per capita income increases.
- Mobility of labour leading to break down of family systems for supporting the elderly.
- Mass poverty: between 20 to 30 percent of India's population has zero savings.
- Fiscal problems of the State: the aggregate deficit of the centre and the State is around 9 per cent of GDP.

Unique Features of the Indian Setting *(Contd.)*

- Number of persons aged 60 and above is expected to rise from 54.5 million in 1991 to 113 million in 2016 i.e., a rise of 107 percent over the 25 year period.
- During the same period, total population is projected to increase by only 49 percent: from 846 million in 1991 to 1263 million in 2016.
- The share of the aged in the population will thus go up from 6.4 percent in 1991 to 8.9 percent in 2016.
- As a result of these demographic changes, large unfunded liabilities have been built up in the current pension systems in the country.
- Pension (includes GOI, state governments and EPS) is 2.35 percent of GDP.

Overview of the Labour Market in India

- As per 1991 census, approximately 75 percent of India's population lives in rural areas. The per capita income stood at Rs.13,193 (at 1997-98 price levels).
- The census estimated that the Indian labour force comprised of 314 million workers. Of these, 15.2 percent were regular salaried employees, 53 per cent were self-employed and another 31 per cent were casual / contract labour.
- The Central Government departments (including P&T, Defence and Railways), States and UT Governments employed a total work force of approximately 11.13 million, accounting for 23 percent of the total salaried employees in India. They are eligible for the full range of government's pensionary benefits including a non-contributory, indexed, defined benefit pension scheme.

The present pensionary structure for Central Government Employees

There are three main components of retirement benefits currently provided to Central Government employees in the country:

- A lump-sum gratuity, based upon number of years of service.
- General Provided Fund (GPF), to which employees contribute, also provides for a lump-sum payment on retirement. This is a Defined Contribution (DC) scheme. Each government employee is required to contribute a minimum of 6 per cent of basic pay to GPF, with no matching contributions from the government.
- An unfunded defined-benefit pension, which is paid from current revenues. The maximum "Replacement Rate" (the ratio of income from retirement benefits to pre-retirement income, after mandatory deductions) is 50 per cent of the average salary during the last ten months of the employee's service.
- Pensions are indexed not only to inflation but also to changes in the salary structure of serving employees.

Pension Expenditure (Actuals) over 1990-2000

(Rs. in Crore)

Year	Civil	Telecom	Railways	Defence	Posts	Total
1990-91	480.42	85.18	886.00	1670.12	150.31	3272.03
1991-92	582.80	102.71	1040.00	1840.07	182.28	3747.86
1992-93	700.56	117.39	1251.00	2312.77	203.64	4585.36
1993-94	817.97	142.14	1488.00	2530.76	227.43	5206.30
1994-95	933.91	156.27	1686.00	2704.13	253.41	5733.72
1995-96	1103.30	199.42	2117.00	3196.59	311.73	6928.04
1996-97	1425.04	251.77	2509.00	3682.62	384.39	8252.82
1997-98	1948.41	412.65	3509.00	4947.12	558.25	11375.63
1998-99	2803.10	451.65	4144.00	7270.28	676.76	15345.79
1999-00	3285.72	437.02	4018.00	11024.02	681.56	19446.32
2000-01 (RE)	4021	575	5167	10539	815	21,117
2001-02 (RE)	4320	685	5800	10770	835	22410
CAGR	25%	23%	21%	20%	19%	21%

CAGR: Compound Annual Growth Rate

Source: Report on Working Group on Pensionary Liability, Department of Expenditure, Ministry of Finance, Government of India, June, 2001.

Pension Bill of the Centre and State Governments

(in Rs. Crore)

Year	State Govts.	Centre	Total
1994-95	6,146	5,734	11,880
1995-96	7,813	6,928	14,741
1996-97	9,827	8,253	18,080
1997-98	11,599	11,376	22,975
1998-99	16,166	15,346	31,512
1999-00	22,679	19,446	42,125
2000-01	25,453	21,117	46,570
2001-02	28,196	22,410	50,606
2002-03	31,005	22,102	53,107
2003-04	35,279	23,629	58,908
2004-05	38,370	27,320	65,690

Rationale for Pension Reforms in India

- GOI paid Rs. 23, 158 crore as pension to its employees in 2003-04 as against Rs.5,206 crore in 1993-94.
- 13 per cent of total tax revenue of GOI spent on pension payment in 2003-04.
- Pension payment showing a CAGR of 21 percent in 1990s for central government employees.
- As percentage of GDP, it rose from 0.6 percent to 1.6 percent between 1990 and 2002.
- Rising dependency ratio in GOI: from 0.67 in 1998 to 0.85 in 2002.
- 16 percent of total tax revenue of state governments spent on pension payments in 2003-04.

Salient Features of the New Pension Scheme

- Applicable to government servants joining service on or after 1-1-2004.
- Does not cover armed forces.
- The new scheme will be a defined contribution scheme as against the present defined benefit scheme.
- Existing (DB) pension scheme and GPF will no longer be applicable for new entrants.
- Scheme contains two Tiers – Tier-I and Tier-II

Salient Features of the New Pension Scheme

Contd…

Tier-I

- It is compulsory
- Employee's contribution @ 10 percent of pay + D.A.
- Matching contribution by government
- Cannot be withdrawn during service
- Payment only at the time of exit or after attaining 60 years of age

Tier-II

- It is optional
- No ceiling on the contribution by government employees
- No contribution by the government
- Can be withdrawn at any time.

Salient Features of the New Pension Scheme

Contd…

- Funds deposited under both Tier I and II will be invested and the returns reinvested in the funds.
- Central Record-keeping Agency (CRA) and pension fund managers to be appointed.
- At age 60, the individual to purchase an annuity of at least 40 percent of the accumulated pension savings.
- Individual to receive the balance 60 percent of savings as a lump sum.
- No tax on contributions and accumulations.

Indian Railways

- Pension Scheme was introduced in 1957.
- For the purpose of accounting, pensions were charged to revenues of the year in which they were actually paid.
- With increasing number of staff, it was expected that the pension outgo would increase manifold in coming years.
- The solution was found in setting up a pension fund from April 1964 to which contributions were to be made from the railway revenues every year.
- Such a measure was essential to reflect not only the cost of the staff each year but also the potential cumulative liability or the pensionary benefits earned against each year of service. This was considered appropriate for a commercial department like the railways.

Indian Railways

Contd…

- Actuarial estimates demanded that Rs.30 crore be credited to the pension fund every year. In actual practice the appropriations were far less.
- Actuarial exercise was carried out in December 1974. It revealed a shortfall of Rs.252 crore in the pension fund at end March 1970.
- In 1981 an in-house assessment showed that the pension fund was short by Rs.203 crore.
- With the passage of time the system of carrying out periodical actuarial exercises was abandoned by IR.

Indian Railways

Contd…

- There has been a four fold increase in the number of pensioners between 1981 and 2003.
- Factors contributing to the increase in numbers are: (a) increase in life expectancy of retired employees and (b) large induction of staff in 1950’s, the impact of which was felt in 1990’s when these employees starting completing their service tenures.
- As a result the dependency ratio (ratio of retirees to working employees) is 0.63 today as against mere 0.17 in 1980-81. The burden of the serving employees to support their retired colleagues has grown substantially.
- The recommendations of the Fifth Pay Commission which provided a generous package for the pensioners has further added to the burden of the railways.

Indian Railways

Contd…

- **Other factors influencing the burden of pensionary liabilities of Indian railways are:**
  - **Falling budgetary support;**
  - **Reduction in staff strength; and**
  - **Growing competition from other modes of transport.**
  - **The share of pension payments to the gross traffic receipts has risen from 8.2 percent in 1990-91 to 14.4 percent in 2004-05**

Indian Railway Pension Fund

(Rs. in Crore)

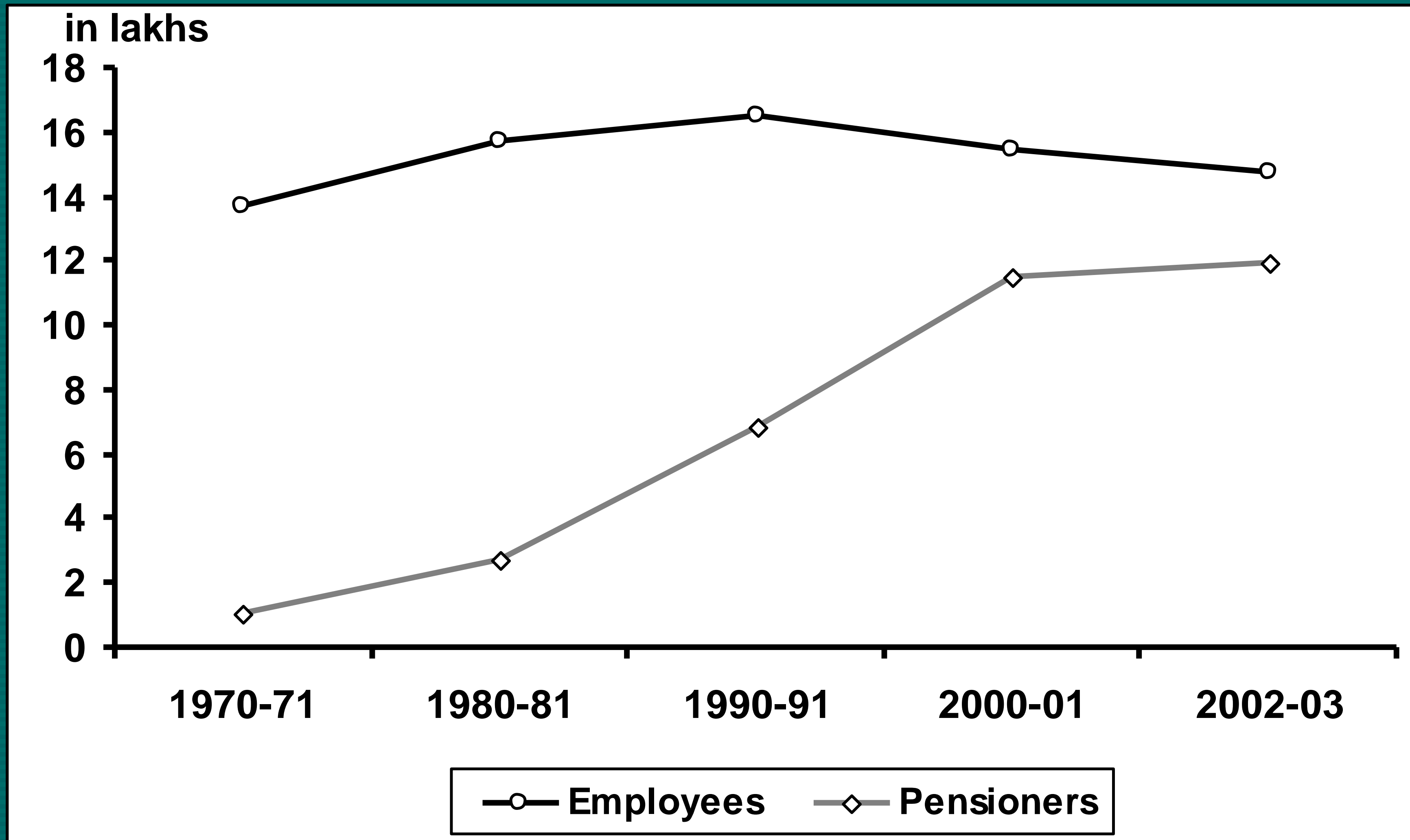
Year	Appropriation to Fund	Withdrawal from the Fund	Closing Balance
1995-96	2170	2117	771
1996-97	2714	2509	976
1997-98	3461	3509	930
1998-99	3527	4144	313
1999-00	3782	4022	76
2000-01	5046	5102	32
2001-02	5817	5384	467
2002-03	6192	5654	1006
2003-04	6446	6022	1434
2004-05 (RE)	6904	6700	1634

Estimates of Railway Pensioners and Pension Benefits (in 2000-01 prices)

Year	Staff Cost (Rs. Crore)	No. of Pensioners	Total Staff	Dependency Ratio	Avg. Annual Pension Benefit (in Rs.)	Total Pension Benefit (Rs. Crore)	Pension as per cent of Staff Cost
2001	11,885	1,10,2137	1,49,5000	0.737	46,881	5,167	43.5
2004	12,466	1,23,7137	1,40,5000	0.880	50,147	6,204	49.8
2007	13,075	1,35,6716	1,25,6000	1.080	53,640	7,277	55.7
2010	14,893	1,47,6294	1,19,6000	1.234	57,376	8,470	56.9
2013	16,963	1,47,6294	1,19,6000	1.234	61,373	9,060	53.4
2016	19,321	1,47,6294	1,19,6000	1.234	65,648	9,692	50.2
Source: Report of Expert Group on Indian Railways (2001)							

Liabilities of past employees and future liabilities to current employees for pension entitlements accrued for past service estimated at Rs. 40,000 crore. In other words, this sum if invested today would be sufficient to meet the accrued liabilities as they fall due (Expert Group Report).

No. of Employees & Pensioners - Indian Railways



Problems of Single-pillar Public Pension Schemes

- As population ages higher contribution rates (from employees, employer or both) are required for providing same benefit to the retirees.
- Employers who cannot transfer the incidence of pay-roll taxes to workers tend to cut back on employment reducing national output.
- There is separation of benefits from contribution.
- Large positive transfers of income to the first generation of retirees (since they pay only for a few years but get entitled to full benefits for their life time), and negative transfers to later generations.
- Rising costs of the systems make it difficult for the government to finance other important public activities like health, education, etc.

Implicit Public Pension Debt

- Underfunded pensions represent a future liability for tax payers. Fully funded schemes provide for liabilities as they occur.
- Because of the emphasis on current cash payments, PAYG finance hides the true long-term cost of pension promises
- The present value of the future stream of expected benefits to the workers is known as the Implicit Public Pension Debt. This is the liability of the government corresponding to the pension rights acquired by the workers.
- The size of the implicit debt depends on the coverage of the pension system, the age distribution of workers, the level of benefits and the discount rate used in the calculation.
- Implicit debt is a hidden liability. It is low in the earlier years of PAYG plans but builds up rapidly as the system matures and the population ages. This is important for policy makers.

Multi-pillar Approach to Pension Reforms

- The World Bank has advocated a three-tier approach.

Pillar 1:

- publicly managed and tax financed. Objective is to alleviate old age poverty by providing a social safety net for the old particularly those whose life time income was low.

- Benefit formula can be a flat rate (as in UK) or means-tested (as in Australia) or provide a minimum pension guarantee (as in Chile).

Multi-pillar Approach to Pension Reforms

Contd…

Pillar 2:

- **A mandatory fully-funded individual accounts systems.**
- **Based on defined contributions.**
- **Occupational plans or personal saving plans.**
- **Benefits could be lump-sum or converted into an annuity at retirement.**

Pillar 3:

- **Voluntary retirement savings for additional protection and insurance in old age.**
- **Public involvement limited only to oversight and regulation.**

A portfolio of un-funded social security wealth with a funded financial wealth could enhance welfare by reducing the income risks.

Minor Reforms

Examples of minor pension reforms:

- **Changes in eligibility criteria, such as:**
  - ➢ **Altering (more often increasing) the retirement age**
  - ➢ **Altering the service years required to qualify for a pension**
- **Changes in contribution structure:**
  - ➢ **Changing the contribution rates, mostly from employers.**
  - ➢ **Change in contribution base such as abolishing minimum income limits or increasing the maximum income limits (to maximize contributions).**
- **Changes in benefit structure:**
  - ➢ **Changes in pension formula such as decreased accrual rates or lower replacement rates.**
  - ➢ **Changing indexation formula, by changing the way benefits are indexed to inflation.**

Major Reforms

Major pension reforms are those which substantively change the system of pension provision. Examples are:

- From defined benefit to defined contribution system, or vice versa.
- From PAYG, to full funding or vice versa.
- Substantive PAYG reforms with mandatory defined contribution components.

Problems associated with major reforms

- Switching over from PAYG to defined contribution system entails transition burden.
- When the employees' contributions are diverted into their own pension accounts, these cannot be used to pay benefits to current retirees. The government has to bear the additional burden to cover the current retirees pension.
- Typical transition mechanism used in Chile, Colombia and Peru is to issue recognition bonds to workers as recognition of their accrued rights under the old system.

Problems associated with major reforms *(contd.)*

- In some countries, it is mandatory for all new workers to join the new system as in Chile. However, a few countries found it politically difficult to force this mandate.
- Government's regulatory capacity or the extent of development of domestic capital markets. Absence of secondary market for government debt and the lack of investment opportunities in domestic capital market raise concerns about where the new pension funds can be invested.
- The size of the market is also a consideration as there are strong economies of scale in pension fund administration. For these reasons, Bolivia chose to limit the available pension funds to only two agencies.

Evaluation of Different Reform Options

The best reform option is obviously the one which is most consistent with the objective of the pension systems:

- To provide workers with the means to sustain themselves when they are too old to work.
- Given the conflicting needs on the government's coffers, the pension system should be such which is fiscally sustainable in the long-run.
- It should also work to enhance capital market development and generate savings.

Evaluation of Different Reform Options

(contd.)

- **Given the political cost of pension reform, it will be preferable to undertake a reform that precludes the need for yet another reform in at least five years time.**
- **Repeated minor reforms undermine the view that the pension system provides security and certainty in terms of pension benefits.**
- **The widely held view is that the long-term solution lies in moving towards the fully-funded defined contribution systems.**

Pensions and Financial Literacy

- Consumers in most countries are generally not well informed about pensions
- For pension reform to succeed, public information on the following is essential:
  - Making the case for change
  - Explaining the features of the reform
  - Familiarizing consumers with the general structure of the pension system
  - Helping people make informed choices
- Choices may be of the following types:
  - Which of the competing funds should manage their pension assets
  - In some countries, a choice over joining the DC pension system or remain in a public DB scheme.
  - In systems with mandatory contribution, to have a choice of extra voluntary contributions.