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A SUSTAINABLE AND SCALABLE APPROACH IN INDIAN PENSION REFORM

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A sustainable and scalable approach in Indian pension reform

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Contents

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1 Why pension reforms matter

India is making sound progress on poverty elimination for those who can work. India has experienced a substantial reduction in the headcount of the poor in the period after 1993. In years to come, it is likely that Indian GDP growth, and hence rising wages, will lead to the elimination of poverty among people in their working years.

Poverty amongst the elderly is the next frontier. Poverty amongst the elderly will then become the dominant form of poverty in India, since the elderly do not work and thus do not benefit from higher wages. A parallel development of great importance is the rise in migration flows of labour, and the breakdown of the 'joint family', through which the elderly are less likely to cohabit with their children in old age.

Simple dole solutions will not work. A government program that seeks to pay a dole of Rs.25 per day to 10% of the population would incur a fiscal cost of 4% of GDP, excluding administrative costs. A more useful path is to focus on public programs that target the poor (regardless of whether or not they are elderly). However, the most effective public programs that directly target poverty are the employment guarantee schemes. These will be ineffective in reaching the elderly poor.

The only solution is a sustainable, scalable pension system. With a formal pension system, individuals would save in their working years, and thus command personal pension wealth, which would ensure they avoid poverty in old age. The two keywords that are of essence in thinking about this pension system are sustainability and scalability. It is possible to design non-scalable subsidy-based programs which work for a few people. It is possible to run unsustainable subsidy programs for a few years. These are incomplete and unsatisfactory solutions. What India needs is a framework which reaches a substantial fraction of the population, reaching into below-median incomes, for the coming 50 years. This would constitute a scalable and sustainable solution.

Pension reforms should be a centerpiece of "second generation reforms". Pension reforms are consistent with present visions of India's strategy for economic growth. Planning for old age is directly material to the empowerment and well being of millions of workers. A pension system where workers are able to manifestly see substantial levels of their own personal pension wealth is one where workers will be more comfortable in coping with the ordinary competitive processes of the economy. By augmenting the flow of savings, and by fostering high quality investment decisions, pension reforms will help India attain higher GDP growth.

Policy issues on pensions are subtle. Sound strategies in pension reforms often diverge from obvious and apparent solutions, for two reasons. First, as compared with many fields of public policy where sectoral knowledge is required for formulating sectoral policies, pension reforms is a particularly complex field involving interlocking considerations spanning the fields of finance, public finance, labour markets, macroeconomics, demographics, IT-intensive administrative procedures, and political economy. The second aspect is that there are long lags between policies and their consequences, and the consequences can be of a macro-economic scale.

Mistakes in policies on pensions can destabilise the entire economy. As compared with other aspects of economic policy, the pension sector is unusual in that mistakes in policy do not show up for a prolonged period. But when these mistakes do show up, they

can easily generate fiscal impacts in tens of percentage points of GDP. Many advanced countries - where economic policy is ordinarily executed competently in areas such as foreign trade or infrastructure - are now labouring under pension-related debt of over 100% of GDP. What are apparently micro issues in the pension sector have a disconcerting way of turning into macroeconomic challenges for the country, two moves ahead. Hence, policies in this area need to be subjected to extremely searching scrutiny, to ensure that difficulties in pensions do not derail India's growth over the next 50 years.

This is the right moment. India is at a remarkable point in its demographic transition. In the period from 2005 to 2030, a substantial decline in the dependency ratio is expected, with a large number of people coming into their working years. This constitutes a historic opportunity to create a pension system in time for these cohorts, who can be empowered to enjoy decades of life in their elderly years using personal control of pension assets. In addition, as of 2005, India now has the required institutional capacity for building sound institutions in the pension's area, which was not available in (say) 1995.

Every year lost hurts welfare. The pensions issue is unlikely any other part of public policy, in that it is extremely important to execute sound policy decisions, many decades ahead of time. An early effort in pension reforms is essential, so that sound institutions can be in place in time for young people coming into the labour force. The "power of compounding" implies that every additional year matters greatly in building up pension wealth. A person who loses an opportunity to put Rs.2, 500 into a pension account at age 20 can lose pension wealth of roughly Rs.25, 000 at age 60. Every year of delay implies that millions of people will be unable to cross the poverty line in old age.

To the extent that pension reforms do not come about today, India will face decades of difficult social and fiscal stress in coping with the consequences.

2. Existing mechanisms and their difficulties

Unlike many countries, India does not have a comprehensive population-wide old age income security system. The vast majority continues to rely on support from their children as the main means of obtaining consumption in old age. Two narrow pension mechanisms exist at present (Dave 1999, Patel 1997). They are the civil servants' defined benefit pension - which covers roughly 26 million workers - and the 'organised sector' system run the Employees Provident Fund Organisation (EPFO) - which covers roughly 15 million workers.

Table 1 Government pension payments

The numbers in this table show the annual flow of pension payments. The central number pertains to employees of central civil ministries, railways, posts, telecom and defence. As of 2004-05, this is estimated at 4.5 million workers. It excludes pension expenditure of autonomous bodies and grant-in-aid institutions, which are estimated to have 3.4 million employees.

The corresponding number for states covers an estimated 7.4 million direct employees. It does not include employees of local governments, autonomous bodies and grant-in-aid institutions, which are estimated to have 10.4 million employees.

	(Rs. crore)			(Percent to GDP)		
Year	Centre	States	Total	Centre	States	Total
1990-91	3,272	3,131	6.403	0.75	0.71	1.46
2004-05	27,320	38,370	65,690	0.96	1.35	2.31
Growth rate	16.37	19.6	181			

2.1 Traditional civil servants pension (TCSP)

The 'traditional civil servants pension' is the pension program that existed for employees of the central government who were recruited prior to 1/1/ 2004.[1] The TCSP is a pay-as-you-go defined benefit pension. It was an integral part of the employment contract for government employees. There is a minimum requirement of 10 years of service before a worker is entitled to this pension. There is no attempt at having contributions or building up pension assets, i.e. it is unfunded. The benefit promised by the TCSP is a pension which is roughly half of the wage level of the last ten months of employment.[2]

The TCSP is indexed to *wages.* There is a 'one rank, one wage' principle, whereby all retired persons of a certain rank get the same pension. Through this, pension payments are steadily revised to reflect the growth in wages. Hence, the growth in pension benefits in old age is typically higher than inflation.

The standard information released as part of the budgeting process only reveals information for *the flow* of annual pension payout, for a subset of pensioners, by both centre and states. Estimates of the unfunded liabilities, i.e. the implied pension debt, associated with workers and pensions under the TCSP are not computed and disseminated by the government.

Table 1 shows the growth in the flow of the annual pension outgo of Centre and States over the recent 14-year period. The use of a 14-year period over which these growth

[1] The TCSP for central government employees is administered by the Department of Pensions and Personnel Welfare (DPPW). The TCSP applies (with small variations) to employees of central government, state governments, local governments including municipalities, to "autonomous bodies" such as the Council for Scientific and Industrial Research (CSIR) and to "grant in aid" institutions

[2] The benefit rate is computed as 1/60 for each year of service, subject to a cap of a 50% benefit rate. In case of death after retirement, the spouse gets the full pension for 7 years, after which the benefit rate drops to 30% until the death of the spouse. There is a 'commutation provision', under which the pensioner can choose to forgo up to 40% of the pension payout for 15 years, and instead take a lumpsum.

rates are measured implies that the broad regularities are not driven by special events like the 5th Pay Commission. Over this 14-year period, while nominal GDP grew by a compound rate of 14.3%, the central pension outgo grew at a compound rate of 16.37% and the state pension outgo grew at a compound rate of 19.6%. Through this, the combined outgo went from 1.46% of GDP to 2.31% of GDP over this period.

These magnitudes - with a fast-growing expense which is already at 2.31% of GDP - highlight the fiscal ramifications of pension reforms. As emphasised in Table 1, the situation is more daunting since the publicly available statistics about the pension outgo only pertain to roughly half of the government sector employees.

2.2 EPFO

The EPFO runs two main schemes, the 'employee provident fund' (EPF) and the 'employee pension scheme' (EPS). Both schemes are mandatory for workers earning below Rs.6, 500 a month, in establishments with over 20 workers in 177 defined industries. As of 31/3/2003, there were 344,508 such establishments. EPFO data show the presence of 39.5 million members. However, many of these are dormant accounts, which come about through administrative difficulties in shifting an account from one employer to another. Independent estimates, based on the *Indian Retirement Earnings and Savings* (IRES) database, suggest that there are roughly 15 million workers in late 2004.

The EPF is an individual account defined contribution system. It uses a contribution rate of 16%. The flow of contributions in 2002-03 was Rs. l14 billion, and the stock of assets was Rs.l.03 trillion. On average, workers tend to retire with very small balances in EPF. In 2002-03, the mean pension wealth that came into the hands of a newly retired person was merely Rs.36, 000. If this money was used to buy an annuity from LIC, it would yield a pension of Rs.23 0 per month, or 9% of per capita GDP.

The EPS is a defined benefit system. It is based on a contribution rate of 8.33%). The *government contributes an additional* 1.16%. EPS was created in 1995, and it only applies to workers who entered the labour force after 1995. In 2002-03, the flow of contributions that came into EPS was Rs.48 billion, and the stock of assets was Rs.450 billion. The EPS provides a defined benefit at a rate of 1/70 of the salary drawn in the last 12 months preceeding the date of exit, for each year of service subject to a maximum of 50%.[3]

In the case of both EPF and EPS, EPFO handles all elements of the processes by itself, except for fund management which is outsourced to one external agency (typically the State Bank of India). EPFO spent Rs.4.3 billion in 2002-03, with roughly Rs. 1.5 trillion of assets under management, giving a mean expense ratio of roughly 0.3%.

Establishments covered under the EPF can seek an exemption from the EPFO for fund management and set up their own self administered fund. These "exempt funds" are required to use the identical investment regulations as the EPFO's, but at least match the

[3]Upon death, the EPS provides for a pension to the spouse for life or till remarriage, and pension to children two at a time up to age 25.

returns of the EPFO.[4]

2.3 Problems of these pension provisions

Lack of coverage is the prime difficulty with TCSP and the EPFO. These two systems cover just 11% of the workforce. Hence, the dominant fraction of the workforce - i.e. 89% - lies in the 'uncovered sector' and has no formal pension system.

2.3.1 Civil servants pension

In the case of the TCSP, the central problem has been that of fiscal stress. The pension payout of the centre and states has risen at a compound average annual growth rate of 18% over the period 1990-2004. The TCSP was designed in a world where most workers who retired at 60 were likely to be dead by 70. The value of the annuity embedded in the TCSP has gone up dramatically owing to the elongation of mortality in recent decades, particularly for the upper echelons of government employees who now have mortality characteristics comparable to those of OECD populations.

While the basic structure of a government-produced defined benefit pension is itself questionable, there are also many opportunities for making progress on parametric reforms to the detailed rules and procedures of the civil service pension (Asher & Vasudevan 2004), so as to reduce distortions, administrative complexity and fiscal stress.

The fiscal stress has been particularly acute at the state level. Some states are reported to have delayed pension payments. In 2003, the state of Tamil Nadu chose to cut pension benefits by reversing recent increases in the pension that followed as a consequence of wage hikes to existing employees. These developments have dented the perception of the TCSP as being one where benefits are defined and predictable.

Some public sector companies have defined benefit pension programs, which are likely to be under funded, and these liabilities could cascade up to the exchequer at a future date. No data about these is available in the public domain.

The information systems surrounding the TCSP are extremely weak. As highlighted in Table 1, information in budget documents about the flow of pension payments pertains to roughly half of government employees. No information is available about autonomous bodies, grant-in-aid institutions, and local government. The demographic structure of workers or pensioners is not known, which inhibits computation of India's implied pension debt.

2.3.2 EPFO

The EPFO has several shortcomings which undermine its service provision, financial soundness, and hence effectiveness as a pension mechanism:

1. While EPF is an individual account DC system, the existing rules governing EPF do not cater to steady accumulation of pension wealth over long time spans. If the observed average accumulated EPF balance at

[4]There were a total of 341.944 establishments with exempt funds as of March 2003. covering 3.751 million members.

retirement were used to buy an annuity, it yields a pension which is 9% of per capita GDP. It is difficult to reconcile this failure of EPF with the high level of the contribution rate into EPF. As observed earlier, just *one year* of contribution of Rs.2,500 at age 20 can yield pension wealth of roughly Rs.25,000 at age 60, in a properly designed pension system. The failure of EPF to build up meaningful pension wealth may be related to administrative difficulties where accounts get closed or lost across job changes. It may also reflect provisions for premature withdrawal of balances.

2. In the case of EPS, concerns have been expressed about the funding status. The 10-year interest rate fell dramatically from 13.4% on 1/1/ 1997 to 5.1%) on 18/10/2003, and some modest improvements in mortality took place over this period. However, there was no change in either the contribution rate or the benefit rate for EPS. This suggests that EPS was either over funded in 1998 or under funded in 2003. While the law mandates that an actuarial report should be produced every year, it appears that one report per year has not been produced, and several recent reports have not been released into the public domain.
3. There are difficulties of implementation and administration with EPFO's programs. The policies and the processes of the EPFO were established in the 1950s. The transformation in technology and knowledge about pension economics, that have come about in the following years, have not been reflected in a corresponding transformation in policies and processes. There are many weaknesses in the mechanisms of fund management, operational procedures faced by participants, transparency and governance.[5] Even if a participant does not exploit windows of opportunity to withdraw assets, the fund management of the EPFO yields low rates of return, and the procedural frictions faced by the participant are acute.
4. The EPFO is burdened with a complex mandate that comprises recordkeeping, administration, supervision, and regulation. This is inconsistent with a modern institutional architecture, where unbundling is favoured in the interests of transparency and competition, and regulatory functions are sought to be kept distinct from service provision.
5. The accounting systems and policies of EPFO have certain weaknesses. The lack of computerised databases spanning information from the entire country has innately led to difficulties in reconciliation. More importantly, the valuation framework used is one where we all bonds are valued at Rs. 100, regardless of market price. The "interest rate" on EPF that is announced every year is the average coupon rate on the bond portfolio. It is announced at the start of the year, which necessitates a difficult effort in forecasting interest rates during the year. There is an explicit subsidy in the form of assets of roughly Rs.0.5 trillion which have been deposited in "special deposits" with the government at an above-market rate of return (Reddy 2001, Mohan 2004).[6]

2.4 Fiscal aspects

[5] For example, account balance statements are only supposed to be sent annually, and as of 2002-03, there were 13.5 million "pending" accounts where annual statements had not been sent.

[6] The Y. V. Reddy committee has argued that a full scale reform of administrative rates can be undertaken after adequate results are obtained in terms of setting up a modern pension

The fiscal subsidies that underlie EPFO comprise four components:

1. The special deposit of Rs.0.5 trillion that is maintained by government at a above-market rate of return.
2. The contribution of 1.16% of wage that is paid by the government on behalf of workers for EPS.
3. The subsidy that is associated with preferential tax treatment, and
4. Potential payments from the exchequer in the future owing to funding gaps in either EPF or EPS.

Within the membership of EPF and the TCSP, the fiscal transfers are disproportionately captured by the rich, for two reasons:

1. Among EPF customers, recently released distributional data has shown that only 7% of the accounts have an account balance of above Rs.50, 000. As much as 83% of the EPF assets are controlled by 15% of the accounts. Hence, the bulk of the subsidy that EPF members are enjoying is being captured by the richest among them.

2. The TCSP and the EPS - both defined benefit programs - generate very different payouts for people in different income classes. Poor people are likely to die sooner. Hence, the benefits obtained by the long-lived richer workers in TCSP and EPS are much higher than those obtained by poor people.

In the case of EPS, even if EPS is fully funded, the heterogeneity in mortality implies that it constitutes a fiscal transfer from poor people to rich people because poor people die younger and consume a pension for a shorter time-period.

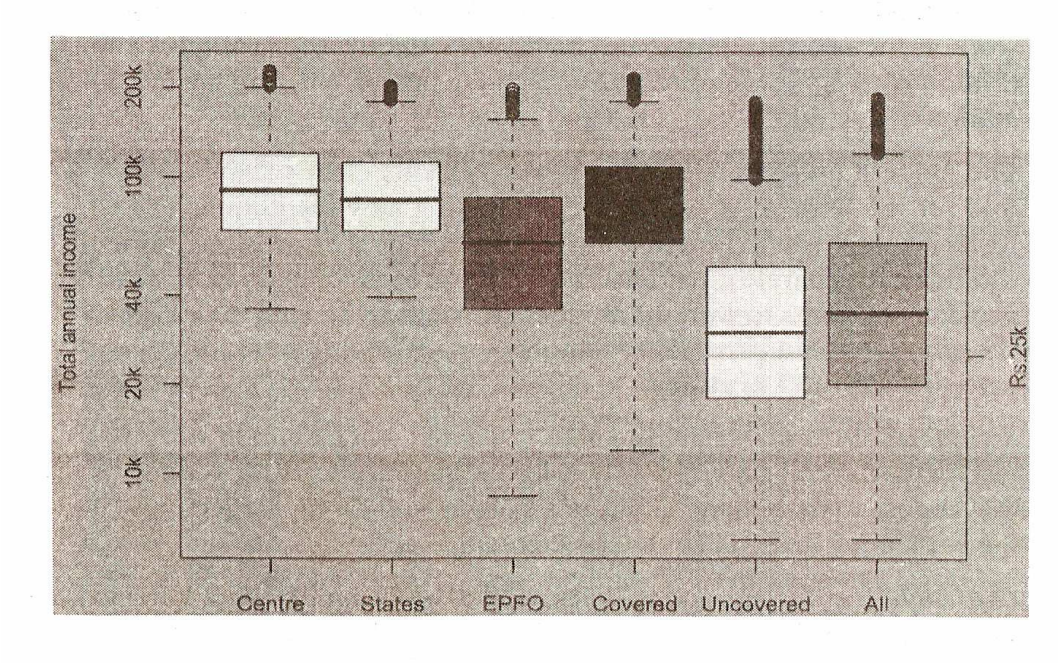
The TCSP and the EPFO constitute a regressive subsidy in favour of 11% of relatively affluent workers. As Table 2 and Figure 1 shows, the median income of the covered sector - at Rs.76, 000 - is over two times larger than the median income of the uncovered sector - at Rs.30, 000. A striking feature of this data is that the 25th percentile of EPFO customers has a higher income than the median income of the uncovered sector, and the 25th percentile of civil service employees has a higher income than the 75th percentile of the uncovered sector.

Table 2 Income characteristics of-groups of labour force (December 2004)

Group	Number (Million)	Total annual income (Rs.) 25%	Median	75%
Coverd	39.2	58,000	76,000	108,000
Central empl.	7.9	66,000	92,000	120,000
State empl.	17.8	63,600	84,000	116,000
EPFO 14.6		36,000	60,000	90,000
Uncovered	324.8	18,000	30,000	54,000
Total	364.0	19,000	35,000	60,000

Source: Indian Retirement Earnings and Savings **(**IRES) database, author's calculations.

Figure 1 Income characteristics of sub-groups of labour force (December 2004)



3 Goals of reform

The goals of pension reforms in India may be summarised as follows:

1. *Coverage:* It is highly desirable to find ways to reach the vast uncovered sector, going beyond the existing 11 % of the labour force covered by the **TCSP** and the EPFO.

2. *Sustainability:* India has substantial experience with funding difficulties, ranging from the railways pension (Mathur 1998), the Employee Pension Scheme (EPS) of the EPFO, the "assured returns" products sold by UTI, and failure of banks. Pension reforms must have the discipline of laying a sound foundation using defined contributions, where the wealth of a participant is driven purely by net asset value (NAV), and avoiding assured returns, subsidies, guarantees, or liabilities for the government.

   A pension system which is based on fiscal subsidies will lack sustainability and scalability. It may work for 10 million or 20 million workers for a decade or two. But it will not work for 100 million or 200 million workers for the lifespan of a young person entering the labour market at age 20.

   The modern understanding of pension reforms clearly emphasises a role for the State as a facilitator, in creating new institutions and in fostering their sound functioning. However, a goal of pension reforms should be to separate government from the process of making monthly pension payments to workers or citizens, over and beyond the monthly contributions paid into the pension accounts of government employees participating in a DC system.

3. *Scalability:* A scalable architecture is desired, which would work not just for the Central government but also for State and Local governments that choose to participate

in the new system, and for the larger mass of the population in the uncovered sector.

4. *Outreach:* Institutions and policies need to be designed which cater to the needs of a large mass of participants, who are expected to be financial unsophisticated, who are presently non-customers of the financial sector, engage in small value transactions, and have small corpuses of pension wealth.

5. *Fairplay **and low cost**:* The design should ensure the highest levels of transparency, competition and sound policy making.

6. *Choice:* The design should be highly transparent, and cater to individual choice, giving participants choices between multiple competing pension fund managers, between multiple alternative investment styles, and between multiple competing annuity vendors.

7. *Sound regulation:* The reform effort should create modern investment regulation, which is single-mindedly focused on maximising the welfare of participants in old age.

4 Unique features of the Indian setting

The problems of income security in old age in India are placed in a somewhat unusual setting, when compared with the experiences of the countries which embarked on pension reforms in the recent twenty years. In this section, we take stock of this backdrop, which has major implications for thinking about pension reforms in India.

Demographic transition India is the last major country in the world to experience the demographic transition; a sharp decline in TFRs only commenced in the late 1980s. In 2016, only 8.9% of the population is expected to be above 60; this fraction is expected to rise to 13.3% in 2026.

Breakdown of traditional support structures India is experiencing the breakdown of traditional support structures, where the elderly were able to live with their children and derive support from them. One important factor that has affected these traditional relationships is geographical mobility in the labour market. Workers are increasingly likely to find employment at locations which are distant from their parents.

Context of mass poverty Roughly 20 percent of India's population is in a state of poverty, and thus has zero savings. Present estimates suggest that roughly 66% of earners have an annual income in excess of Rs.25, 000, and can hence make a pension contribution of Rs.2500 per year. The remaining 33% must inevitably fall back upon government programs for the elderly poor when they reach old age.

The trend growth rate of real GDP is now around 6.4 per cent. If GDP growth continues at this rate, then within 15 years, wages are likely to grow to a point where individuals in their working years are unlikely to face poverty. In this case, poverty among the elderly may become the central issue in the analysis of poverty in India within 15 years (Rajan 2001).

Informal labour market In the 1991 census, 53% of the labour force were self-employed, and 31% were casual labour or contract workers. Only 15% of the labour force had stable, salaried jobs. Similar estimates are visible from the IRES database,

e.g. in Table 2. This suggests that the labour market is dominated by informal labour contracting.

Fiscal problems of the State From the mid 1980s onwards, India has had persistent problems with the fiscal deficit. The aggregate deficit of the centre and the states is at around 9% of GDP. This puts constraints in the face of outright transfers from the State to the elderly. Fiscal problems are particularly important in the context of pensions, where modest transfers amount to substantial sums of money.

Administrative capacity The administrative capacity of the State is limited. For example, there is no universal citizen identification number. This limits our ability to conceive of a complex pension system, which requires large-scale administrative capacity across the country.

Financial sector development In many countries,, an undeveloped financial sector inhibits modern notions of pension fund management. This is less of a problem in India, where the equity market has made major gains in recent years (Shah & Thomas 2003b). While the debt market lags the equity market in terms of institutional sophistication, India fares well in this regard also when compared with most developing countries. There is time-series evidence over 26 years suggesting that there is a robust equity premium.[7] There is a modern stock market index (Shah & Thomas 1998) with well functioning markets for index funds and index derivatives (Shah & Thomas 2003a, Shah & Fernandes 2001).

The market capitalisation of the equity and bond markets are around Rs.20 trillion and Rs. 10 trillion respectively, adding up to roughly 100% of GDP. The stock of assets of the pension sector today is just Rs. 1.5 trillion. Hence, for atleast a decade, purchases of securities by the pension system will be negligibly small when compared with the size of the securities markets. This is unlike the situation in many other developing countries, which have large pension assets and small asset markets.

Market for annuities There is a small market for annuities, dominated by Lid. There are a variety of subtle issues in the design of annuity products, and their efficient pricing (Valdes- Prieto 1998). These questions will be increasingly important in the future (James & Sane 2003).

A key concern in India concerns the variation of mortality with wealth. There is a tremendous cross-sectional variation in mortality in India, ranging from rich people who have mortality characteristics comparable with those found in OECD countries, all the way to poor people who have an expected lifespan of less than ten years at age 60. At present, insurance companies lump these together in a single pricing schedule for annuities. This generates a subsidy that flows from the poor (who die soon) to the rich (who live and consume annuities). Resolving this problem, and eliminating this cross-subsidy, will be a major area for new work by the insurance companies in the years to come.

The lack of a legacy system In many countries, the initial conditions faced in pension reforms include a large population-wide pension system, designed some decades ago. These systems generally have extreme infirmities. However, it is extremely difficult to

[7] The nominal return on an equity index from 1979 to 2005. a 26 year period, was 19.25 per cent per annum.

find the political consensus required to obtain major change.

In contrast, India does not have a population-wide pension system today. Old age security in India, today, is dominated by private transfers. The fraction of the elderly, today, receiving pension is below 10%. Hence, the political complexity encountered when making progress on pension reforms may prove to be smaller.

5 Issues in system design

With this background, we can evaluate some of the issues in pension system design in India. Our discussion is organised around the following issues:

- Is there a role for a universal, mandatory system?
- Separation of fund management from annuities Role for individual accounts
- Redistribute aspect in benefits
- Administrative complexity and cost
- Policies on premature withdrawals
- Mandatory annuitisation
- Simplicity when faced with unsophisticated participants
- Policies on fund management
- Role for guarantees
- Tax treatment

5.1 Is there a role for a universal, mandatory system?

Many countries in Europe, Latin America, etc. have adopted population-wide mandatory pension systems. These are often pay-as-you-go systems, where taxes are imposed on the young and used to pay the old. These systems appear easy to introduce with a young demographic structure, but become extremely difficult to sustain as the population pyramid matures. They have led to enormous political stress and macro-economic problems in these countries from the 1980s onwards.

Should India adopt some kind of universal, mandatory pension system? It appears that there are acute constraints in the face of such a strategy:

- If the system is a defined benefit system, there is a political risk that at a future date, a government may choose to raise benefit rates, or cut contribution rates, and thus draw upon resources from taxpayers. Given existing demographic projections, a solvent population-wide pay-as-you-go defined benefit system for India will require a steady series of policy measures in the nature of raising tax rates and/or cutting benefit rates every few years for the next 40 years. To the extent that such difficult decisions are not taken in time, the system will become insolvent.

  If there is an attempt at funding, and the system is not purely pay-as-you-go, there is greater political risk about asset management when it takes place in the framework of a population-wide defined benefit system. This is related to the problem of incentives faced by an individual participant. If an individual participant has a government guarantee of receiving a pension at a future date, there is little incentive to take interest in the governance issues and functioning of the system. Some Indian experience on such problems is described in Srinivas & Thomas (2003), where pension programs which did not have individual accounts drifted into poor

governance.

Given the enormous size of pension systems, small mistakes in handling assets and liabilities in a population-wide system could result in a fiscal impact of a few percentage points of GDP. Given India's present levels of fiscal stress, this appears to be an imprudent risk for the government to adopt.

- At present, the administrative capacity to collect mandatory contributions from the 364 million earners, spread over 3.3 million square kilometers, does not exist. For instance, at present, there is no concept of a unique citizen's identity number. As an illustration of the administrative weaknesses, in India today, income tax is only successfully imposed on around 35 million of these 365 million earners. Hence, it would be hard to enforce a population-wide program.

  The EPFO has been fairly successful in enforcing the rule which requires that each establishment with more than 20 workers should be connected up with the EPFO; yet it only covers 5% of the labour force.

- The administrative capacity to correctly pay out benefits does not exist on a population wide scale. There is a significant risk of fraud in payouts: paying out benefits to dead people, paying benefits multiple times to some individuals, etc.

These arguments suggest that a mandatory, population-wide, pension system is presently not feasible in India.

5.2 Separation of fund management from annuities

A defined benefits pension system which is based on holding adequate assets constitutes a vertical integration between two activities: of fund management in the accumulation phase, and paying annuities in the benefits phase. There is a strong consensus that these two activities should be decoupled. In the accumulation phase, contributions go into the pension account, and asset management takes place. At the end of the accumulation phase, i.e. on retirement date, the worker is left with a stock of pension wealth. At this point, annuities can be purchased from life insurance companies. This represents an unbundling of the accumulation phase from the benefits phase.[8]

A key ramification of this unbundling is the removal of guarantees about the pension that will be paid at dates deep in the future. In the unbundled architecture, a worker is not given promises at age 20 about the magnitude of pension payments. The worker embarks on accumulating pension wealth, which evolves as a function of his lifetime wage trajectory, contribution rate, and asset management outcomes. Promises about monthly pension payments are only crystallised at retirement date (roughly age 60), based on the tangible conversion of a visible stock of pension assets into a flow of annuities, based on mortality projections and interest rates that are *then* prevalent.

For a worker born in 1980, this is the difference between pricing an annuity in 2000

[8] This is perhaps analogous to questions in the electricity industry, where there is a choice between vertically integrated electricity companies, as opposed to unbundling of generation, transmission and distribution. Similarly, the telecom industry has been unbundled into local telephony, long distance, etc.. and consumers are able to mix and match multiple vendors operating in each of these markets.

(when he is age 20) and pricing an annuity in 2040 (when he is age 60). In the former case, the insurance company is forced to take a stand in 2000 about mortality and interest rates that will prevail between 2000 and 2040. The large uncertainty faced in these projections will force the insurance company to charge prices that are adverse to the customer.[9] A prudent implementor of the funded defined benefit system will have a bias in favour of (a) investments in government bonds, and (b) pessimistic projections about the decline in mortality in the future (i.e. forecasts which project a very rapid decline in mortality). These biases will make the pension system an expensive source of old age income security. They will hurt the extent to which the pension system can produce income security, at the price of small per-day contributions that are accessible to the poor. In addition, the worker is forced to suffer the credit risk of the insurance company, i.e. the significant risk that over the 40-year horizon, the insurance company might cease to exist.

There are two aspects where the defined benefit system is attractive; both pertain to the extent to which exposure to risk factors is adopted. The first issue is the problem of the investment risk that has to be borne by participants in an individual account system (Alier & Vittas 1999). A defined benefit system may offer a mechanism for risk sharing, thus reducing the risk borne by an individual. The second issue is about decision making in fund management. A defined benefit system is likely to place decisions in the hands of finance professionals, who would be less likely to suffer from poor returns owing to low exposure to systematic risk factors, when compared to the decision-making of many individuals.

These are important arguments. However, they presuppose an environment in which a defined benefit system is run with sound policy formulation and governance. It may prove to be difficult to create such an environment in India. The existing evidence on the functioning of defined benefit systems in India reveals problems in governance and policy formulation (Srinivas & Thomas 2003). It is possible to envision political pressures in favour of generous benefits and low contributions, and policy formulation which imposes liabilities upon the State.

There is another dimension in which simplistic defined benefit systems (such as India's EPS) can yield unsatisfactory outcomes: this is on the question of regressive transfers. The value of an annuity varies strongly with longevity, which is longest for the wealthy and well-educated. Hence, the NPV of a stream of benefits until death is the highest for the wealthy and well educated (World Bank 1994, Lillard et al. 1993). This is particularly the case in India, where life expectancy for the rich is comparable to that seen in industrialised countries, while overall life expectancy at birth is just 65 years. A promise of a pension of Rs. 1000/month at age 60 is much more valuable for a rich person, who has high life expectancy, as compared with a poor person, who is likely to die soon. Hence, many defined benefit designs can become a mechanism for transfers from the poor to the rich.

For these reasons, a key aspect of a modern pension architecture is the decoupling of the accumulation phase, where the employee is working and requires fund management services, from the benefits phase, where the pensioner requires a life insurance company to sell him an annuity. In the accumulation phase, the pension system is focused

[9] To some extent, mortality projections in India can be made by assuming India will replicate the experiences of other countries in the decrease of death rates. However, there is an innate technological risk about these projections, since improvements in biomedical science and technology could possibly improve longevity considerably in the coming decades.

on collecting contributions and managing funds. In the benefits phase, the pension system is about paying out annuities. This separation has a considerable impact upon the institutional architecture of the pension system. It involves insurance companies and in the benefits phase, but not in the accumulation phase.

The question of separation between accumulation and benefits is related to the problem of regulatory structure. If pensions were to take place with defined benefits (i.e. assured pension payouts in retirement), then there is a close link to actuarial calculations through the accumulation phase. However, decoupling accumulation from benefits using a defined contribution system has an impact upon the regulatory structure. For four decades, the employee would be purely in the accumulation phase, and here the focus of the pension system is on fund management and not insurance. It is upon retirement, where a lumpsum has to be converted into an annuity, that the employee finds a need for an insurance company.

This suggests a role for a separate regulator for the pension system, which deals with all problems of the pension system, from the date that a person embarks on his labour market career, until the date that the annuity is purchased. At retirement date, there is no 'pension system', but the benefits part of the pension business is conducted by plain life insurance companies.

5.3 Role for individual accounts

We now turn to the notion of an individual account, defined contribution system without defined benefits, which places significant choices in the hands of participants on questions such as risk exposure or choice of fund manager.

The key appeal of individual accounts is the sense in which individuals interpret their account balances as personal wealth. This reduces the free rider problem, and encourages individuals to take interest in questions of governance and policy formulation in the context of the pension system. As long as individuals do face choices on the questions of risk exposure and the choice of the fund manager, individual accounts appear to require reduced inputs in terms of sound governance, and face lower political risk.

At the same time, an important concern with individual accounts, and the idea of placing critical asset management choices in the hands of individual, is the question of financial literacy. Individuals may face two kinds of choices: between asset classes, and between fund managers.

- *Choosing asset classes.* There is a real risk that individuals may choose to completely avoid portfolio volatility, and thus obtain poor consumption in old age.[10] This issue has a peculiar twist in an environment with mass poverty. Given sufficiently small contributions, high investments in equity offer the highest probabilities of avoiding poverty in old age (Thomas 1999). However, the poorest participants are likely to have the least financial literacy, and are likely to not expose themselves to asset price risk.

[10] Several recent papers have looked at this question in the context of industrialised countries (Whitehouse 1999. Lillard & Willis 2000). These studies find that individuals do seem to often lack the knowledge that is required in consciously exposing themselves to asset pricing factors.

- *Choosing between fond managers.* The same question of knowledge in the hands of individuals is also important when it comes to making choices between fund managers. Researchers equipped with econometric models have found it difficult to choose a fund manager who fares well, out of sample. Hence, this selection would be even more difficult for unsophisticated participants of the pension system.

  Investors are often seen as not being sensitive to expenses and fees on the part of fund managers. In countries such as Chile and Argentina, there have been concerns about excessively high sales expenses by pension fund managers.

  In this situation, there may be a case for the pension system to be designed in a way which helps curtail fees and expenses. The OASIS committee has proposed the selection of pension fund managers using an auction focusing on identifying the fund managers who promise the lowest consolidated pre-committed fees and expenses. It has also proposed the mandatory use of index funds, which assists this goal.

  In addition, to the extent that the pension system design reduces the frictions faced by customers in comparing the performance of multiple fund managers, and switching from one fund manager to another, this would improve the pressures upon fund managers to reduce costs and improve performance.

5.4 Administrative complexity and cost

A major problem with an individual account system, particularly when contributions or account balances are small, is the question of administrative overhead and transactions costs (Whitehouse 2000, Murthi et al. 1999).These questions are particularly important in the Indian setting, where the average contribution and the average account balance would be among the smallest in the world. Hence, in India, large transactions costs could adversely affect pension accumulation.

This aspect has a major impact upon a wide range of policy questions in India. Many systems and institutional designs which work well in OECD countries are not feasible in India, owing to the use of in efficient structures which impose costs that cannot be sustained given the small value transactions and balances in India (Shah & Thomas 2003c). For example, in the securities markets, India's NSE and BSE are ranked #3 and #3 in the world by the *number* of trades per year, even though the dollar value of turnover at NSE and BSE is small by world standards. This aspect imposes a constraint upon policy formulation in India, in favour of better thought out institutional structures which impose low transactions costs, and the extensive use of information technology as a way of efficiently engaging in a high volume of small value transactions.

How could transactions become cheaper? James et al. (1999) suggest that the most important vehicles for keeping costs low are: (a) constrained portfolio choice, using passive management, and (b) reduced sales expenses. The OASIS committee had proposed that centralisation of recordkeeping, at an agency called the Central Recordkeeping Agency (CRA), could yield significantly lowered transactions costs. This has been the experience of countries like Mexico, Sweden, etc. The simplification of product offerings, which was proposed by the OASIS committee, would help lower transactions costs.

The CRA, as envisioned by Project OASIS, constitutes public infrastructure aimed at reducing transactions costs. It would be a central agency which would have data about

the pension accounts of all participants in the system. Contributions would go to the CRA, as would instructions for switching from one investment product to another. The CRA would compute net fund flows in or out of every investment product, and do a single net settlement with respect to each investment product. This would drastically simplify the activities of the asset manager, who would merely to have to deal with one CRA for the purpose of receiving or paying out cash.

Central recordkeeping indirectly impacts upon costs by giving greater *competition* in pension fund management by making it easier for employees to switch between fund managers. This is in contrast with existing mutual fund or insurance products in the country, where there are significant barriers in the way of easily switching between fund managers. Ease of switching obviously tends to be unpopular with finance companies. However, from a policy perspective, it is a key element of a pro-competitive policy posture.

5.5 Redistributive aspect in benefits

The benefits of a pension system can be designed so as to have a redistributive component. For example, Chile has a principle of "topping off' the accumulation upon retirement for the individuals who have assets below a certain threshold.

These schemes rely on a soundly implemented, unique citizen identity number. Otherwise individuals would have incentives to open multiple accounts and receive enhanced benefits. This style of fraudulent behaviour is particularly relevant when we think of an individual account system where individuals (as opposed to firms) directly interact with the system. Hence, it appears difficult to have a redistributive aspect in pension system design in India.

From 2004 onwards, a major institutional development has commenced in the form of the SEBI "MAPIN" database, which is managed by NSDL. MAPIN is a database of all individuals involved in the financial sector, required by SEBI in order to engage in market surveillance and enforcement activities. This database uses biometrics (fingerprints and photographs) to ensure that no one individual has more than one account. Once these procedures are proven, and costs come down adequately, they could be scaled up on a population-scale for the pension system. Once this is done, it may be possible to think of a "topping off concept, where the poorest participants in the pension system are given a State subsidy when they emerge at age 60 with deficient pension assets despite a lifetime of steady accumulation. It may be possible to design such a subsidy to have low fiscal costs and minimal moral hazard. However, such questions lie well into the future, given the nascent stage of implementation of MAPIN, and India's present fiscal crisis.

5.6 Policies on premature withdrawals

Many low income participants in a pension system face extreme credit constraints. When faced with consumption shocks, they find it difficult to obtain credit in order to do consumption smoothing. When faced with such exigencies, it appears reasonable to seek some ways in which pension wealth can play a greater role in such consumption smoothing.

Pensions systems are normally focused on building pension wealth on retirement date.

This implies a rule set that prohibits premature withdrawals. In other words, it makes the pension wealth illiquid and inaccessible until retirement date. For many individuals who are potential participants in a pension system in India, credit markets are inaccessible when exposed to consumption shocks. If the pension system offers no possibility of premature withdrawals, then it becomes relatively unattractive (Walliser 1999).

In India, we have one extreme example in the EPF experience, where withdrawals are permitted. EPF uses a tax treatment where contributions, asset returns and premature withdrawals are all tax-free. This has given an outcome with a high rate of withdrawals. This is a polar case which should clearly be avoided.

A rigid prohibition of 'premature' withdrawals also faces problems when faced with highly heterogeneous mortality in the country. There are low income persons in the country who are unable to engage in physical labour at 50, and have an expected lifespan of 15 years more beyond this age. Such individuals would not be well served by a pension system which forces their pension wealth to be illiquid until age 60.

These arguments suggest that the design of a pension system for India should seek to avoid complete illiquidity of pension assets. Certain tradeoffs in favour of early withdrawal do need to be designed for.

5.7 Mandatory annuitisation

In many countries, pension regulations require a certain degree of mandatory annuitisation. This is partly motivated by the moral hazard that is implicit in the existence of an extensive safety net (Walliser 1999). Individuals who run through their pension wealth "too quickly" can count on falling back upon poverty alleviation programs, or minimum pension guarantees, which are offered by the State. This generates private incentives to annuitise too little. In addition, not annuitising gives workers greater flexibility in terms of bequeathing to children,[11] starting a small business, buying a house, etc.

These concerns are not yet prominent in India. The poverty alleviation programs that presently exist pay subsidies to the elderly of around $5 per month, so they are not very significant. The mandatory annuitisation debate is hence primarily about a paternalistic argument, where a worker is not trusted to make prudent decisions about his pension wealth from retirement date till death.

The fledgling market for annuities in India has little experience or sophistication in dealing with the problems of adverse selection. A pension system which required some kinds of mandatory annuitisation would yield diminished problems of adverse selection for annuity providers.

5.8 Simplicity when faced with unsophisticated participants

Given a large mass of unsophisticated users of the pension system that we expect in India, simplicity is a key goal. In addition, design choices which favour simplicity tend to be associated with lowered transactions costs. For example, the Thrift Savings Plan, which is used for civil servants in the US**,** faces a fairly well educated set of participants.

[11] There is some evidence which suggests that parents who annuitise more are likely to obtain less care from their children in old age.

However, it has obtained considerable cost reductions in the implementation of individual accounts by placing restrictions upon flexibility and choice.

A focus on financially unsophisticated users sometimes leads to a design that appears restrictive and paternalistic. Many observers have criticised these kinds of design choices, comparing them unfavourably with the unrestricted product innovation of the mutual fund industry. However, pension system design has to plan for a very different user base, as compared with those that self-select themselves for buying existing mutual fund products. As a first approximation, the pension system is about the non-customers of the mutual funds, since people who are able to use mutual funds and plan for their old age by themselves are less in need of a formal pension system.

The goal of simplicity is assisted by having a small set of choices, with special efforts to make it easy for unsophisticated users to engage in performance comparisons. The OASIS committee has envisioned three standardised product types and a small number of (say) six pension fund managers. This would give a simple 6×3 table of performance that can be easily understood by a relatively unsophisticated person.

5.9 Policies on fund management

A core principle in financial economics is the relationship between risk and return, whereby asset classes which experience greater year-to-year volatility are likely (on average) to obtain higher returns. Fairly small differences in average rates of return are magnified by the multi-decade horizons encountered in pension investment. Hence, a key goal of sound asset management for pensions is to have exposure to portfolio volatility over multi-decade horizons.

The empirical evidence in India, from 1979 to 2005, suggests that the long-run average return on the equity index has been around 700 basis points above GOI bonds. This difference in average returns is called 'the equity premium'. India's experience is broadly consistent with the empirical evidence with the performance of the equity index in dozens of other countries, over long time periods (Siegel 2002).

At the same time, no two individuals have the same risk tolerance. Optimal decisions by individuals involve altering risk exposure through the life cycle. In order to enable these optimal strategies, the pension system should give individuals *choices* about what level of asset volatility they accept. There are many governance difficulties which flow from a framework where a *committee* makes choices about the risk that a worker has to bear. Hence, the choice about asset allocation is best placed into the hands of the individual participant in the pension system.

Index funds are a particularly convenient investment vehicle through which the equity premium can be harnessed (Shah & Fernandes 2001). They focus on capturing the equity premium, without entering into the complexities of choosing an active fund manager, paying the higher fees of active management, and building the regulatory capacity for coping with active fund management.

There are important links between globalisation and the pension system. Global diversification of pension assets yields superior diversification; pension fund managers should not have all their eggs in any one basket. International diversification of pension assets is hence in the best interests of employees in the pensions system.

When India embarks upon large-scale pension asset management, with international diversification, this could induce large outward flows of capital. These could induce stress for the balance of payments and the currency regime. India has yet to fully resolve the difficulties of formulating a currency regime (Patnaik 2005) and establishing a policy framework required to support substantial capital flows (Shah & Patnaik 2006 (Forthcoming). This may raise difficulties for implementing international diversification for the pension system. Innovative alternatives, such as the 'pension swaps' proposal of Zvi Bodie and Robert Merton, could be adopted to overcome these difficulties (Bodie & Merton 2002).

In addition, there is considerable knowledge on pension fund management among the best pension fund managers outside India, particularly in the context of internationally diversified asset portfolios. In India, the mutual fund industry has sound skills which are directly applicable to pension fund management in a defined contribution system, with modern investment regulation. It is in the area of internationally diversified portfolio management that there is a lack of knowledge amongst fund managers in India. In order to overcome this problem, an in order to foster the highest possible levels of competition, it is important to bring international experience and expertise to bear upon pension fund management in India. This would help offer better choices to employees, and speed up the institutional development of the pension sector.

5.10 Role for guarantees

It is likely that there will be calls for guarantees in connection with India's pension system (Shah 2003, Pennacchi 1998). India's experience with UTI has been a valuable learning ground for the downstream ramifications of promises about future returns. Indeed, this is a central difficulty with defined benefit pension programs. It appears easy to think of "modest" guarantees that are unlikely to be invoked. However, when modest guarantees are carefully priced, they prove to be quite expensive.

The modest and feasible path that can be explored is to create guarantees using financial derivatives. In this framework, individuals in the pension system would have choices about what guarantees are purchased, and would pay for the guarantees that they choose.

India has had considerable success with the onset of equity derivatives trading. These instruments can be used for producing guarantees on equity investments (at a price).

India has embarked on the creation of an interest rate futures market. This market presently faces many regulatory constraints. When these problems are resolved, and the market attains liquidity, it can be used to produce guarantees on fixed income investments (at a price).

Investments in equity and debt markets outside India are generally likely to go to countries that have strong derivatives markets. Hence, it should be possible to use derivatives markets in those countries for the purpose of producing guarantees also. For this reason, to the extent that the Indian pension system invests in overseas assets, the problem of producing guarantees (if desired) is eased.

5.11 Tax treatment

India has had a tradition of 'EEE' treatment of "pension" investments, such as PPF and

EPF, whereby contributions, accumulations and benefits are all tax-exempt. This is unsatisfactory from a public finance perspective, since all income should be taxed atleast once. In addition, the existing tax treatment of PPF and EPF is particularly unsatisfactory given that these programs do allow early withdrawals, so that they do not effectively constitute pension investment. An EEE treatment, coupled with early withdrawal, effectively constitutes simple tax avoidance.

Two alternatives to EEE which are attractive are TEE and EET. A TEE treatment is simple and attractive, where income tax is computed without any exemption clauses, but the pension system is free of all tax considerations after that. An EET treatment appears to attract participation in the pension system by back-loading taxation. However, a EET system is more credible in the eyes of households, since a TEE system runs the risk that some decades in the future, when money is leaving the pension account, a future government might choose to tax it.

When thinking about the new pension system, the argument is sometimes made that it has to also use an EEE tax treatment, in order to be competitive in the eyes of consumers who have choices between alternative avenues. At the same time, it is important to design a fiscally responsible pension system, where the rule set would be consistent with sound principles of public finance, and yield stable institutions over many decades. Any new pension system which does not use a EEE tax treatment will be disfavoured today, when compared with EPF and PPF. Yet, if a new pension system used an EEE framework today, it would be hard to bring back taxation at either entry or exit at a future date. Hence, from a long-term perspective, it appears to be useful to put the new pension system on a sound foundation by not using EEE tax treatment, and simultaneously work on improving the policies governing EPF and PPF.

From the viewpoint of the functioning of the CRA, the tax treatment of accumulation is a very important problem. From a recordkeeping perspective, there is considerable cost and complexity in tracking accumulations so that they can be effectively taxed. If accumulation is tax exempt, then this simplifies the problem of creating the CRA. At the same time, once a CRA embarks upon a EET pension system, this assumes that at all future dates, no future government will introduce taxation of accumulation.

6 Pitfalls

Many alternative designs of a new pension system, based on individual accounts and defined contributions, can be articulated, which would roughly achieve the above goals. For example, it is easy to envision systems like the **US** 401(k) program, which are decentralised systems through which pension fund managers interact with employers. Such decentralised

pension systems have run into difficulties in many countries, primarily on the issues of fees and expenses of fund managers, and the extent to which uninformed customers are able to exert competitive pressure on fund managers. By the late 1990s, there was a considerable consensus about the need, in Indian pensions policy thinking, to focus on solving the two major problems which could surface when building an individual account DC system in India:

- *Grand total payments from the pension system participant to finance companies*

The financial industry imposes a wide variety of fees and expenses upon the participant of the pension system. Under certain assumptions, these payments can amount to numbers as large as 33% of the total pension accumulation.

These problems are closely related to the difficulty where pension system participants are likely to be financial unsophisticated, and can often be persuaded to part with substantial payments to finance companies in terms of fees and expenses.

The international experience in pension economics suggests that while the introduction of private pension fund managers in the 1980s worked very well in some respects, the major gap in the design of pension systems of the 1980s was their lack of focus on controlling the total resource flow from the pension system to finance companies. This has motivated fresh efforts, all over the world, in devising new elements of design which would cope with these problems.

- *Transactions costs associated with small value account balances and small value transactions*

  India differs from almost all other countries, where pension reforms have been undertaken, in that we expect a large mass of pension system participants to do small transactions and to have small balances. This places new demands on the design of the pension system.

  If the cost of a money order is Rs.12, and if a participant contributes Rs. 120 into a pension account, then the transaction involves an overhead of 10%, which is completely unacceptable.

  The challenge in Indian pension policy consists of finding innovative design strategies through which these transactions costs can be controlled. The impact of pension reforms in India - measured by the sheer number of households who stand to gain from a modern pension system -will be defined by the extent to which a sound pension system design is able to support small value transactions and small value balances.

6.1 How many people in the uncovered sector could meaningfully participate?

As shown in Table 2, earners in the uncovered sector has an income distribution with the following characteristics: 25% are below Rs. 18,000 per year; half are below Rs.30, 000 per year and 75% are below Rs.54, 000 per year.

It is likely that a contribution rate of Rs.10 per day, or Rs.2, 500 per year, can deliver significant pension wealth. In order to estimate the characteristics of the target audience in India, we apply three tests in the IRES database:

1. We focus on the uncovered sector, i.e. those who are not members of EPFO today and are not in the civil service,

2. We restrict ourselves to earners below age 40, and

3. We restrict ourselves to earners with an annual income of above Rs.25, 000.

As of late 2004, there were roughly 95 million people who met these three tests. This group makes up 26% of the earners of India. Of these, 58% are urban and the remainder live in rural areas.

This calculation suggests that there is a substantial mass of potential participants in the country today, for a defined contribution pension system. In addition, the high economic growth rates that India is likely to experience in the coming years will steadily enlarge this set. The international experience with pension reforms suggests that it will take ten to twenty years for this group to be fully participating in a formal pension system. Hence, we may envision a ten-year or twenty-year process of a new defined contribution pension system steadily obtaining greater acceptance amidst a steadily growing set of potential participants.

6.2 How will participants possibly exercise choices?

Amongst civil servants, or in the uncovered sector, a defined contribution system makes new demands in terms of knowledge since individuals are required to make choices about pension fund managers and investment alternatives. There are concerns that uneducated participants will be unable to exercise these choices. Hence, we obtain some data on the educational status of this set of 95 million people, which is the set of potential participants in a defined contribution pension system.

There are three aspects to this problem. Table 3 shows that only 10.2% of this group are illiterate. The challenge lies in designing a sufficiently simple pension system, and associated educational efforts, so that a substantial subset of this group can learn how to own and operate a pension account in coming years.

The second aspect of this problem lies in the role for the pensions regulator. Knowledge in the minds of households is a public good, and there is a considerable role for the State to engage in knowledge initiatives.

Finally, to a significant extent, individuals today find it difficult to think of exercising choice in the context of pension accounts because India has never had multiple alternatives in a pension system to choose between. Once the choices come about, individuals have an *incentive* to learn

Table 3 Educational status of potential participants in the uncovered sector

Educational category	Percentage
Illiterate	10.2
Literate (no schooling)	1.6
Below primary	4.4
Primary school	10.6
Middle school	19.3
High school / matric	23.6
Higher secondary / inter	12.1
Tech. education / diploma	2.5
Graduate	11.1
Professional degree	2.3
Post-graduate and above	2.2
Total	100.0

about the alternatives, and choose for themselves. An analogy may be made in the proliferation of two-wheelers which are now ubiquitous in India. More than 10 million two-wheelers are sold every year in India, and many more transactions take place in the used two-wheeler market. Most individuals who buy two-wheelers do not understand subtle issues about ignition and transmission. However, they are able to exercise their choice about what product to purchase.

Similarly, by 2010, there will be 200 million telephones in India. This will imply the existence of 200 million people who have coped with the complexity of multiple competing telephone technologies, vendors, rate plans, etc. It appears reasonable to think that anyone who has a telephone can be a member of a defined contribution pension system.

6.3 What pension can come out of Rs.10 per day?

Outcomes under a defined contribution pension system depend upon future returns on asset classes, which are inherently unpredictable. We show some illustrative calculations here. However, it must be strongly emphasised that the calculations here are not certainties and there are inherent year-to-year fluctuations in all investments. To the extent that these conservative average values are considered plausible, these calculations are illustrative about what might come about for participants of the New Pension System.

The PFRDA Bill proposes that the PFRDA will define investment regulations for the pension fund managers (PFMs). For the present purpose, a comprehensive range of 6 kinds of asset allocations is analysed, ranging from 100% government bonds to 100% equity.

In order to simulate future outcomes, it is necessary to make many specific assumptions:

1. All calculations are made in 2005 rupees. This removes inflation from the picture. Hence, we think of asset returns in real terms.

2. It is assumed that a person in the uncovered sector starts contributing Rs.2500 per year at age 24).[12] The contribution is assumed to grow at 4% per year in real terms till age 60, reflecting 2% for accumulation of experience, and 2% for the growth of the economy.[13] A high level of total fees and expenses of 100 basis points on assets per year is assumed, reflecting the higher costs of delivering services to this class of participants.

3. The present price of an annuity product from LIC is assumed, which is Rs.4, 692 of a lumpsum payment for an annuity of Rs. 1 per day. For the purpose of pension calculation, it is assumed that all pension wealth is annuitised.

4. Each of the simulation results shown here focuses on one asset allocation. We assume that a person embarks upon one asset allocation at age 24 and stays in the identical asset allocation until age 60. This is obviously an artificial assumption. The advice given by financial planners to individuals consists of seeking higher returns when young and shifting to safer investments beyond age 50. However, for the purpose of this document, each investment style is analysed in isolation, assuming a person stays with the investment style for life. This helps us to understand the consequences of a given asset allocation.

Pension outcomes are computed for three sets of assumptions about future asset returns in real terms:

			Set of assumptions
Asset class	**I**	**II**	**III**
GOI Bonds	1.5%	2%	2.5%
Corporate bonds	3	4%	4.5%
Equity	5%	6%	6.5%

CPI inflation today is at roughly 4%. This implies that an assumption of (say) 2% real returns on government bonds is equivalent to a 6% nominal return on government bonds. These assumptions are highly conservative. As an example, the historical return on an Indian equity index over the 26 year period from 1979 to 2005 works out to 19.25% in nominal terms.

The first investment style that we analyse is pure government bonds. The second style is the "Safe Income" asset allocation recommended by Project OASIS, which has 60% in government bonds, 30% in corporate bonds and 10% in equity. The next style is the "Balanced" asset allocation recommended by Project OASIS, which consists of 40% in government bonds, 35% in corporate bonds and 25% in equities. The

[12] This is a conservative assumption. since most people in the uncovered sector start working before age 24, and would potentially be able to have more years of contribution. magnified by the “power of compounding”.

[13] These are conservative assumptions. They imply that holding educational characteristics fixed, a 60-year old worker in 2005 earns twice the income of a 24-year old worker. In addition, given GDP growth of 6.35%, population growth of below 2%. and a wage share of perhaps 70%, the rise in wages owing to the growth of the economy will significantly exceed 2%.

"Growth" style recommended by Project OASIS consists of 20% government bonds, 30% corporate bonds and 50% in equity. In the interest of comprehensiveness.

Table 4 Pension outcomes for a 24-year old starting at Rs. 10/day in the uncovered sector

(Monthly pension in rupees)

	Set of assumptions		
Asset allocation	**I**	**II**	**III**
Pure GOI bonds	1483	1596	1721
OASIS 'Safe Income'	1668	1858	2013
OASIS 'Balanced'	1829	2079	2259
OASIS 'Growth'	2079	2418	2638
50-50 corp. bonds & equities	2187	2595	2836
100% equity	2597	3109	3412

we show two more styles, one involving a 50-50 split between corporate bonds and equities, and the last with 100% equities.

The outcomes under these assumptions are summarised in Table 4. These results suggest that even under investment only in government bonds, assuming a real return of only 1.5% and after paying 100 bps for fees and expenses, patient accumulation from age 24 till age 60 is able to deliver a meaningful pension of Rs.1, 483 per month in old age. In addition, other asset classes could be of interest to many participants.

7 The New Pension System

7.1 The design

The arguments of this paper favour the following design elements:

- An individual account, defined contribution system,
- Separation between the pension sector (i.e. accumulation) and benefits which are purchased from annuity providers,
- A separate pensions regulator,
- Portability of pension accounts across job changes, and portability of pension assets across multiple fund managers and investment products,
- A menu of investment choices through which asset volatility can be controlled by the individual, where equity investment is available as a choice,
- Reduced pension asset portfolio volatility, using international diversification,
- *A simple* framework through which individuals face a choice between multiple fund managers and multiple asset classes,
- Central record-keeping infrastructure,

- A focus on IT which will yield low transactions costs despite small value contributions and small value account balances,
- Rules that deter premature withdrawal but do not completely prohibit it,
- Rules that encourage annuitisation but do not mandate it,
- Tax treatment using an 'EET' system.

In the pensions field, there is a strong distinction between the issues of the 'accumulation phase', where a worker is accreting monthly savings through contributions into a pension account, and the "benefits phase", where the worker is retired and drawing down those savings. While the age at retirement in India is presently roughly 60, it is likely to shift to 65 years in coming decades, given improvements in mortality. In this case, from age 20 till age 65, for a period of 45 years, the pensions business consists of building up pension wealth using the services of fund managers. From age 65 till age 85, for a period of 20 years, the pensions business consists of producing pensions using the stock of wealth available at age 65.

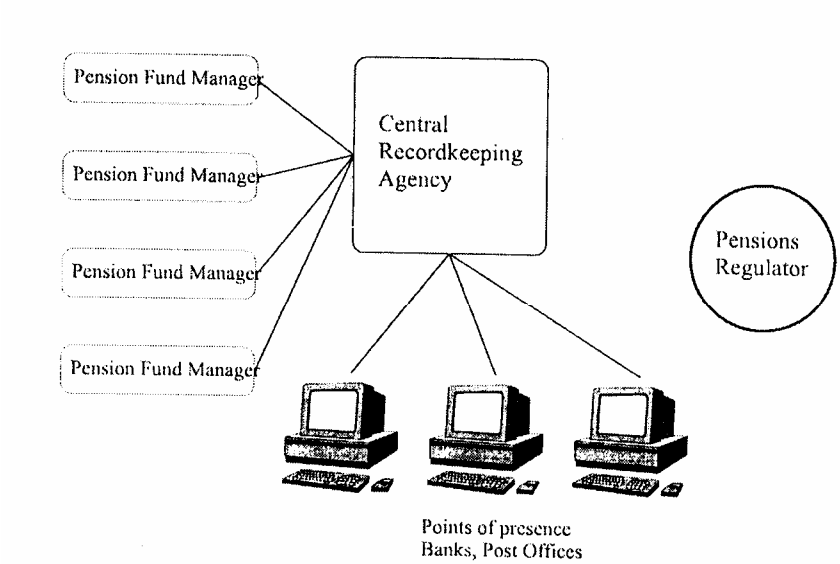
Reduction in costs, and transparency on costs, appears to be best achieved through an 'unbundled architecture", where the overall pensions problem is broken up into four distinct components: *front-end services, recordkeeping, fund management* and *annuity production.* Under the New Pension System, each of these is proposed to be handled by specialised agencies, which would excel at performing each role at a low cost.[14]

Unbundling has been a powerful tool for obtaining transparency and cost reduction in other areas of public policy, such as electricity or telecom. Unbundling drives down cost through several channels:

- Unbundling fosters specialisation, which increases competence and efficiency.
- Scale economies can be harnessed by preventing vertically integrated companies. For example, if a large set of bank branches and post offices constitute a 'front-end services industry', which is accessible to all fund managers, this yields lower costs as compared with a design where each fund manager sets about building his own branch network.
- Unbundling fosters transparency about tariffs. Each of the four components of this industry would show transparent prices, and competitive forces can be brought to bear upon three of the four elements, so as to bring down prices. At each of the four stages, services are likely to be purchased from the lowest-cost vendor. In contrast, vertically integrated firms often introduce cross-subsidisation schemes.

[14] Such specialisation is spontaneously coming about in many aspects of India's financial sector. As an example, many insurance companies and banks now outsource fund management to mutual funds.

Figure 2 Architecture of New Pension System



The proposed design of the New Pension System is shown in Figure 2. Front-end services are envisaged to be provided by the large existing network of bank branches, post offices, etc., which would provide an off-the-shelf network of offices. The reuse of existing infrastructure cuts costs. In addition, the sharing of these 'points of presence' by multiple different pension fund managers (PFM) eliminates the costs associated with a separate set of front-end offices in the country for each PFM.

Recordkeeping services are envisaged to be centralised in a "Central Recordkeeping Agency". This agency would produce new public goods for the pension sector. There would be a considerable role for the State in the contracting that will lead to the CRA. The CRA would know complete facts about every pension system participant; it would be able to give out comprehensive account balance statements; it would be the single-point at which instructions for switching from one pension fund manager to another would be supplied. The CRA will induce netting efficiencies by aggregating up instructions and contributions across all participants per day, and only executing the net transactions required with respect to fund managers. The CRA has strong increasing returns to scale. The use of such a central facility helps reduce costs.

Professional fund managers would perform fund management services. It is envisaged that roughly six pension fund managers (PFMs) would be required, each of whom would offer three standardised schemes. The use of standardised schemes would facilitate direct comparison of performance. The six managers would be selected through an auction process, which would focus on fees and expenses. The firms who bid the lowest sum of fees and expenses would get a contract to manage assets for the system. This auction process is expected to result in drastically lower fees and expenses as compared with ordinary market processes that have been observed in (say) the mutual fund industry or the insurance industry.

Through this system, the participant would accumulate pension wealth. In the working years, a regular stream of contributions would go into the pension account. The

participant would choose between multiple competing fund managers, each of which would offers a comparable set of standardised three products. Standardisation of products would induce "commoditisation", and lower fees and expenses. The investment return on these schemes would swell the pension wealth.

Finally, when a participant reaches retirement and seeks to obtain a monthly pension, he would be able to use some or all of the accumulated pension wealth in order to buy an annuity from existing life insurance companies. The annuity is a product which converts a stock of wealth into a flow of monthly payments until death. This function is envisaged to be performed by existing life insurance companies, regulated by IRDA.

This unbundling of the overall pensions problem into four distinct competitive industries is reminiscent of the debates and policy directions in electricity regulation, where there was a shift away from vertically integrated electricity companies to distinct roles of generation, transmission and distribution. Separation into distinct roles produces better information about the tariffs for each unbundled element, and fosters competition between multiple specialised players in each stage.

7.2 Feasibility of implementation

This proposed architecture exploits existing institutions available in the country, and does not require new investments on the part of government.

Two of the four components are available off the shelf: these are points of presence and annuity providers. These entities are eager and ready to do business with the new pension system, and merely need to be plugged in.[15]

There is significant competence in India's fund management industry, and amongst international firms with expertise in fund management. These firms are likely to participate in the proposed auction which would select pension fund managers.

The Central Recordkeeping Agency (CRA) is a new element of institutional infrastructure that needs to be created. However, given the successes in the country in the creation of depositories, the Tax Information Network (TIN), etc., it appears that such IT and managerial capacity is readily to be found.

7.3 Focus on portability

A key principle of the new pension system is that of portability at all levels.

One level of portability pertains to the movement of an individual between government and non-government jobs. The pension account of the person should stay with the person across jobs. There would be no incentive for an employee, under the new pension system, to not leave a government job for a few years so as to ensure that pension payments are not affected.

The other level of portability pertains to shifting between fund managers and investment styles. The new pension system would afford complete flexibility for the

[15] Points of presence include banks, post offices, and a range of more recent IT-enabled service centres which can interact with customers in a regulated environment. Annuity providers are the existing life insurance companies, all of whom are ready to sell annuities.

participant to shift from one fund manager to another, or from one scheme to another, at any time. Participants would, of course, bear costs associated with the implementation of their decisions. However, apart from this, the system is designed in a way that caters to the contestability of markets.

The use of a central recordkeeping agency fosters high portability. As a contrast, under the existing mutual fund industry, there is a multi-day process of filling forms and interacting with two different fund houses, in moving assets from one fund manager to another. The costs and complexity of this effort serve to deter competitive markets. The existing insurance industry is worse, in that customers are locked in, and substantial fees are imposed on customers which are used to fund the operation of proprietary distribution channels.

The proposed pension system architecture is pro-competitive by introducing the central recordkeeping agency (CRA). The participant would merely send one instruction to the CRA. The CRA would sell units of one scheme and invest them in the other, thus frictionlessly obtaining switching.

It is only after retirement, when annuities are purchased, that participants would face the lack of switching that is typically found with insurance products. Until this point, the new pension system would be a pure NAV-based fund management system with full flexibility of switching.

7.4 How this design addresses the pitfalls

The proposed use of an auction through which a finite number of pension fund managers is selected would serve to drive down fees and expenses in fund management, which have been known to make up a major part of the costs of a pension sector.

Table 5 Cost per debit at NSDL: 2000 to 2005

Year	Number of debits (Million)	Expenditure (Million rupees)	Cost per debit (Rupees)
2000-01	23.772	546.447	22.99
2001-02	31.039	493.791	15.91
2002-03	37.375	439.944	11.77
2003-04	70.071	437.611	6.25
2004-05	96.097	480.000	4.99

The ease of switching-through the CRA -will induce constant competitive pressures on the pension fund managers. The contestability of this market will foster low costs and higher performance. These built-in pro-competitive elements are a unique strength of this proposed design.

The extensive use of IT from end to end - from the post office interacting with the customer to the CRA to the fund manager - would help drive down costs, as has been seen in numerous other industries in India such as securities, banking, railway reservations, etc. Table 5 shows the time-series of the cost per transaction at the securities depository (NSDL). This evidence suggests that over these five years, NSDL was able to grow from 23.8 million transactions to 96 million transactions while

enjoying a slight decline in expenditure in nominal terms. This led to a sharp collapse in the cost per debit, which went down from Rs.23 per transaction to Rs.5 per transaction in this period.[16] These facts understate the true decline in cost since inflation has been ignored.

The use of existing off-the-shelf firms in the areas of front-end services and annuity production avoids the costs and overheads associated with setting up new companies, building new offices, etc. Banks, post offices, etc. have built up a very large number of offices across the country which can perform front-end services. Life insurance companies are geared up to produce annuities. No new expenditures are required to harness these firms.

Hence, the proposed pension system design is likely to fare well in obtaining low payments to finance companies, and in supporting small value transactions and small value balances, thus addressing the pitfalls identified above.

7.5 Regulatory treatment

7.5.1 What are the tasks for the pensions regulator?

In order to operationalise the above design, the tasks required of a government agency are:

1. Contract with an agency for the services of the Central Recordkeeping Agency,
2. Supervision of the existing interim CRA which is presently in operation,
3. Perform key interfacing functions between the government payroll process and the CRA, to ensure smooth transfers of contributions to the CRA,
4. Closely interact with state governments and local governments which may choose to follow the lead of the Central government, and link up to the new pension system,
5. Conduct an auction for the selection of pension fund managers,
6. Regulate fund management,
7. Draft regulations governing the functioning of the front-end services of banks, post offices, etc.,
8. Ensure a sound interface to insurance companies when a customer of the pension system chooses to buy an annuity,
9. Opening up the new pension system to the uncovered sector. Numerous NGOs, such as Sewa, have evinced strong interest in bringing in lakhs of participants into the new pension system,
10. These will need to be accompanied by a massive education campaign across the country, in order to educate participants about their rights under the new pension system, while constantly reminding them that this is not an assured government pension or a defined benefit pension.

[16] NSDL's tariff structure differs from this to a certain extent, reflecting the incentive implications of any given tariff structure. For example, NSDL enforces a certain charge upon accounts, and a certain charge upon transactions. However, ultimately these costs are passed on to the end-users of NSDL as user charges.

These tasks appear to require a new regulator, which has been referred to as the *Pension Fund Regulatory and Development Agency* (PFRDA) (Asher2001).

7.5.2 Evaluating the SEBI option

SEBI could fit as a regulator for the fund management part, and for the CRA, of the design of the new pension system. This flows from SEBI's experience with mutual funds - India's best experience with a modern regulatory framework covering asset management - and SEBL's experience with depositories, which are similar to the CRA.

However, a distinct PFRDA is important for implementing the new pension system, given the full array of tasks sketched above, which go well beyond fund management and CRA. A new regulator could potentially take over unregulated pension schemes which exist today, which are particularly unfriendly to customers. The PFRDA serves as an ideal agency which would bring together an integrated regulatory treatment of all pensions in the country other than the EPFO.

7.5.3 Evaluating the IRDA option

A close examination of these tasks suggest that IRDA would be ill-suited to perform these functions.

1. No actuarial calculations are involved in pension fund management. Actuarial thinking only matters for annuities, not for pension funds. The proposed pension system design envisages using existing life insurance companies for the purpose of obtaining annuities. All aspects of pension system design, in this note, have focused on problems in pension policy other than the problem of producing annuities. IRDA, and insurance companies, lack a focus and professional competence in these problems that go beyond the production of annuities.

   At an analytical level, the dominant factor shaping consumption in old age is the rate of return obtained from age 20 to age 65. The power of compounding applies here, and every basis point of higher returns has a magnified impact upon the accumulation of pension wealth. Hence, the dominant problem for policy is creating conditions under which fund management can be done well, so as to maximise the rate of return in these accumulating years.

   In contrast, at age 65, once a given stock of pension wealth is in hand, the most that the life insurance industry can do is to reliably deliver actuarially fair prices for annuities. There is little possibility for good knowledge at this second stage in adding to consumption in old age. In contrast, good knowledge about fund management at the first stage can make a major difference to outcomes.

2. A distinct pensions regulator would have a greater focus on the unique implementation problems of pensions. This requires building new IT infrastructure, and a massive focus on education. At present, the new pension system does not exist, and the proposed PFRDA has to proactively set about creating these new institutions. In contrast, SEBI and IRDA have a. tradition of sitting back, processing requests for licenses, and regulating existing players.

3. The unbundled architecture proposed here limits the role of insurance

companies to the one element where actuarial calculations are required - i.e. production of annuities.

The political economy of regulation suggests that IRDA will inherently get lobbied by insurance companies to move in the direction of defined benefits, since insurance companies have a competitive advantage over fund managers when a bundled architecture is used. If even limited movements towards defined benefits take place, this could have grave consequences for Indian macro-economics in the decades to come.

4. Existing IRDA regulations do not allow an agent - including large distributors like SBI or HDFC - to sell products of more than one life insurance firm. Hence, under IRDA's framework, a distributor like SBI will only sell products from SBI Life. This implies that the customers of the 10,000 SBI branches would not get the full-fledged benefits of competition and portability. Similar problems would hinder distribution by other life insurance companies.

   This focus on proprietary distribution has served to drive up costs in the insurance industry, where each life insurance company tries to build an additional, parallel, proprietary distribution network in the country. This approach is ill suited to obtain penetration into the vast population of the country.

   There is a considerable gap between the existing functioning of the life insurance industry, and the vision of competition and portability that animates the new pension system.

5. Despite the 'open competitive market' which prevails in the existing life insurance companies, the problem above (proprietary distribution channels) has led life insurance companies to strongly complain about the rural and social obligations imposed by IRDA**.** The New Pension System will have to aggressively attack rural and social obligations.

In an examination of the regulatory architecture of 37 large countries, there were only 10 countries where pensions and insurance was handled by the same agency. These ten were : Belgium, Czech Republic, Finland, Luxembourg, Netherlands, New Zealand, Poland, Portugal, Spain, Turkey. The 27 other major countries had either opted for an independent pensions regulator (16 countries)[17] or have placed pensions with an integrated financial regulation agency (11 cases).[18]

It is important to observe that many of these countries have a pension system architecture that fell in place in the 1980s, and are only now in the process of moving towards new concepts and principles similar to those proposed in the new pension system. If these countries had to embark on pension reforms today, their regulatory structure is more likely to have an independent pensions regulator, which focused on issues like the public goods of centralised recordkeeping.

[17] Argentina. Chile. Costa Rica. El Salvador. Hong Kong. Ireland. Israel. Kenya. Mexico. Peru. Russia, Slovakia. Tanzania, Japan. United Kingdom, United States of America.
[18] Australia. Austria. Bolivia, Canada. Denmark. Germany. Hungary. Iceland. Korea. Norway. Sweden.

In 2003 and 2004, considerable criticism of the New Pension System emanated from insurance companies. In terms of political economy, this was an unequal battle. The insurance industry in India already exists, and has a sustained capacity for lobbying. In contrast, a comparable pension fund industry does not (at present) exist. There is a challenge in ensuring that public policy formulation looks beyond these narrow concerns, and lays the foundations for a vibrant pension sector for the years to come.

8 Work in pension reforms since 1998

A great deal of policy thinking took place on pension reforms in India, starting with Project OASIS which was undertaken by the Ministry of Social Justice and Empowerment in early 1998. Project OASIS was implemented by Invest India Economic Foundation (IIEF), and the expert committee was chaired by Surendra Dave (Dave 2000). It was focused on the uncovered sector. In parallel, other arms of government were working on civil service pension reforms.

The first major reform decision came about in the Budget Speech of 2001, by the then finance minister Yashwant Sinha, who said:

"Pension Reforms

83. The Central Government pension liability has reached unsustainable proportions: as a percentage of GDP**,** it has risen from about 0.5 per cent in 1993-94 to 1 per cent in 2000-2001. As such it is envisaged that those who enter central government services after October 1, 2001 would receive pension through a new pension programme based on defined contributions. In order to review the existing pension system and to provide a roadmap for the next steps to be taken by the Government, I propose to constitute a High Level Expert Group, which would give its recommendations within 3 months."

The Bhattacharya Committee was setup to propose this design.

The parallel developments on the civil servants pension and the uncovered sector pension came into sharp focus at the Ministry of Finance in late 2002, where a major decision taken was to merge the two parallel strands of work - for the civil service and for the uncovered sector - into a single New Pension System (NPS).

8.1 New Pension System decisions in 2003

The budget speech of February 2003, by the then finance minister Jaswant Singh, had the following text:

"My predecessor in office had, in 2001, announced a road map for a restructured pension scheme for new Central Government employees, and a scheme for the general public. This scheme is now ready. It will apply only to new entrants to government service, except to the armed forces, and upon finalisation, offer a basket of pension choices. It will also be available, on a voluntary basis, to all employers for their employees, as wel1 as to the self-employed.

This new pension system, when introduced, will be based on defined contributions, shared equally in the case of government employees between the government and the

employees. There will, of course, be no contribution from the government in respect of individuals who are not government employees. The new pension scheme will be portable, allowing transfer of the benefits in case of change of employment, and will go into 'individual pension accounts' with pension funds. The Ministry of Finance will oversee and supervise the pension funds through a new and independent Pension Fund Regulatory and Development Authority."

On 23 August 2003, the Cabinet approved the proposal to implement the budget announcement of February 2003 relating to introducing a new restructured defined contribution pension system for new entrants to Central Government service, except to Armed Forces, from 1 January 2004 onwards.

The new system will also be available, on a voluntary basis, to all persons including self employed professionals and others in the uncovered sector. However, mandatory programme under the Employee Provident Fund Organisation (EPFO) and other special provident funds would continue to operate as per the existing system under the Employee Provident Fund and Miscellaneous Provisions Act, 1952 and other special Acts governing these funds.

The Government approved the basic features of the new pension system, and the setting up of an interim pension fund regulatory and development authority (PFRDA). The main features of the new pension system are given below:

- The new pension system will be based on defined contributions, and will use the existing network of bank branches and post offices etc. to collect contributions and interact with participants, allowing transfer of the benefits in case of change of employment, and offer a basket of pension choices.

- The system will be mandatory for new recruits to the Central Government service except the armed forces and the monthly contribution will be 10% of the salary and DA to be paid by the employee and matched by the Central Government. However, there will be no contribution from the Government in respect of individuals who are not Government employees. The contributions and investment returns will be deposited in a non-withdrawable pension tier-I account. The existing provisions of the defined benefit pension and GPF will not be available to the new recruits in the Central Government service.

- In addition to the above pension account, each individual may also have a voluntary tier-II withdrawable account at his option. This option is given since GPF is proposed to be withdrawn for new recruits in Central Government service. Government will make no contribution into this account. These assets will be managed through exactly the above procedures. However, the individual will be free to withdraw part or all of the 'second tier" of his money anytime. This withdrawable account does not constitute pension investment, and will attract no special tax treatment.

- Individuals will be able to normally exit at or after age 60 from Tier-I of the pension system. At exit, the individual will be mandatory required to invest 40% of pension wealth to purchase an annuity (from an IRDA-regulated life insurance company). In case of Government employees, the annuity will be required to have a survivor clause, through which the spouse will also receive benefits upon death of the

pensioner. The individual will receive a lump-sum of the remaining pension wealth, which he will be free to utilise in any manner.

- Individuals will have the flexibility to leave the pension system prior to age 60. However, in this case, 80% of the accumulated pension wealth will have to be mandatorily annuitised.

In terms of implementation, the pension system will have the following aspects. It will have centralised record keeping and accounting (CRA) infrastructure, and several competing pension fund managers (PFMs), each of whom will offer three styles of schemes viz. option A, B and C with different asset class allocations, and volatility characteristics. The participating entities (PFMs and CRA) will give out easily understood information about past performance, so that the individual will able to make informed choices about which scheme to choose.

An independent Pension Fund Regulatory and *Development Authority* (PFRDA) will regulate and develop the pension market. PFRDA will develop its own funding stream based on user charges. Till such time when a statutory PFRDA is established, an interim PFRDA, on the pattern of SEBI and IRDA, should be appointed by an executive order. There will be different investment choices through the three styles A, B and C. Style A will have the most fixed income investments and Style C will have the least. Pension fund managers will be able to make investments in international markets subject to regulatory restrictions and oversight in this regard.

It is proposed to evaluate market mechanisms (without any contingent liability upon the exchequer) through which certain investment protection guarantees can be offered for the different schemes.

8.2 Decisions by the UP A government in 2004

In May 2004, the United Progressive Alliance (UPA) government won the general elections, and assumed power. The UPA administration chose to continue with the pension reforms effort. It chose to disband the "interim PFRDA", which was intended to setup administrative procedures prior to passage of the legislation.

The budget speech of 8 July 2004, by finance minister P. Chidambaram, had the following text:

"Pension Reform

70. A defined contribution pension scheme has been introduced with effect from January 1, 2004 for the Central Government employees recruited on or after that date. A suitable legislation to provide a regulatory framework for the scheme will be introduced in Parliament."

The budget speech of 28 February 2005, by finance minister P. Chidambaram, had the following text:

"PFRDA

84. With increasing longevity, the problem of old-age income security can no longer be

ignored. Government had announced a defined contribution pension scheme for newly recruited Central Government employees which would also be extended to the unorganized sector. I am happy to inform the House that seven State Governments - Andhra Pradesh, Chhattisgarh, Himachal Pradesh, Jharkhand, Manipur, Rajasthan and Tamil Nadu - have introduced similar schemes for their employees. Other States have also evinced interest. An Ordinance was promulgated on December 29, 2004 to set up a Pension Fund Regulatory and Development Authority **(**PFRDA). I propose to introduce a Bill to replace the Ordinance during this session.

85. Through the new scheme, it is proposed to offer a menu of investment choices to the subscriber and to provide a strong regulatory mechanism to ensure that the interests of subscribers are protected. I appeal to workers all over the country to join the new pension system."

8.3 Tax treatment

The new pension system will use an 'EET' tax structure, whereby pension contributions and accumulation will be accorded tax preference up to a certain limit, but benefits will be taxed as normal income.

In June 2004, the Task Force on FRBM Implementation (chaired by Vijay Kelkar) proposed a comprehensive reform of the income tax system, away from the existing "savings incentives" through EEE treatment and administered rates of return, to a modern EET framework. An EET framework was introduced into the finance bill in the first budget of July 2004 for the purpose of the New Pension System. The budget speech of February 2005 declared the intention to broaden this into a full EET system. The details of this are expected to be worked out in 2005.

8.4 Adoption at state governments

The difficulties of the traditional civil service pension apply equally at the state level as they do at the centre (Bhattacharya 2003). The option of joining the new system is available to the State Governments. In the case of state governments, the adoption typically pertains to (a) Employees of state government, (b) Employees of local government and (c) Employees of "autonomous enterprises" who were entitled to the traditional DB pension

As of April 2005, states adding up to 38.58 per cent of India's population have adopted the New Pension System (Table 6). Each state has used slightly different cutoff dates, after which new recruits are placed into the New Pension System. Many other states, including Karnataka, Maharashtra and Goa, are at various stages of implementing similar reforms.

These adoptions have substantially increased the size of participants in the early years of the NPS, and have ensured that the NPS will rapidly enjoy economies of scale, in contrast with the difficulties with high fixed costs faced in many fledgling pensions systems in small countries. While exact estimates are hard to obtain, in the state of Andhra Pradesh, which has

Table 6 States which have adopted the New Pension System

State	India"	Fraction of s population	Cutoff date
Andhra Pradesh		7.37	September 2004
Tamil Nadu		6.05	April 2003
Madhya Pradesh		5.88	n.a.
Rajasthan		5.50	January 2004
Gujarat		4.93	n.a.
Orissa		3.57	n.a.
Kerala		3.10	April 2005
Jharkhand		2.62	December 2004
Assam		2.59	February 2005
Punjab		2.37	n.a.
Chhattisgarh		2.02	November 2004
Himachal Pradesh		0.59	May 2003
Manipur		0.23	January 2005
Total		38.58	

7.37 per cent of India's population, recruitment is estimated to be leading to 150,000 additional members of the NPS per year. Linear extrapolation suggests that the states listed above might induce roughly 0.8 million members of the NPS per year.

8.5 Next steps

As of April 2005, Parliament is engaged in discussing a Bill which will give legislative foundations to the New Pension System. This Bill will create the PFRDA, and empower it to regulate the New Pension System.

In parallel, administrative efforts are underway to setup IT systems for creating accounts, giving out unique identity numbers, handling contributions, and giving out account balance statements.

9 Conclusion

Thrift and self-help can go remarkably far, given the power of compounding. A contribution rate of Rs. 10 per day for 250 working days is within reach for a substantial swathe of India's labour force. At n real talc of return of 5.9%, the very first year of contribution (Rs.2, 500 at age *ID)* - alone - turns into pension wealth of Rs.25, 000 at age 60, This alone - yields a monthly pension of Rs.160 per month. This shows the opportunity for modest contributions to turn to substantial old age social and income security.

India faces a threat and an opportunity. India is at a remarkable point in the demographic transition, where a substantial mass of young people are coming into the labour force.

This constitutes a threat and an opportunity.

The opportunity lies in creating a formal pension system, through which individuals can build up pension wealth in personal accounts. This would empower these individuals in coping with old age. As of 2005, India has the sophisticated institutional capacity that is required to build and operate a modern pension system.

There is a threat of missing this window of opportunity. To the extent that India is unable to engage in such reforms in time, there is a threat of facing severe difficulties when the young cohorts of today approach old age, and have lost the opportunity to build up pension wealth. Every 20 year old who loses a year of contributing Rs.2, 500 per year stands to lose roughly Rs.25, 000 of pension wealth at age 60.

The NPS is a sustainable, scalable path. The defining goals of Indian pension reform are sustainability and scalability. The New Pension System has the institutional architecture which can scale across central government employees, state government employees, and millions of individuals in the uncovered sector across the country. The NPS is also a sustainable path for policy, since it does not involve fiscal costs, regardless of whether there are 10 million or 200 million accounts.

The NPS empowers many, but not all, of India's future elderly at a zero fiscal cost India's problem of ageing is undoubtedly large and complex. Not everyone can meaningfully participate in the NPS. The lifetime poor would be unable to build up significant pension wealth, and earners beyond age 50 have little time to benefit from the power of compounding. There is a certainly a need for designing poverty programs which will be able to effectively target the elderly poor. However, this article has made the case that there is a substantial mass of individuals - roughly 100 million in the uncovered sector as of late 2004 - who can be empowered in old age by the NPS, at no cost to the exchequer.

References

Alier, M. & Vittas, D. (1999), Personal pension plans and stock market volatility, in "New ideas about old age security', World Bank. 16

Asher, M. (2001), The case for a regulatory authority for India's pension system. Research report 2-2001, International Center for Pension Research. 35

Ashcr, M. & Vasudevan, D. (2004), 'Civil service pension reform: time to act'', Economic and Political Weekly 39(51), 5363-5365. 7

Bhattacharya, B. K. (2003), 'Report of the group to study the pension liabilities of the state governments', Reserve Bank of India. 41

Bodie, Z. & Merton, R. (2002), 'International pension swaps', Journal of Pension Economics and Finance 1(1). 23

Dave, S. A. (1999), Restructuring pensions for the twenty-first century, in J. A. Hanson & S. Kathuria, eds, 'India: A financial sector for the Twenty-first century', Oxford University Press, chapter 9, pp. 305-334. 4

Dave, S. A. (2000), Project OASIS Report, Committee report, Ministry for Social Justice, Government of India. 37

James, E. & Sane, R. (2003), The annuity market in India: Do consumers get their money's worth? What are the key public policy issues?, in A. Bordia & G. Bharadwaj, eds, 'Rethinking pension provision for India', Tata McGraw Hill, chapter 7, pp. 231-262. 13

James, E., Smalhout, J. & Vittas, D. (1999), Administrative costs and the organization of individual account systems: A comparative perspective, in 'New ideas about old age security', World Bank. 19

Lillard, L. A., Brien, M. J. & Panis, C. W. A. (1993), The value of annuities at age 65: Race, marital status, wealth, health and mortality, Technical report, Rand Corporation. 17

Lillard, L. A. & Willis, R. J. (2000), Cognition and wealth: The importance of probabilistic thinking, Technical report, University of Michigan. 18

Mathur, S. N. (1998), Greying of the Indian railways, Technical report, Asian Institute of Transport Development. 11

Mohan, R. (2004), 'Report of the advisory committee to advise on the administered interest rates and rationalisation of savings instruments', Reserve Bank of India. 9

Murthi, M., Orszag, J. M. & Orszag, P. R. (1999), Administrative costs under a decentralized approach to individual accounts: Lessons from the United Kingdom, in 'New ideas about old age security'. 18

Patel, U. R. (1997), 'Aspects of pension fund reform: Lessons for India', Economic and Political Weekly XXXII(38), 2395-2402.4

Patnaik, I. (2005), 'India's experience with a pegged exchange rate', India Policy Forum 1,189-216.23

Pennacchi, G. (1998), Government guarantees on pension fund returns, Technical report, World Bank. 23

Rajan, S. I. (2001), Social assistance for poor elderly: how effective?, Technical report, Economic and Political Weekly. 12

Reddy, Y. V. (2001),' Report of the expert committee to review the system of administered rates'. Reserve Bank of India. 9

Shah, A. (2003), 'Investment risk in the Indian pension sector and the role for pension guarantees', Economic and Political Weekly XXXVIII(8), 719— 728.23

Shah, A. & Fernandes, K. (2001), The relevance of index funds for pension investment in equities, in R. Holzmann & J. Stiglitz, eds, 'New Ideas About Old Age Security: Toward Sustainable Pension Systems in the 21st Century', World Bank. 13, 22

Shah, A. & Patnaik, I. (2006 (Forthcoming)), India's experience with capital flows: The elusive quest for a sustainable current account deficit, in S. Edwards, ed., ‘International Capital Flows', NBER and University of Chicago Press. 23

Shah, A. & Thomas, S. (1998), Market microstructure considerations in index construction, in 'CBOT Research Symposium Proceedings', Chicago Board of Trade, pp. 173-193. 13

Shah, A. & Thomas, S. (2003a), Equity derivatives in India: The state of the art, in S. Thomas, ed., 'Derivatives markets in India 2003', Tata McGraw-Hill, chapter 1, pp. 1-25. 13

Shah, A. & Thomas, S. (2003b), Policy issues in Indian securities markets, in A. Krueger & S. Z. Chinoy, eds, 'Reforming India's External, Financial and Fiscal Policies', Stanford Studies in International Economics and Development, Stanford University Press, chapter 4, pp. 129-147.13

Shah, A. & Thomas, S. (2003c), Securities market efficiency, in J. A. Hanson, P. Honohan & G. Majnoni, eds, 'Globalization and national financial systems', The World Bank and Oxford University Press, chapter 6, pp. 145-175.19

Siegel, J. (2002), Stocks for the Long Run, 3 edn, McGraw-Hill. 22

Srinivas, P. S. & Thomas, S. (2003), 'Institutional mechanisms in pension fund management: Lessons from three Indian case studies', Economic and Political Weekly XXXVIII(8), 706-719. 15,16

Thomas, S. (1999), Alternative investment strategies on multi-decade horizons, Technical report, IGIDR. 18

Valdes-Prieto, S. (1998), Risk in pensions and annuities: Efficient designs, Technical report, World Bank. 13

Walliser, J. (1999), Regulation of withdrawals in individual account systems, in 'New ideas about old age security'', World Bank. 20, 21 45

Whitehouse, E. (1999), 'Pension reform, financial literacy and public information: A case study of the united kingdom'. 18

Whitehouse, E. (2000), Administrative charges for funded pensions: An international comparison and assessment, Technical Report Social Protection Discussion Paper No. 0016, World Bank. 18

World Bank (1994). Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth, Oxford University Press. 17