

Challenge of Pension Reform in India



Robert Palacios¹
The World Bank

3.1 Introduction

One eighth of the world's elderly population lives in India. The vast majority is not covered by a formal pension system, relying instead on their own earnings and transfers, mostly from children. But these informal systems are imperfect and increasingly strained and as the population ages, the challenge of providing old age income security will mount. This paper highlights the need to reform the current array of pension programs in order to address this challenge. This conclusion is based on a review of the schemes that now cover public and private sector workers in the "organized" economy as well as the public transfer programs designed to assist the poorest of India's elderly.

Many of the problems described here have been recognized in recent Government initiatives in India. Several proposals were being developed at the time of writing including an ambitious plan to expand pension coverage submitted by the Old Age Social and Income Security (OASIS) project under the guidance of the Ministry of Social Justice and Empowerment and the Insurance Regulatory Development Authority (IRDA). Also, following a 2001 budget announcement by the Minister of Finance, the Bhattacharya committee was encharged with recommending a new, defined contribution scheme for the civil service. After some delays, its report was expected

¹This paper is based on a report produced by the World Bank entitled, "India: The Challenge of Old Age Income Security", Washington D.C. 2001. It also draws from material found in the Pension Reform Primer (www.worldbank.org/pensions) However, all errors are the responsibility of the author

in early February 2002. These steps signal increasing awareness of and willingness to tackle the pension problem in India.

But fundamental pension reform is a complex undertaking. It requires a sound technical plan of action that ideally harmonizes provisions across the country and across sectors. Such a plan must take into account fiscal and financial sector constraints. It must also include a transition strategy for phasing out existing provisions while respecting commitments already made. Finally, the system must be designed in such a way as to be able to adapt to economic and social changes for decades to come.

While the task is difficult, the impact of pension reform (or the lack thereof) can be far-reaching. The stakes are high not only for the relatively small fraction of the labor force directly affected, but also for the rest of the population through a series of indirect economic effects more difficult to quantify. A growing body of research is showing that a vital pension system can boost stock market liquidity, extend the yield curve, lower borrowing costs and improve corporate governance. And reducing pension liabilities in the public sector reduces future budgetary pressures, allowing more spending in other needed social areas. Labor markets may also function better with reduced distortions in the labor markets.

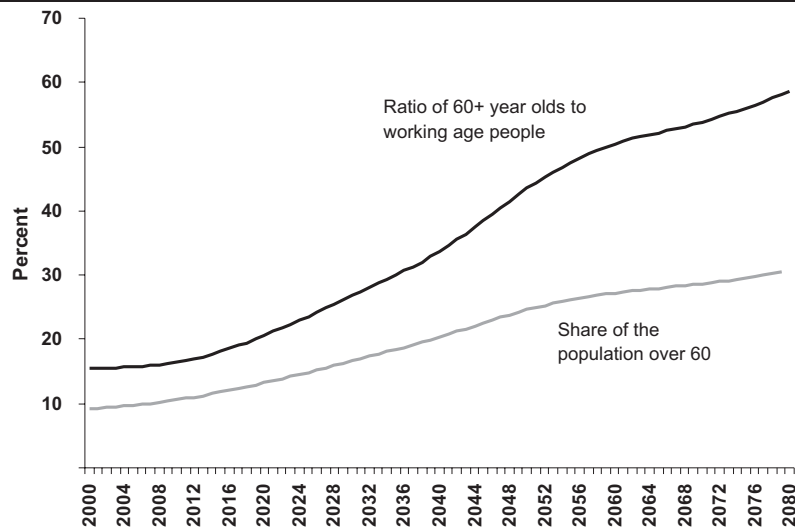
The next section of this paper motivates the discussion of pension system reforms by describing demographic ageing in India and how most of the population copes with income support for old age. Section III provides a brief analysis of the main programs and makes the case for reform. Section IV reviews options for reform, key policy design and implementation issues and presents an illustration of a systemic reform in the Indian context. The last section concludes.

3.2 Demographic Ageing and Informal Support for the Old

Presently, about one out of every 10 Indians is over age 60. But the demographic transition is still unfolding. Fertility rates have dropped from 6.57 in 1960 to 3.22 in 1998 and continue to fall while life expectancy at age 60 is projected to rise over the next three decades from 17 to more than 20 years. The number of Indians over 60 will grow from 76 million in 2000 to more than 218 million in 2030 and combined with lower fertility this

will result in a doubling of the share of the population aged 60 over the next four decades. The old age dependency ratio (in this case, defined as the number of persons over 60 to the number between age 20-59) will rise from about 15 to 40 percent (see Figure 3.1).

Figure 3.1 Demographic ageing in India, 2000-2080



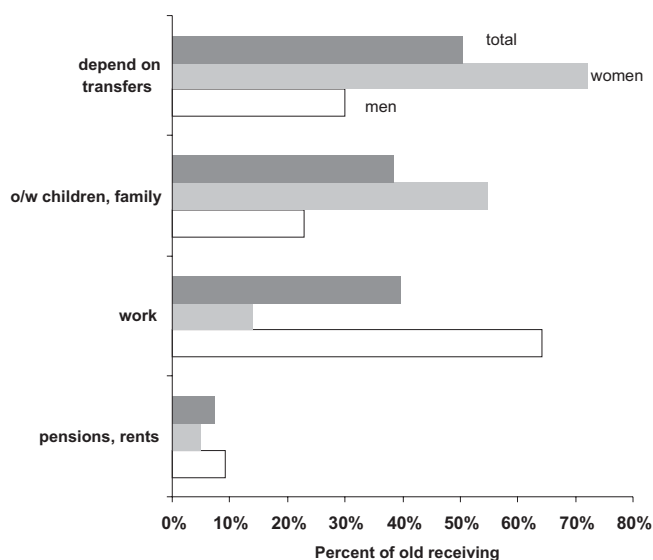
India is a large and diverse country and it is important to note that the ageing process is far from uniform. In southern states, where fertility rates have plummeted, population ageing is more dramatic. High fertility states such as Uttar Pradesh will age much more gradually. By 2020, about 15 percent of the population will be over age 60 in Tamil Nadu and Kerala while the same ratio will only reach 8 percent in Uttar Pradesh. Clearly, these demographic pressures will be much stronger in some states than others. Not surprisingly, the older states have already experienced significant growth in public transfers to the elderly as well as important changes in the nature of the relationship between children and parents.²

Less than ten percent of elderly Indians receive pension income and a substantial portion of the older population, especially rural males, is forced to continue working despite their old age. As shown in Figure 3.2 below, the

²See Rajan et al. (1999)

family continues to be the main source of support for the old in India, especially for women. As the ageing process continues, this informal mechanism will be tested as more elderly parents spend more years depending on fewer children. In some cases, family support may not be forthcoming or sufficient.³ Already, some analysts cite growing strain in family support systems.

Figure 3.2 Sources of income for Indians over age 60, 1994



Source: Bank staff calculations based on Visaria (1998)

3.3 The Case for Pension Reform

In this section, we look at the basic arguments for reforming the main elements of the pension system in India. These arguments include the need for well-functioning formal pension systems in light of the limits of family support, the ineffectiveness of existing formal schemes and the potential positive impact of pension reform on the overall economy.

³The National Sample Survey for 1995-96 reports that about 6 percent of the elderly surveyed did not have surviving children

3.3.1 The Limits of Family Support

Informal systems of old age income security have existed for millennia, but how effective are they relative to the kind of formal pension arrangements that have appeared during the last century? Economists point out that even small groups can, in theory, provide a substantial part of the benefits of financial sector instruments like longevity insurance (annuities).⁴ The evidence suggests that support and co-residence rates are still high with only four percent of India's elderly living alone, according to the 1994 National Sample Survey.

But these indicators tell only part of the story. While families continue to support the elderly, the extent and adequacy of that support is unknown. For example, little is known about intra-household resource allocation, which may not always favor the elderly. This makes it difficult to assess relative living standards of the elderly. Another important methodological issue is the appropriate equivalence scale. Attempts to deal with these issues have produced evidence that certain groups among the elderly are particularly vulnerable, especially widows.⁵ Clearly, some individuals fall through the cracks and mechanisms, for social contracts of this type can be undermined by parallel changes in society. Along with the demographic pressures mentioned above, these tendencies may portend a gradual weakening of family support in the future.

There are also strong arguments for moving towards larger groups based on more effective risk pooling and economies of scale in providing certain services. Shocks that affect a certain region will affect all generations living there, thus limiting the value of the intergenerational insurance policy. Strategies to diversify this risk, by sending some children to work in cities for example, could introduce new problems of monitoring and enforcement of the implicit contract between parents and children. Finally, when one poor generation is supported by another, the need for transfers from outside the family structure is still present.

The interaction of informal versus formal old age income support is not well understood but it is important for several reasons.⁶ First, if there is

⁴See Kotlikoff & Spivak (1981), for example

⁵See for example, Dreze & Srinivasan (1997)

⁶For one of the few examples of research in this area, see Chan (1999)

a tendency to weaken the informal systems, public policy should take this into account. Second, given the existence for decades of formal sector alternatives, understanding informal transfers may shed light on the question of why so few workers participate in formal schemes mandated or encouraged by the government. Finally, for the poorest groups, it would be important to understand the impact of public transfers, not only on the direct beneficiaries, but also on their families.

3.3.2 What are the Formal Sector Alternatives in India Today?

As shown in Table 3.1, there is no dearth of government programs aimed at providing an alternative way to smooth consumption or alleviate old age poverty. But the table also shows that coverage is low. Due to space constraints, we focus here on the compulsory schemes covering public and private formal sector workers and the social assistance schemes for the elderly.⁷

3.3.2.1 Public intervention to alleviate old age poverty

Social assistance schemes targeted at the elderly operate both at the state and national level. Every state provides some kind of means-tested pension to older citizens. Having developed more or less independently since the 1960s, eligibility rules and benefit levels vary significantly across states. They are quite extensive in Kerala for example, where one estimate puts the percentage of persons over 60 receiving a 'social pension' at around 20 percent.⁸ In most states, the percentage of persons over 60 receiving these benefits is probably around 10-15 percent. Meanwhile, most poverty estimates show one third of households to be poor by commonly applied definitions. Although information on poverty rates among households with elderly members is not available, it appears that many poor elderly are excluded from the program.

Pension levels vary across states from 55 to 300 rupees per month. Since 1995, the central government has supplemented this with the National Old

⁷Voluntary savings earmarked for old age are relatively small in India for several reasons including the limited share of the population paying income tax who would benefit from favorable tax treatment. See *India: The challenge of old age income security* (2001) Section II.D for a description of available instruments, tax treatment and other issues.

⁸Dev (1994)

Table 3.1 Government-sponsored schemes for old age income security in India

<i>Compulsory</i>			
Program	Legal Coverage/eligibility 1	Effective Coverage 2	Financing
Employees' Provident Fund	Employees in firms with more than 20 employees	About 5.8 percent of the labor force	Employer and employee contributions
Employees' Pension Fund	same as above with some exemptions	About 5.4 percent of labor force	Employer, government contributions
Civil Service Pension Scheme	civil servants at state and federal level	About 3.5 percent of the labor force	State or central government budgets
Government Provident Fund	civil servants at state and federal level	Most civil servants	Employee Contributions
Special Provident Funds	certain occupations and employees in Jammu and Kashmir	About 0.5 percent of the labor force	Employer and employee contributions
<i>Voluntary, tax-preferred</i>			
Public Provident Fund	all individuals	About 0.8 percent of the labor force	Contributions
Superannuation plans	all employees	About 0.2 percent of labor force	Contributions
Personal pensions	all individuals	About 0.2 percent of labor force	Purchase of annuity-like products
<i>Social assistance</i>			
State level social Assistance	varies by state	varies by state	State budgets
National Old Age Pension Scheme	destitute persons over age 65	About 15-20 percent of population over 65	Central budget

Source: World Bank (2001).

Notes: 1. Legal coverage for EPS/EPF extends to 177 types of establishments.

Age Pension Scheme (NOAPS).⁹ This program pays 75 rupees per month to destitute persons aged 65 and above.¹⁰ It is administered by the Ministry for Rural Affairs and supplements existing programs at the state level where eligibility criteria are set. Ceilings on the number of recipients are set by state according to available resources for the program and the specified payment level. According to one study, there were approximately 6.9 million recipients in 1998-99 throughout the country or close to 10 percent of the population over age 60.¹¹ In March 1999, the government introduced an in-kind assistance scheme called Annapurna which provides 10 kilograms of rice or wheat per month to a subset of the destitute elderly. In its first year of operation, there were roughly 665 thousand recipients who received assistance valued at 612 million rupees. Based on budget allocations, we estimate that the government would spend about eight billion rupees on the destitute elderly in fiscal year 2000–2001.¹²

In addition to central government spending, each state spends out of its budget on social assistance programs for the elderly. Based on state level data that includes some other programs for 1997–98,¹³ we arrive at an estimate of total expenditures on social assistance targeted to the elderly, central and state level combined, of about 0.08 percent of GDP. This figure reflects a rather low average benefit level of roughly 10 percent of income per capita, although this masks significant differences between states.

Recent incidence analyses of other poverty programs in India found that many are not effective in reaching the poor. The same is likely to be true for social assistance targeted towards the elderly. Unfortunately, data on these programs are very limited. There is a huge variation, for example, on apparent take up rates with some states reaching one third or less of the targeted number of beneficiaries while other states exceed one hundred percent. A few case studies exist.¹⁴ Some cite a lack of information on potential recipients or manipulation of programs by local authorities that lead

⁹See Government of India (n.d.)

¹⁰About half of the states require applicants to have reached age 60 while the rest, including the NOAPS use 65 as the cutoff age.

¹¹Rajan (2001)

¹²Government of India (2000)

¹³This estimate is based on expenditures on “social security” by state in “Finances of State Governments 1997–98”.

¹⁴See for example, Dev (1994) and Sankaran (1998)

to poor targeting and a reduction in take-up.¹⁵ One study of social assistance schemes for widows in Tamil Nadu reported high transaction costs and obstacles in the application process that prevented individuals from receiving benefits. Anecdotal evidence of mismanagement is frequently reported in India's press.¹⁶

While there may be a case for expanding social assistance for the elderly, both in terms of benefit levels and number of beneficiaries, its role in alleviating poverty can only be measured with careful study and systematic collection of data. This is not taking place. An audit of these schemes would likely reveal serious deficiencies and wide variation across states in administrative efficiency.¹⁷ Before increasing the budget allocation for these programs through the NOAPS program, these issues must be addressed in order to ensure that the funds are achieving their intended purpose.

3.3.2.2 Programs for consumption smoothing

More than two-thirds of the formal or 'organized' sector in India participates in an income replacement scheme. These are defined contribution or defined benefit schemes designed to provide a source of income after retirement in order to prevent a sharp decline in consumption levels in old age. In contrast to the social assistance programs for the destitute elderly, the objective is to provide workers with a means by which they can smooth consumption over the life cycle. The most important programs in this category are the defined benefit and defined contribution plans managed or supervised by the EPFO and the state and federal level schemes that cover civil servants.¹⁸ Together, these two elements of the pension system cover around 35 million workers or about 8 percent of India's labor force. Below, we look at each of these schemes in turn.

¹⁵In a recent field study, Sankaran (1998) finds evidence of applicants having to purchase forms. The author also finds that village level functionaries use influence on behalf of favored individuals.

¹⁶See for example, Times (2000) and *Road to pension is long; crooks wait by wayside* (2000) and *It pays to be old if Govt. foots the bill* (2001)

¹⁷Recently, the comptroller and auditor general in New Delhi found that roughly one third of recipients of this benefit were ineligible on the basis of age. See *It pays to be old if Govt. foots the bill* (2001)

¹⁸Some state enterprises such as the power sector boards have separate schemes for their employees.

3.3.2.3 Mandatory schemes managed by the Employee's Provident Fund Organization

Prior to independence, a number of firms established provident funds for their employees. By 1948, these funds had grown to more than one billion rupees, about 3 percent of all assets held by financial institutions.¹⁹ When the Employees' Provident Fund Act was passed in order to regulate existing provident funds and expand coverage to new industries in 1952, roughly 1.2 million workers were covered. Provident fund assets were equal to about 2 percent of GDP. Between 1952 and 1998, the number of industries covered by the EPF has increased from 6 to 177 and the number of workers covered has grown to more than 21 million.²⁰ Almost two million additional workers are covered under the Coal Mines, Assam Tea Plantations, Jammu and Kashmir and Seaman's provident funds which each operating under separate legislation.²¹

In 1971, a pension program for survivors of members of the EPF, the Family Pension Scheme (FPS) was introduced. Five years later, the Employees' Deposit Linked Insurance (EDLI) program added a life insurance policy that paid a lump sum benefit based on the balance of the EPF account. In 1995, the FPS was replaced by the Employee Pension Scheme (EPS). The EPS paid an annuity to those retiring from the system in addition to the survivors' benefits that had been paid under the FPS. The most significant change was the diversion of part of the EPF contribution to finance the new annuity. This converted part of the defined contribution scheme paying a lump sum to defined benefit with an annuity. As will be discussed later, it also created a new unfunded liability. Finally, after much debate, the government contribution of 1.16 percent of wage bill to the FPS was retained and was subsequently paid to the EPS.²²

¹⁹Goldsmith (1983)

²⁰Employers with 20 or more employees are required to participate and contribute to the EPF as either exempt or non-exempt funds. Exempt funds are permitted to administer their funds separately. The Employees Provident Fund Organization (EPFO) administers the unexempt funds

²¹In general, the basic structure of the schemes is the same as the EPF with minor variations. In all, the membership in these five schemes was roughly 1.9 million in 1997

²²The original government proposal was to eliminate this transfer altogether, but resistance by the unions led to its reintroduction during Parliamentary proceedings.

The Employees Provident Fund Organization (EPFO) manages the three programs with a staff of close to 18,000 employees. The Central Board of Trustees is responsible for administering the schemes. It consists of the Minister of Labour and Union Labour Secretary who are Chairman and Vice Chairman, respectively, 5 representatives of the Central Government, 15 state government representatives, 10 employers' representatives and 10 employees' representatives. An Executive Committee, which includes 11 of the trustees, serves a term of 2 and 1/2 years and is responsible for implementation. A separate subcommittee is responsible for overseeing investments.

The EPFO collects and records contributions, invests workers' money, issues account statements to members, makes determinations regarding eligibility for loans or special withdrawals and pays out retirement benefits. It also functions as the supervisor for those employers who are allowed to administer plans for their employees. These typically large employers set up a separate account under a Trust.²³ The EPFO grants exempt fund status,²⁴ inspects to ensure compliance with contribution, disclosure, investment and record-keeping requirements and takes legal action when necessary - for example, in the case of delays in the payment of contributions.

Labor force coverage has increased since the EPF Act of 1952, but very slowly. By 1997-98, the ratio of members of all provident funds to the labor force was around 5 percent. Most of the growth during the period was due to the expansion of coverage to new establishments under the centralized structure. By contrast, exempt fund membership has stagnated and as a result, only one quarter of the membership now belong to this category. Overall coverage has grown quite slowly, rising about one percentage point of the labor force per decade.

The main objective of the original EPF Act was to make "some provision for the future of the industrial worker after he retires or his dependents in case of his early death."²⁵ Until 1995, the worker and his employer made contributions into individual savings accounts. These were invested,

²³The composition and activities of the Board of Trustees are regulated in great detail. The Board must include an equal number of employer and employee representatives.

²⁴Technically, the Government has the power to grant exemptions but must consult with the Board of the EPF (Section 17, EPF Act 1952).

²⁵EPF Annual Report (1998).

mostly in non-traded, government debt. After accounting for withdrawals, the accumulated balance was available for retirement. The scheme is classified as a mandatory defined contribution scheme, although the return on members' funds is prescribed and can diverge from actual investment performance.

1. At least three factors have prevented the EPF from achieving its main objective: A wide variety of withdrawal options prior to reaching the retirement age of 55 are available to members. Reasons for withdrawal include but are not limited to, the purchase of housing, children's education, marriage of ones' daughter, and loss of employment. As a result, a substantial proportion of accumulated contributions is dissipated prior to retirement.
2. The second reason for insufficient balances at retirement is the low rate of return (especially relative to income growth) that has characterized the system throughout its history. The two factors interact - *i.e.*, low returns provide even more incentive for withdrawals.
3. Finally, the normal retirement age of 55 has not changed despite clear gains in life expectancy. The ratio of years of saving to years of retirement has thus tended to decline over time.

Next, we look at each of these factors in turn.

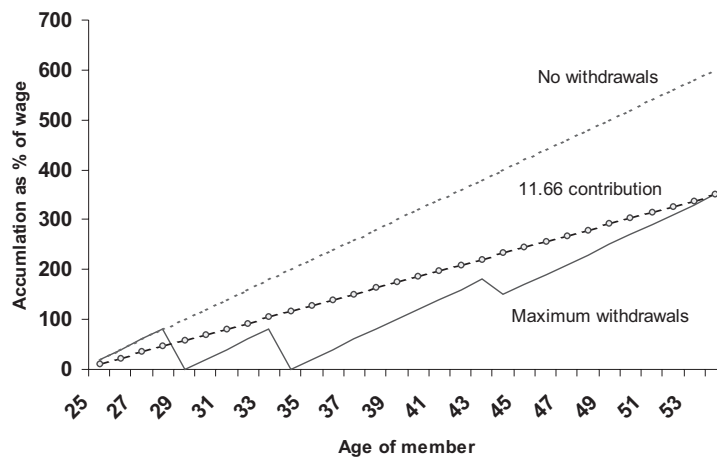
After only five years, a worker can withdraw an amount equivalent to three years' of wages to purchase a house. After seven years of membership a member can withdraw up to 50 percent of the employee share of accumulated contributions for his own marriage or the marriage of his or her daughter, son, sister or brother, or to pay tuition for higher education for a son or daughter. Other possible reasons for withdrawal include the repayment of a loan to a cooperative society, an advance if the electricity to a factory in which he is employed is cut off, or in the case of a strike. In addition to partial withdrawals, claims on account balances can be made for several reasons not related to retirement. The most important one is resignation from employment.²⁶

Data on withdrawals by other characteristics such as member balance or age are not available. These data would facilitate an estimate of the impact

²⁶This duplicates the function of another mandated benefit, the gratuity.

of the various withdrawal provisions. As a crude illustration, Figure 3.3 below illustrates the potential magnitude of this effect by simulating the contribution history of three hypothetical workers that join the EPF at age 25 and retire at age 55. The first worker, represented by the bottom line, withdraws on three occasions. First, he resigns from his job (or perhaps his establishment is closed) at age 30. He takes another job and after five years, withdraws again, this time to buy a house. Finally, ten years later at age 44, he withdraws the maximum amount allowed in order to pay for his daughter’s marriage. The simulation assumes that contributions equivalent to 20 percent of his wage are made every year.²⁷

Figure 3.3 Impact of withdrawals on accumulated balance for retirement
Hypothetical members with different withdrawal patterns



Source: Bank staff calculations.

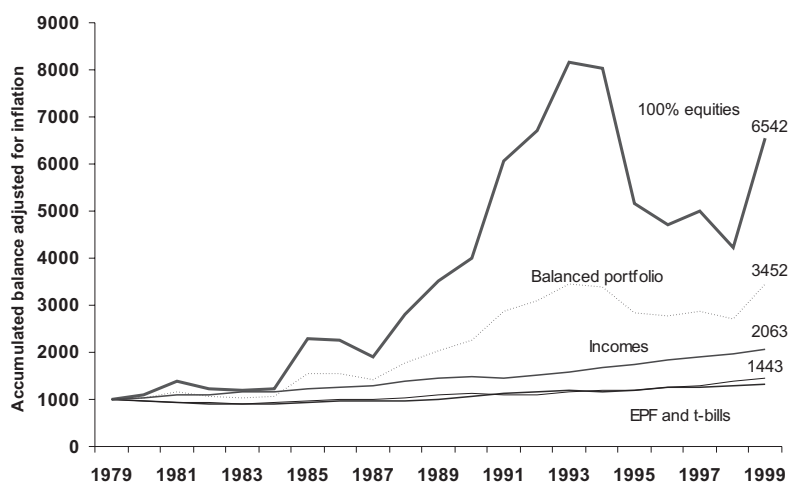
The top dashed line shows that the worker that does not withdraw for these reasons retires with an account worth six times his annual salary. Meanwhile, the first worker that made the three withdrawals retires with only 3.5 times his salary. The worker that withdrew would have accumulated the same amount if he had contributed 11.66 percent of his wage instead of 20 percent during the entire period, but had not made withdrawals. This simple example demonstrates both the importance of the withdrawals to

²⁷The simulation assumes constant and equivalent wage growth and investment returns.

the ultimate accumulation target as well as the potential for large variations in outcomes for retirement income across members. Some workers may retire with adequate savings while many others will not.

In Figure 3.3, the investment return is assumed to match the growth in the worker's income over the 30-year period. Historically, however, EPF yields have reflected an extremely conservative portfolio consisting mostly of government or government guaranteed debt.²⁸ As a result, the yield has not kept pace with the growth of incomes as shown in Figure 3.4 below.²⁹ Pension funds with diversified portfolios that take into account the long-term nature of the liability involved tend to have returns that exceed income growth.

Figure 3.4 Cumulative gross returns to EPF members' account versus a hypothetical diversified portfolio, 1979-1999



Source: IFC various years; IMF International Financial Statistics database; EPF Annual report various years; Bank staff calculations.

²⁸The inflation-adjusted yield for EPF members from 1957 to 1999 was less than one percent.

²⁹Investments were initially restricted to central government debt. Later, the portfolio options were expanded slightly to include other securities guaranteed by the government. Most recently, investment in corporate bonds was allowed for the first time.

EPF yields trailed the growth in per capita income by more than one percentage point during this period. The EPF yield also trailed reasonable long-term investment options. For example, a worker that had contributed over the last 20 years would have done much better with a diversified portfolio that included higher yielding investments such as equities. This is not surprising since equities typically perform much better than government bonds over long periods even after accounting for additional risk. Where this is not the case or where the potential universe of investments precludes it, the rationale for prefunding pensions is seriously compromised.

The combination of withdrawals and returns that are consistently lower than the growth of workers' incomes is predictably low balances at retirement. At the same time, the duration of retirement in India has steadily increased. This is due to a fixed retirement age with an increasing life expectancy. At a national level, life expectancy at age sixty increased from 13.8 to 15.7 for males and from 14.8 to 17.1 for females between 1961 and 2001 and it projected to rise further. The same figure for members of the EPFO today is estimated to be much higher, about 20 years. We can conclude that without changes, the current scheme will not achieve its objective of providing a reliable source of income in old age.

Before 1995, all contributions would have been sent to the EPF's defined contribution account and paid out as a lump sum upon retirement. Since 1996 however, 8.33 percentage points of the EPF contribution have been diverted to finance a new defined benefit scheme, the Employee's Pension Scheme or EPS. This change will reduce the accumulated balances in the defined contribution EPF accounts proportionately. On the other hand, the formula used in the EPS scheme will generate an annuity to be paid upon retirement. The EPS has the potential therefore to provide longevity insurance, a feature missing from the EPF.

In contrast to the EPF, the EPS pays a benefit that is a function of a formula applied to an individual's final salary after taking into account his period of contribution:

$$\text{Monthly pension} = \frac{\text{Final year's salary}^{30} * (\text{Number of years of service} + 2)}{70}$$

There are several problems with the new EPS benefit formula, however. First, the use of final salary, while simpler to administer, introduces biases that favor workers whose earnings rise steeply at the end of their careers. These individuals tend to be those with more education and therefore, higher incomes. Manual workers, by contrast, tend to have flat or even declining age earnings curves. The use of final salary may also lead to manipulation whereby benefits are maximized by workers and employers colluding to underreport wages for early years and raising the final wage. In recent years, many OECD countries (e.g., Italy, Sweden) have shifted towards lifetime average wages in order to avoid this unintended and regressive transfer.

A second problem lies in the way the formula rewards early retirement. The benefit formula described above applies to workers retiring at the normal retirement age of 58. However, early retirement is also possible at age 50 with at least 20 years of service. Early retirement is penalized by a reduction in the benefit equivalent to 3 percent per annum. This penalty however, is less than actuarially fair so that those who retire early receive more favorable treatment than those who continue to work until the normal retirement age.³¹ This redistributes to workers who retire early. Moreover, it encourages them to do so with negative consequences for the finances of the scheme.

Another important shortcoming of the new EPS benefit formula is that it does not provide protection against inflation through indexation. This is a standard feature of public pension schemes in developed countries. This significantly reduces the value of the longevity insurance provided by the EPS annuity.

In addition to inflation risk, there is a real risk that underfunding will make the scheme unsustainable in the long run. There is no standardized mea-

³⁰The additional 2 years of service added here only apply if the worker has at least 20 years of service or has reached age 58. For a worker with 33 years of service, this raises the average accrual rate from 1.43 to 1.52 percent per annum.

³¹The original legislation included a six percent per annum penalty for early retirement. This is closer to the correct actuarial penalty that would equate the present value of the benefit stream for workers retiring at different ages. This was reduced to 3 percent after negotiations with unions.

sure of public pension liabilities and international practice varies for defined benefit schemes in the private sector.³² Nevertheless, minimum funding rules in some countries focus on the accrued pension obligations to current pensioners and contributors. This measure is useful for regulators interested in safeguarding earned pension wealth for workers in case sponsors are not able to make contributions in the future due to bankruptcy. In the United States, accounting rules require that a standardized measure of unfunded pension liabilities be reported on company balance sheets. Reporting of public pension liabilities is less common, and requirements vary across countries.

The EPF Act as amended requires an annual actuarial valuation.³³ An actuary performed a valuation in 1998 but the official results have not been made public. In March 1998, the EPS had reserves with a book value of about 120 billion rupees or roughly 0.7 percent of 1998 GDP. The actuarial report finds that under certain assumptions, the scheme can be considered fully funded. At the same time it warns that the funding margin is slim.

Such calculations are extremely sensitive to the assumptions used, however. To better understand the current funding position of the EPS, the World Bank's PROST model was used to project expenditures and revenues through 2080.³⁴ The core data used in this exercise are the same as those used in the actuarial valuation, but assumptions and methodology differ. In particular, the World Bank estimates assume that mortality rates decline in the long run, assume a lower effective retirement age and use a lower discount rate than the unpublished actuarial report. The poor quality of data available for the valuation exercise means that these estimates should be considered preliminary.

The baseline PROST results for the annual cash flow for the EPS are shown in Figure 3.5. The surplus and deficit figures presented here refer to the difference between contributions and expenditures in a given year. The dashed line can be considered the lower bound estimate of future deficits

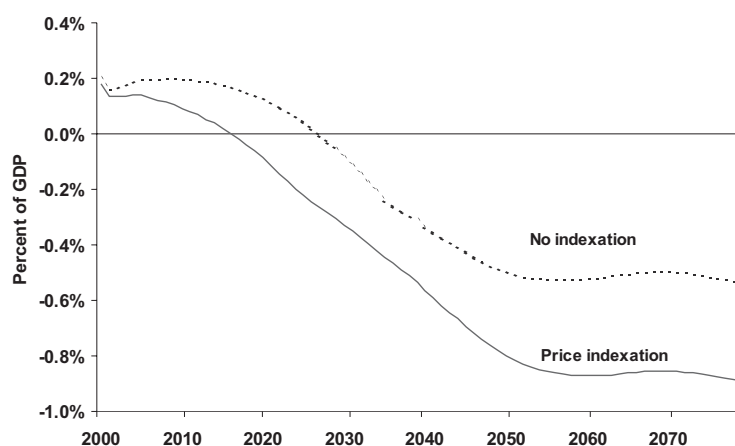
³²See Holzmann et al. (forthcoming)

³³"The Central Government shall have an annual valuation of the Employees' Pension Fund made by a valuer appointed by it". (EPF Act, EPS Notification Section 32).

³⁴The contribution from the central budget is not included in the revenue figures. This is not considered an inflow to the Government and is netted out when public accounts are consolidated.

defined in this manner. It assumes that pensions are not adjusted after the initial pension value has been calculated, i.e., they are not indexed. In practice, pension adjustments are allowed according to the funding status of the scheme. But this adjustment rule is ambiguous, leaving discretion to future governments. Although it is unlikely that there will never be adjustments to offset price increases, the 'no indexation' scenario is consistent with legal provisions.³⁵

Figure 3.5 Baseline projections for EPS, with and without price indexation
Surplus or deficit as share of GDP



Source: *India: The challenge of old age income security* (2001)

In the absence of indexation, net flows into the fund are positive through 2035. Afterwards, deficits arise and reserves begin to shrink. This suggests that under the most optimistic assumptions the EPS began its existence with a net liability, i.e., the present value of future spending is greater than the present value of future revenues. In the year 2000, the gross liability is already about 7.5 percent of GDP with assets equal to less than one quarter of this amount. This second projection takes into account all rights earned

³⁵Recently, the Board of Trustees approved an increase of four percent applied from 1999. This was lower than the current rate of inflation.

by members of the scheme and the annuity value of pensions already being paid in 2000.³⁶

The scenario represented by the dashed line would involve massive reduction in real incomes of pensioners. Over the course of an average retirement, inflation of only 4 percent per annum would reduce a pensioners' purchasing power by half by the year of death. Uneven annual inflation rates means that some pensioner cohorts would be affected more than others in an arbitrary fashion. It is unlikely that a policy that allowed such a disparity in pension levels across cohorts could be sustained indefinitely. In order to maintain real benefit levels constant until the death of the pensioner, pensions should be inflation indexed. This scenario is also shown in Figure 3.5. As a result of these automatic adjustments, expenditures increase significantly, deficits appear as early as 2016 and reserves would be depleted a decade later. The most realistic scenario at probably lies somewhere in between these two cases. Finally, it should be noted that expansion of coverage would defer deficits, but would not eliminate the underlying imbalance.³⁷

From this brief analysis, we can conclude that the schemes managed by the EPFO suffer from several problems. In the case of the defined contribution element, withdrawals, limited investment options and a low retirement age lead to balances that are too low to prevent a sharp decline in consumption after retirement. The new defined benefit component of the system produces inequitable transfers, subsidizes early retirement and fails to provide effective longevity insurance. Its long run sustainability is also suspect.

3.3.2.4 State and federal pension schemes for civil servants

In terms of coverage, the second most important element of pension provision in India is the system of pensions and provident funds for civil servants. The combined membership in these plans at the state and national level is estimated to be about 12.25 million in 1998.³⁸ The total number of pensioners for the same year is estimated to be about 7.3 million. Civil

³⁶Part of the imbalance is due to a transition formula that provides a windfall to older workers. Assets inherited from the Family Pension Scheme did not offset this windfall. As a result, the new EPS began with a liability of about 4.5 percent of GDP in 1995.

³⁷See *India: The challenge of old age income security* (2001) for projections with coverage expansion.

³⁸The data on the number of central government pensioners are from Mathur (1998).

servants also participate in the Government Provident Fund (GPF) which pays out a lump sum at retirement.

Pension spending for civil servants has risen dramatically in the last few years. Unlike the EPS, there are no contributions, so annual spending comes directly from state and central government budgets. For the central government, the pension bill expressed as a share of GDP doubled between 1995 and 2000.³⁹ Expenditures for central government pensioners alone will exceed 1 percent of GDP in fiscal year 2000-01. There were also dramatic increases at the state level. In some states this ratio trebled during the 1990s. In the largest state, Uttar Pradesh, for example, the ratio of pension spending to GDSP rose from 0.4 to 1.2 percent between 1990 and 2000. In Rajasthan, this ratio rose from 0.8 to 2.3.

The fiscal burden is likely to grow faster at the state level due to the massive expansion of employment experienced between 1960 and 1990 (see Figure 3.6). After doubling during this period, hiring has leveled off in most states so that internal demographics will deteriorate rapidly in the next decade. Already in some states, pensions are the second largest expenditure after interest payments on debt. Preliminary estimates suggest that the situation will worsen considerably after 2010.⁴⁰

Excluding other pension obligations, (e.g., unfunded schemes covering about one million workers in the electricity boards), the Government's liability is conservatively estimated at close to one third of GDP.⁴¹ In light of the mounting fiscal pressures and rising debt levels in India, the sustainability of these unfunded schemes is questionable.

The defined benefit formula is calculated as follows: an accrual rate of slightly more than 1.5 percent per year of service is multiplied by the wage of the civil servant during his final ten months before retirement.⁴² This applies for the case of a full pension that requires a minimum of twenty

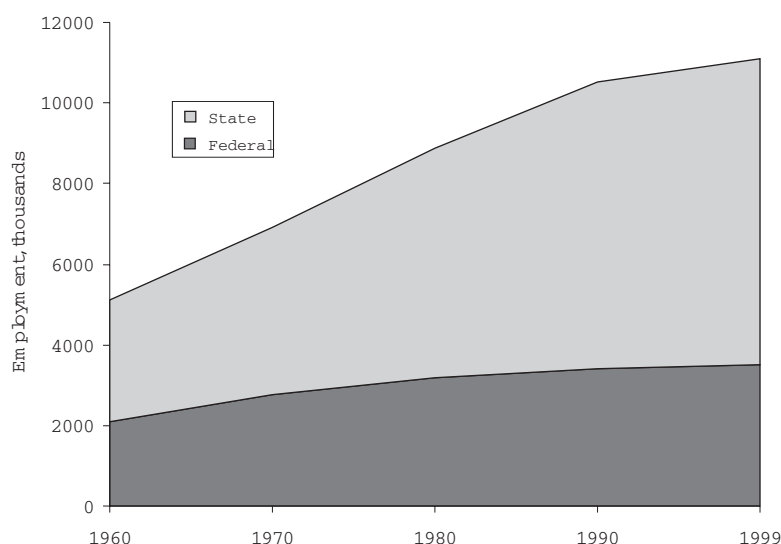
³⁹This includes pensions for military personnel which represent the single largest group of pensioners and accounts for more than one-fourth of total pension spending.

⁴⁰See World Bank (2001).

⁴¹This represents the value of accrued pension rights for active civil servants plus the present value of annuity payments to current civil service pensioners.

⁴²Until the mid-1970s, the formula was applied to the last 36 months of service.

Figure 3.6 Employment in Civil Service, state and central budget, 1960-1999.



Source: Government of India.

years of service.⁴³ Partial pensions can be paid upon completion of ten years of service and the maximum number of years taken into account is 33. Finally, post-retirement adjustments are automatically made for price changes based on consumer price indices and increased further on a periodic basis after the recommendations of each decennial pay commission.⁴⁴

Like the EPS, the defined benefit formula uses final earnings producing a similar bias towards workers with steep age-earnings profiles. Retirement ages are generally higher than in the EPS,⁴⁵ although some states devi-

⁴³The minimum monthly pension entering 1999 was 1,275 rupees while the maximum was set at 15,000. Survivors' pensions are set at 30 percent of the original pension level.

⁴⁴Part of the pension can be "commuted", in other words, taken as a lump sum upon retirement. The Fifth Pay Commission increased the portion that could be commuted from 33 to 40 percent. Most pensioners appear to take full advantage of the commutation option.

⁴⁵The normal retirement age was 55 until 1962 when the Second Pay Commission raised it to 58. The third and fourth Pay Commissions recommended maintaining this age limit. After 35 years, it was finally increased to 60 in 1998.

ate from this norm.⁴⁶ Also, the widespread use of voluntary retirement schemes (VRS) reduces the average effective retirement age and it is not clear that cost-benefit analyses during downsizing take additional pension costs into account. This issue merits further study but is beyond the scope of this paper.

In contrast to the EPS, the annuity received by civil servants is indexed for inflation. In fact, pensions also increase periodically along with wages. While it is appropriate to maintain the purchasing power of pensions over time, limiting adjustments to price movements would reduce the long term costs of the scheme and make it more sustainable.

Civil servants also participate in the Government Provident Fund with employee contributions (ranging from 6 to 8.33 percent of their salaries). The GPF is a defined contribution scheme with prescribed yields that follow those for other schemes (like the PPF and EPF). Although contributions are recorded in the Public Account of the Government of India as a liability, the system effectively operates on a pay-as-you-go basis, i.e.; segregated funds are not accumulated and invested. As such, the GPF does not provide an appropriate long term rate of return based on a diversified portfolio.

We conclude then that unlike the schemes operated by the EPFO, the main issue facing the civil servants' pension scheme at this time is sustainability. The lack of any kind of pre-funding combined with a limited ability to raise revenues and an ageing civil service will, without reform, exacerbate what has already become a significant fiscal problem for the Government of India. The fiscal threat is likely to be greatest at the state level.

3.3.3 Pension Reform and the Rest of the Economy

To this point, the arguments for reforming the main elements of the formal pension system are based on the need to alleviate poverty and to provide sustainable post-retirement income to those covered and the failure of existing schemes to do so. While this is sufficient motivation, further rationale exists based on the potential impact of a good pension reform on the rest of the economy. In fact, in a country where only one in ten workers

⁴⁶Some states deviate from these criteria. Uttar Pradesh, for example, reduced its normal retirement age to 58 in 2001.

would be directly affected by changes to the formal pension system, the indirect effects on the rest of the population become even more significant.

There are two ways of looking at the potential indirect impact of the pension system on the economy. The first involves a scenario in which the current situation is allowed to continue indefinitely. In this ‘no reform’ case, the main indirect impact is through fiscal policy. Pension liabilities grow, raising deficits or diverting funds from other programs. The fiscal problem is due to burgeoning civil service pensions as well as current and future subsidies to the EPS. In addition, there is an opportunity cost to the extent that positive indirect impact of pension reform on labor and capital markets are foregone.

On the other hand, reforms that combined cost reduction with the introduction of well-designed funded schemes would reduce the fiscal burden, reduce or eliminate certain labor market distortions and possibly contribute to the development of capital markets. These gains could generate higher economic growth rates raising living standards for those not participating directly in the pension system. The next section looks at possible ‘systemic’ reform options aimed at reaping these indirect benefits while achieving basic public policy goals for old age income security.

3.4 The Challenge of Pension Reform in India

Several pension reform initiatives have emerged in recent years. They have been motivated to some extent by the arguments listed above (e.g., fiscal pressure of civil service pensions) along with others (e.g., the perceived need to expand income-smoothing schemes to informal sector workers). In India, the Old Age Social and Income Security project (OASIS) has been the most important effort to date.⁴⁷ Working with the Ministry of Social Justice and Empowerment, this group focused its efforts on a plan to provide access to pension products to millions of workers outside the formal sector. In the process however, their work addressed many of the problems with the existing programs and increased awareness of their shortcomings.

Their efforts, along with the increasing fiscal pressure of civil service pensions led to an announcement in the 2001 budget on the formation of two committees with a mandate to produce concrete reform recommendations.

⁴⁷See http://www.oasis-india.org/downloads/oasis_final_report.pdf.

At the same time, it was announced that new civil servants would participate in a contributory pension scheme for the first time. In short, the stage appears to be set for significant changes to the fifty-year-old model. However, as this paper is being written, there does not appear to be a clear consensus yet on the basic parameters of this reform, much less the important details of implementation.

3.4.1 Partial Versus Systemic Reform

The most common type of pension reform involves marginal changes to an existing structure. These partial reforms are now a regular feature of unfunded defined benefit schemes around the world and typically involve changes to eligibility criteria, the formula used to calculate benefits (including indexation of benefits), earmarked financing and tax treatment. According to one study, between 1992 and 1998, 61 countries made 'minor' reforms of their main pension schemes that fit this category.⁴⁸ Frequent changes to the parameters of mature, unfunded pension schemes in OECD countries have been documented.⁴⁹

In contrast, a 'systemic' reform implies a major paradigm shift in the mandatory retirement savings scheme. The most common type of systemic reform in the last two decades is a shift from exclusive reliance on an unfunded, defined benefit scheme to a system that includes a fully-funded, defined contribution scheme. The combination of tax-financed, pay-as-you-go pensions with fully funded, privately managed components is sometimes referred to as a multi-pillar arrangement.⁵⁰

Several parametric reforms that would not fundamentally alter the existing arrangements would improve the system at the margin. For example, moving from final wage to lifetime average earnings for the purposes of calculating the benefit in the EPS and civil service pension schemes and liberalizing portfolio options for defined contribution schemes subject to improved supervision. These changes should be implemented, but would not address the underlying incentive problems caused by the monopolistic nature of compulsory pension provision in India. Experience from

⁴⁸Schwarz & Demirguc-Kunt (1999)

⁴⁹Disney (2000)

⁵⁰This terminology was made popular after publication of a major World Bank research report entitled 'Averting the Old Age Crisis' in 1994.

other countries suggests that only a systemic reform is likely to resolve the chronic problems so common now among demographically advanced countries that have accumulated huge pension liabilities. The proposed introduction of a funded, defined contribution scheme for civil servants announced by the Government is an example of such a shift in paradigm. The transformation of the EPFO-managed schemes has the potential to be another. In both cases, a set of core design issues must be addressed and a transition strategy formulated.

3.4.2 Pension System Design Issues

Policymakers will begin by determining the basic public policy objectives of the new scheme (in the case of civil servants and informal sector workers outside of the EPFO mandate) and of the reformed EPFO-managed programs. In particular, they will have to define or redefine target benefit levels. These are often expressed as a ratio relative to pre-retirement income or a replacement rate. In a defined contribution system, this choice will imply a certain level of forced savings. However, once these parameters are determined, there is a wide range of approaches to organizing and regulating the new scheme. Some of the more important issues are discussed briefly below.

3.4.2.1 Compulsion versus choice

A major change to existing pension laws or rules often requires reformers to distinguish between current and future active members of the scheme in question.⁵¹ In many cases, particularly those involving a shift from a PAYG DB to a funded DC scheme, current members are offered a choice between the two. This does not mean that parametric changes (modified retirement incentives, for example) cannot apply to all members, although these are often phased in gradually as well. However, a systemic change will clearly affect members differently and in a predictable way. For example, younger workers will have more time to accumulate funds in a new defined contribution scheme while older workers will not. New entrants are typically compelled to join the new scheme rather than allowing parallel schemes to persist indefinitely.⁵²

⁵¹In general, these changes should not affect those already receiving pensions at the time of the reform.

⁵²For a review of international experience in this area, see Palacios & Whitehouse (1999)

3.4.2.2 Institutional arrangements

There are a wide number of possibilities for setting up an individual accounts-based system. At one extreme, all related processes, ranging from recordkeeping to asset management can be centralized in one institution. At the other extreme, individuals could be made responsible for all aspects of their mandatory retirement. Alternatively, individuals could deal independently with financial intermediaries, perhaps limited to those specialized in pension provision and licensed by the regulator to do so in conformity with certain rules. Group arrangements, employer-based or otherwise, could also be involved at various stages of the process (e.g., collection of contributions). To complicate matters further, the arrangements could be different during the accumulation and payout stages of the system.

3.4.2.3 Investment options

Consumers in countries that have introduced mandatory funded pensions often had little experience of investing. Many had little, if any contact with financial services and providers before the pension reform. In addition, financial services industries were rarely well developed. The lack of experience of investment-in particular, of managing risk-might lead to poor portfolio decisions. On the other hand, heavy-handed restrictions of the type that have characterized the EPFO over the years eliminate the possibility of holding a diversified portfolio with reasonable long term returns for members. The restrictions may also serve to further other government objectives at the expense of pension provision and thus constitute a hidden tax. In striking the right balance in setting portfolio limits, reformers should anticipate the need to adapt these regulations over time.

3.4.2.4 Guarantees

Different types of pension involve different kinds of uncertainty. For example, public-sector pension schemes involve a 'policy risk', that the budget may not be able to accommodate required outlays leading to delays in pension payments or even default. Private pension schemes are less subject to this policy risk, because governments are less prone to confiscate private property. But defined-contribution pensions do involve capital-market risk during the accumulation phase, when contributions and investment returns

build up in the fund. The risk is that the pension fund's performance is insufficient to give an individual member an adequate retirement income.

Governments, in their role as regulator, can do much to mitigate capital-market risk. They can enforce prudential investment rules and allow funds to diversify their portfolios. They can promote competition by requiring standardized reporting and disclosure. They can also indirectly influence the performance of the funds through parallel improvements in the efficiency of domestic capital markets. But many governments have gone further, and provided explicit guarantees of fund performance.

There are at least four potential types of guarantee, all of which exist in practice:

- Absolute rate of return, that the fund delivers a pre-specified return
- Absolute benefit level, which implies that the fund must generate a certain rate of return
- Relative rate of return to sector, that the fund delivers a return close to the average for all funds
- Relative rate of return to benchmark, that the fund delivers a return close to the return on a chosen synthetic portfolio (e.g., a bond index).

Guarantees can lead to greater support for the new scheme and, from a public policy perspective, may reduce the chances of individual cases where the system fails due to fraud or mismanagement. On the other hand, poorly designed guarantees will imply new contingent liabilities for the Government. They will also reduce incentives for providers and members to work towards efficient management of pension monies.

3.4.2.5 Annuitization

The word 'pension' normally refers to a regular payment from a specific age—such as retirement,—until death. Individual retirement accounts are a vehicle for retirement savings. But they do not become a pension in the conventional sense of the word until they are converted to an 'annuity'. How much and what type of annuitization should be mandated are key pol-

icy questions facing reformers.⁵³ Most reforms have included some minimum annuitisation, adequate provisions for survivors and a requirement that the provider automatically index the annuity.

There are also a number of practical issues that are analogous in some ways to the regulatory and institutional questions mentioned above in the context of the accumulation phase. Some of these issues are related to the insurance sector where annuities are to be provided and include the availability of relevant mortality tables, reserve requirements and other aspects of the insurance business. In addition, there may be specific design issues related to ensuring that consumers understand these products and allowing some flexibility for individual preferences having to do with bequests and other uses for the accumulated funds.

3.4.2.6 Taxation

Tax treatment of funded pension schemes affects the ultimate benefit and has redistributive consequences. Along with other possible fiscal incentives, it can also affect participation levels.

In general, there are three points at which saving in a funded pension can be taxed:

- when employers or employees contribute
- when investment income and gains accrue
- when benefits are paid out

The first possibility is to exempt contributions and fund income but taxes the pension in payment. Hence the name exempt, exempt, taxed (EET). The second is TEE: contributions are made out of taxed incomes, but benefits can be withdrawn tax-free. Under certain simple assumptions, the two deliver the same present value of revenues for government. But under EET-the 'classical expenditure tax'-revenues are deferred until retirement, while under TEE-called the 'pre-paid expenditure tax'-they are received immediately. The other two systems, ETT and TTE tax pensions twice. Both tax investment returns, and the first taxes contributions and the second, withdrawals. Again, these two systems-called the 'comprehensive income

⁵³See Walliser (1999) for a discussion of the literature and key issues.

tax'-are equivalent in this simple case. Best practice and the most common form is the expenditure tax treatment, but even here a large number of permutations exist.

3.4.3 Implementation and Transition Strategies

Once the choices regarding the design of the reformed pension system are made they will have to be implemented. In some cases, this may lead to an iterative process since optimal design may not completely align with what is feasible given local constraints. For example, fiscal constraints may force reconsideration of the decision as to who should be allowed or obligated to join the funded scheme where this requires up-front government financing. While design and implementation will have to be considered in tandem at some point, it is useful to separate these issues. Below, we list some of the more important implementation challenges.

3.4.3.1 Supervision and regulation

Even a well-designed pension scheme must rely on fair competition and good information to function properly. A clear set of regulations that address various contingencies is crucial as is an agency that is able to enforce them. In a system that involves mandatory contributions to private pension funds, the standards for supervision may have to be set higher and the supervisor may have to be more proactive. This is largely due to the fact that in contrast to voluntary private pension provisions, workers with little experience with the financial sector are involved in mandated schemes.

There are different models for pension supervision. In some countries, it is housed within a larger, unified financial supervisor while in others, a separate entity has been set up. In a few cases, this task has been assigned to an existing Ministry. The choice depends in large part on the initial conditions. In countries where existing supervision is weak, a separate agency may be appropriate in the case of a new mandatory scheme and especially, when the institutional arrangement includes specialized providers.

The nature of the pension business requires specialized supervisory skills. Professional expertise, transparency and the independence of the regulator are essential to the success of the reform. Financial autonomy, relative freedom from day to day political interference and pay scales compara-

ble to the private pension sector being supervised are some elements often cited as helpful in achieving these objectives.

3.4.3.2 Worker knowledge and education

The initial level of worker knowledge and financial literacy should be considered in the design of the new scheme. For example, charge structures can be more or less complicated and transparent. If many workers find it difficult to compare the price of the service being provided, the advantages of competition may be lost. Also, workers (and employers) may be susceptible to marketing strategies that exaggerate potential investment performance.

While good design is important, implementation can also help in mitigating information asymmetries. In the early stages of the reform, a public information campaign designed to educate workers on the new system can lay the foundation. Where relevant, this effort may also be needed so that workers can assess their choice between the old and new systems. Over the longer term, the supervisor can require systematic and standardized information.

3.4.3.3 Recordkeeping and information systems

Operational issues involving the collection, transfer and tracking of contributions to individual accounts have delayed, and in some countries undermined, reform efforts. Again, there are several models available ranging from centralized collection by an existing government entity or by a new clearinghouse set up expressly for this purpose to a completely decentralized arrangement whereby all interactions take place directly between employers or individuals and their private pension funds. The tradeoffs involved in each model will depend on the nature of the institutional arrangements and initial conditions with respect to existing collection infrastructure. For example, the economies of scale involved in centralized collection could reduce costs, but a public sector monopoly may not provide efficient service.

3.4.3.4 Transition financing

When contributions are introduced for civil servants or diverted from existing unfunded schemes into funded pension accounts governments lose

short-term revenues in exchange for lower future obligations. While a well-designed reform should improve the public balance sheet, the pension debt overhand creates a gap in the short run which must be dealt with in one of four ways.

- through increased taxation, which could either be levied on workers or through a more broadly based impost, such as income tax or a general consumption tax;
- through borrowing, that is by issuing conventional public-sector debt;
- by cutting public spending, either on pensions or more generally; and
- by ‘swapping’ pension liabilities with other government assets, for example, by using revenues from privatization or other divestment of public-sector assets.

The choice between these financing mechanisms must of course, be made in the general context of fiscal policy. It will therefore depend on the particular circumstances of the reforming country. In practice, governments have tended to use a mix of mechanisms typically budgetary finance (tax cuts or spending increases) and debt finance (issuing government bonds). The key point is that the implications of design choices with regard to the coverage of the new scheme (all workers, younger workers or only new entrants), must be ‘costed’ out in order to ascertain feasibility within the overall fiscal framework. A similar exercise is needed with regard to investment rules insofar as changes to portfolio limits imply a loss of captive credit for the government.⁵⁴

3.4.3.5 Harmonization across sectors and entities

In many countries, including India, parallel pension provision exists based on geographic or sectoral differences. These are often the result of historical forces and are not usually justified on the basis of sound public policy. The negative consequences of this parallelism include duplication, reduced labour mobility and arbitrary difference in terms of retirement income.

⁵⁴Such an assessment would also take into account possible changes in the duration of government debt as the new pension funds provided natural demand for longer term instruments.

A systemic reform is an opportunity to harmonize pension provision and at a minimum should not exacerbate existing problems related to fragmentation. For example, several countries that have undergone systemic reforms have simply moved all new labor force entrants - public or private - into the reformed system. This takes advantage of some of the fixed costs of the new systems as well as economies of scale. Other countries have ensured complete portability between schemes by integrating civil servants into the general scheme while providing a supplementary pension to address perceived needs in the human resource area. It is also interesting to note that large countries such as Argentina and Mexico have tended to incorporate sub-national schemes for civil servants into the national schemes after systemic reforms.

These are some of the issues that would arise in the context of a pension reform that involves a compulsory, defined contribution scheme with some element of private management. An illustration of a systemic reform is presented below.⁵⁵

3.4.4 Illustration of a Systemic Reform

Table 3.2 below describes the basic parameters of a reformed system for private sector workers. As mentioned above, it could also be an alternative for new civil servants.⁵⁶ In the long run, this would lead to a seamless network of pension provision across sectors and improve labor mobility.

The hypothetical system consists of a basic flat pension accrued at a rate of one percent of the average covered wage per annum supplemented by an individual account based on a contribution of 12 percent of wages. The overall contribution rate would be reduced from 24 to 18 percent. The retirement age would be increased to 60 and gradually raised to 65 over a period to be determined based gains in life expectancy. A 12 percent

⁵⁵An alternate illustration is presented in *India: The challenge of old age income security* (2001) whereby a defined contribution scheme is supplemented only by an improved and expanded social assistance program. This case has the advantage of lower contribution rates, but eliminates the defined benefit element of the system for workers in the formal sector.

⁵⁶As noted, this does not preclude a supplementary scheme for civil servants if human resource considerations were to recommend this. It could, for example, take the form of additional contributions to the defined contribution scheme as was the case after the reforms of civil servant pension schemes in United States and Hong Kong.

Table 3.2 Current EPS/EPF compared to reform illustration

	Current System		Reformed System	
	EPF	EPS	Reformed EPF	Basic pension
Contribution rate	15.67%	8.33% plus 1.16% govt.	12%	6%
Target own replacement rate average wage worker	Varies depending on withdrawals	42.9%	30%+	30%
Target own replacement rate, 1/2 average wage	Varies depending on withdrawals	42.9%	30%	60%
Retirement age	55	58/50 (early)	60 (rising to 65)	60 (rising to 65)
Maximum covered earnings	not indexed; currently about twice average earnings	not indexed; currently about twice average earnings	300% of average covered wage	300% of average covered wage
Benefit form and indexation	lump sum	annuity, not indexed	inflation-indexed annuity	inflation-indexed annuity
Financing	Funded	Partially funded	Funded	Partially funded

contribution for a worker participating for 30 years would be enough to produce a replacement rate of at least 30 percent. This is feasible only if withdrawals for non-pension purposes are prohibited and if long-term average yields are higher than the growth of the worker's wages.⁵⁷

In this scenario, the target replacement rate for a worker with the average wage is set at 60 percent for a contribution period of 30 years. The entire

⁵⁷For a worker retiring at age 60 with 30 years of contributions, the net investment return would have to be approximately 1.5 percentage points higher than wage growth over the period to provide an annuity equivalent to a 30 percent replacement rate. We assume equalization of retirement ages at 60 for both schemes.

benefit is provided in the form of a price-indexed annuity. The 'basic pension' is set at 30 percent of the average wage in the year of retirement for a worker with 30 years of contributions. The relationship between the first tier benefit and the worker's contribution history is based on an annual accrual rate of 1 percent per annum. A ten-year vesting period is assumed in this illustration. In other words, a worker having contributed for 10 years would receive a benefit equal to 10 percent of average wage in the year of retirement, a worker with 20 years would receive 20 percent and so on. This defined benefit would be financed from an earmarked, 6 percent payroll tax. As discussed below, this results in partial funding of the basic pension obligation.

Finally, the current system for setting the earnings ceiling is replaced by a standard covered earnings cap set at say, three times the average covered wage. As a result, the highest benefit to be paid by the system is the sum of the basic pension plus approximately 90 percent of the average wage ($.3 \times 3$) or 120 percent of average wage. A low wage worker with an income of only 50 percent of the average would receive a pension equivalent to around 90 percent of his own wage and about 45 percent of the average wage ($[(.3 \times .5) + .30]$), assuming contributions for thirty years. Based on 30 years of contribution. Source: EPF Act and Bank staff calculations

In order to ensure adequate rates of return on EPF accounts, portfolio limits would be gradually adjusted.⁵⁸ Over time, workers could be offered different portfolios that reflected their age, risk tolerance and other individual characteristics. For example, in the US 401(k) plans, workers may be offered anywhere from four to twenty or more options for investing their retirement savings. In Hong Kong, employers must offer at least four options including a conservative, money market account. As participants become more sophisticated and the regulator more confident, the scope of options can be expanded.

Reform of investment practices is not simply a matter of adjusting limits, however. Accounting practices, governance, disclosure and other regula-

⁵⁸Sen (1998) proposes adjusting portfolio limits in three phases. By 2005, the minimum share that has to be held in government or government guaranteed securities would fall from 75 to 20 percent. The share that could be invested in mutual funds or listed shares would rise from zero to 25 and 15 percent respectively. Foreign investments would rise from zero to 10 percent.

tory issues must be addressed concurrently. For example, asset valuation is currently based on book, rather than market values. This is consistent with an investment policy where the portfolio is invested exclusively in fixed income securities that are held to maturity with returns disconnected from changes in the market. However, if investment restrictions were to be gradually shifted to diversified portfolios, 'marking to market' will become crucial to avoid arbitrary transfer of gains and losses across members of the scheme. Under the current arrangement, it is too risky to purchase long term or corporate bonds and hold them to maturity independent of expectations regarding future interest rates and on how the issuer is performing. The point is even stronger regarding the purchase of shares since these never mature and book values can diverge dramatically over time from true market values.⁵⁹ This suggests that piecemeal reforms will not work.

Competition will tend to increase as exempt funds are given greater discretion to invest in different assets. Employees will prefer to work for companies with exempt funds that are well managed and produce higher returns. On the other hand, most employees do not work in exempt funds. Unless they can join an employer with an exempt fund, most members must accept the returns and service offered by the EPFO.

While there may be ways to improve the performance of the EPFO in terms of service and fund management, the international experience with publicly managed pension funds is not encouraging. One recent study found that returns in publicly managed funds were often negative in real terms, often lower than bank deposit rates and usually trailed the growth of incomes.⁶⁰ The sample includes centrally managed provident funds in Asia and Africa as well as the partially funded, defined benefit schemes in many other countries. Clearly, the poor performance of the EPF in India over the last four decades is not unique. The evidence suggests that there are fundamental incentive problems when pension funds are run by state monopolies.

Private pension funds, regulated but not administered by governments, have done better. Most examples are found in the richer OECD coun-

⁵⁹This may help explain the low interest in corporate bonds despite recent changes to the portfolio limits to allow up to 10 percent of new investments in these instruments.

⁶⁰See Iglesias & Palacios (2000)

tries. However, a growing number of developing economies use private managers in their mandatory schemes. The trend is most evident in Latin America and Eastern Europe. In Chile, private pension funds have generated real returns of more than 9 percent over the last 20 years. In Asia, the first mandatory, private pension scheme was recently introduced in Hong Kong. In general, private pension returns have exceeded the growth of wages by several percentage points.

In order for liberalization of investment rules to have a significant impact, more exempt funds will have to be licensed in the coming years.⁶¹ It would make sense from administrative point of view to begin with larger employers. Sen (1998) for example proposes that firms with 100 or more employees be given the option of contracting out as an exempt firm. The appropriate size of establishment could be established according to estimates of the average administrative cost per worker since these tend to fall with scale. As an ancillary industry develops, costs may fall as employers contract out asset management and other services. Exempt fund criteria can be gradually loosened to include smaller firms.

Private provision, especially for small firms, can be expensive and these costs may be passed along to members. Indeed, the issue of administrative costs in mandatory private pension schemes has been contentious.⁶² Advocates of centralized management point out that public schemes can achieve a scale that leads to low marginal costs and that monopolies can avoid high marketing costs. However, the key question is whether these charges reduce the net rate of return to members relative to the centralized alternative. The answer to this question depends on the likelihood that additional costs associated with competition will be compensated by the higher returns generated by a competitive investment process.

Costs associated with decentralization should be taken into account as the universe of exempt funds is expanded, but should probably not be the main factor considered. Recordkeeping costs can be reduced by improving the EPFO's ability to act as a data clearinghouse, especially for smaller funds and standardized cost reporting to members will allow for easy compar-

⁶¹ Another option is to increase competition by allowing members to invest a certain portion of their balances through licensed, private asset managers as envisioned in the OASIS report. At some point, these options converge.

⁶² See Whitehouse (forthcoming) for a detailed discussion of the international debate.

isions in order to identify outliers. Instead, the key constraint on the pace of contracting out should be how quickly the supervisory institution can reach a point where it can ensure that all exempt funds are functioning according to the rules.

Changes to the investment rules and increased competition are a necessary but not sufficient condition for raising long run returns and improving service. The second requirement is good regulation and supervision. The current system places few demands on the supervisor. Portfolios are highly restricted and the main task of the EPFO is to ensure that the employers in the exempt funds actually make the required contributions. In this context, the relatively light supervision of exempt funds would not be adequate.

In the reformed system described here, supervision will become more complicated.⁶³ Valuation will have to be checked frequently, reporting standards will be higher and a series of safeguards will have to be monitored, including compliance with the new portfolio limits.⁶⁴ Currently, the EPFO functions as both administrator and supervisor. It manages the individual accounts and investments of three-quarters of EPF members while at the same time supervising the employers that run exempt funds.

The new system will not only require more resources, but also a staff with a different set of skills from that currently available at the EPFO. Many of the issues facing the regulator of the reformed EPF will require experience and training in finance and insurance. They will need to work very closely with the securities market regulator and the new insurance regulator. And they will have to be paid comparable salaries. All of this argues for the separation of private pension supervision from the other functions of the EPFO.

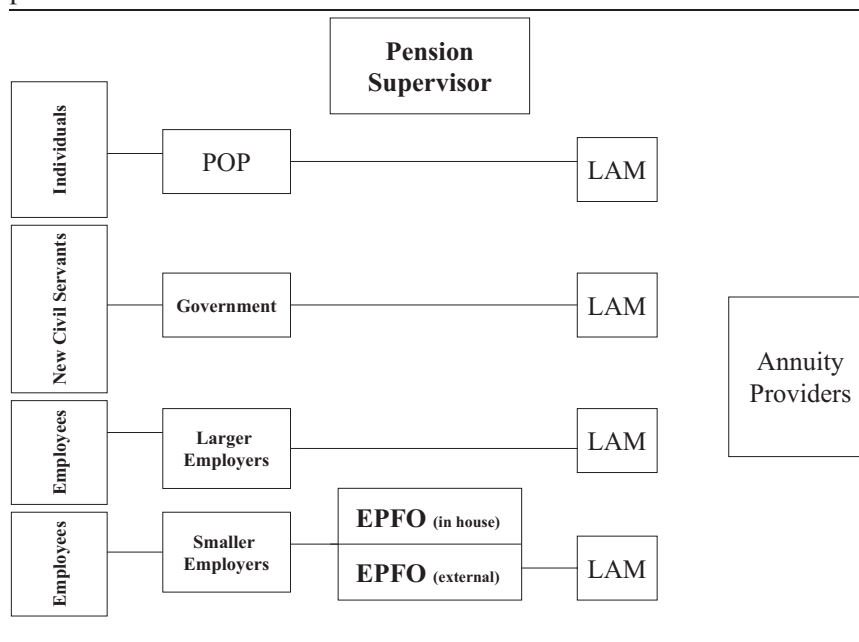
The schematic in Figure 3.7 illustrates what a hypothetical system of the kind described above might look like. Note that the figure assumes a new pensions regulator, a new set of participants in the asset accumulation process and an annuity stage that would also have multiple providers. Most importantly perhaps, it is a system wherein workers in small or large firms,

⁶³For a discussion of supervision of mandatory private pensions, see Demarco & Rofman (1998)

⁶⁴For example, in addition to concentration limits by issuer, investment among related parties should be restricted.

self-employed individuals and public and private sector workers can participate in a seamless system with a unified infrastructure of recordkeeping, regulation and supervision.

Figure 3.7 Schematic based on the systemic reform illustration in this report



Larger employers that currently fall into the category of 'exempt funds' would contract directly with one of the licensed asset managers (LAMs). This construction is similar to that found in Australia, Hong Kong (see Box 4) or the US 401(k) plans and would be subject to a series of specific regulations designed to protect workers. These defined contribution accounts would be tracked by the EPFO and would be completely portable from one employer to another. The change would affect roughly one quarter of the employees covered by the EPFO today and a significantly higher share of total system assets.

Three-quarters of EPFO members work for smaller firms with 'unexempt' status. In this construction, the accounts of these workers could still be managed by the EPFO, although in the longer run, these workers may be given the option to opt-out as individuals contracting directly with asset

managers, (as is now possible to a limited extent in the Central Provident Fund in Singapore, for example). However, the potential that these relatively small accounts would be subject to high administrative costs and the likelihood that workers in these firms are less financially literate suggests that a central provider may be useful in the interim. However, the management of reserves by the EPFO should be at least partially contracted out and monitored by EPFO trustees according to best practice. Thus, the EPFO box in the figure above suggests both in-house and external asset management.

In the case of civil servants, the Government could act as employer and would select from among the LAMs on behalf of its employees. In the diagram, new civil servants would automatically join the new system. In the long run, the defined contribution accounts of public and private sector workers would be completely portable. Note that this does not require a change in the overall compensation policy for civil servants; these issues can be resolved through additional contributions to the same scheme if deemed appropriate.

3.4.5 Extending Coverage of the New System

There is often a presumption that coverage of social protection and specifically, pension systems should be expanded as much and as quickly as possible. This may be reasonable when the existing scheme functions well. In the case of India however, there is a case for reforming the existing formal sector schemes first, before attempting to increase the scope of their membership. Informal family systems and quasi-formal welfare schemes have their own shortcomings, but only a well functioning formal system can provide a reasonable substitute. With this in mind, this section looks at several ways that coverage can be expanded as the reformed system takes shape.

3.4.5.1 Incentives

The reforms described above should, on balance, provide greater incentives for employers and employees to participate in the formal retirement savings schemes. In particular, the prospect of increasing yields and reducing overall contribution rates by 4-6 percentage points will make participation more attractive. The redistributive nature of the basic benefit will

encourage lower income workers to participate, but may discourage higher income workers for whom the internal rate of return is lower by design. The net effect on overall compliance rates is uncertain, however as many other factors will determine formal sector labor supply (e.g., other taxes, costs of registration etc).

A number of administrative improvements might also help encourage participation. At present, individual accounts are established at the level of the establishment. For transient, low-income workers, this can lead to a series of accounts that are created and lost as they become dormant and are not transferred in the name of the individual. Not surprisingly workers that fit this description prefer not to have part of their compensation deposited in these accounts. A system of individual identification numbers that identified accounts and allowed for multiple employers to make contributions easily by simply referring to this number would help avoid this problem. The account could be held at the EPFO or in a sectoral exempt fund covering construction and other types of transient workers.⁶⁵

3.4.5.2 Ceilings

Coverage can be defined in terms of contributors as well as the proportion of labor income on which the public pension mandate is applied. Most countries apply a ceiling. The ceiling on earnings-replacement schemes is justified because most societies consider the role of government in old age insurance as limited and not applicable to the highest income groups. If long term savings over and above a certain level are desired, there may be tax incentives to encourage them, but on a voluntary basis.

The ceiling in India is expressed in a rather unique fashion, and one that is uncommon in the rest of the world. While most countries tax income up to a ceiling, in India, individuals with salaries above a certain level are exempted from the mandate altogether. The rationale for this practice is unclear, as is the ad hoc process by which the level of the ceiling is set. Since 1994, this ceiling was set at 5,000 rupees.⁶⁶ Obviously, with

⁶⁵In Hong Kong's new mandatory employer-based scheme, there are two sectoral funds covering construction and hotel workers. The management of these funds will be contracted to private firms based on a competitive bidding process.

⁶⁶In the Government's budget for 2001, it was announced that the ceiling would be raised to 6,500 rupees per month. The new ceiling applied to the Government contribution of 1.16 percent is 6,000.

inflation raising nominal wages over time a greater number of workers are excluded from coverage. The “graduation” from coverage does not reflect an increase in the real wage or a change in the relative position of the employee in the income distribution. Many workers with the same living standard in 1994 would be excluded from coverage in 1999 because the ceiling is not adjusted. In short, the level of the ceiling is arbitrary.

A more reasonable approach would be to impose a ceiling on the contributions to be made to the earnings related, defined contribution scheme at some level that reflected public policy concerns about reasonable consumption during old age. In many countries, this ceiling is around twice the average wage.⁶⁷ Note that the ceiling concept applied here would not exclude higher income workers from the scheme, only limit the portion of their income on which the mandate was imposed. This would increase the number of members of the main scheme and eliminate the need for employers to create separate provident fund schemes for higher income workers. This should help reduce administrative costs. In addition, revenues to the basic pension scheme would increase.

3.4.5.3 New employer mandates

There are two more ways to extend statutory coverage of the public pension system. First, the list of the type of establishments that are subject to the EPF act can be increased. Second, the minimum size of the establishments covered can be reduced. In the extreme case, the self-employed could be required to participate, although this would require some fundamental changes to the EPF Act since it is based on provision through employers.

The point made at the start of this section was that it does not make sense to extend statutory coverage until the current scheme is significantly reformed. One reason to sequence these changes carefully is to avoid legal challenges and outright evasion when the new rules are submitted. In the past, failure to consider the views of workers and employers has resulted in expensive legal battles and strong reactions from civil society. While the very nature of a compulsory scheme involves coercion, it is clear that without some level of tripartite consensus, the program is unlikely to succeed.

⁶⁷See Palacios & Pallares (2000)

Nevertheless, once the schemes are reformed, the determination of coverage under the EPF Act should be reviewed. It is not clear why certain industries should be excluded, for example. Exemptions, if they are to be granted, should be transparent and debated openly. The list of types of establishments to be covered could be dropped in favor of more objective indicators such as number of employees.

3.4.5.4 Small firms and the self employed

When the EPF Act was passed, establishments with more than 50 workers were covered. The limit was reduced to 20 workers in 1960 and has remained at that level since. It is not clear why this limit was chosen, but one possible argument is that administration of records for small firms is costly relative to larger firms. It is also possible that high turnover in smaller firms would make it more difficult to track employees and to monitor compliance.

The problem is even more complicated for self-employed workers and family businesses. Monitoring incomes in a highly informalized labor market is costly as evidenced by the fact that self-employed workers around the world hide their income regularly. These entrepreneurs, operating in a world with high interest rates on informal credit markets may prefer to invest in their own business. Finally, the legislative and administrative structures of the EPF are based on an employer mandate.

In the short run, changes to the EPF Act to include small firms and the self-employed are likely to fail. The percentage of self-employed contributing in countries with better overall tax compliance than India is typically below 5 percent. The results will probably not be better in the Indian context and would only serve to add to the administrative burden of the EPFO.

Given the difficulty in assessing the incomes of self-employed workers, they should probably be excluded from the basic pension scheme. Instead, open pension funds may offer an alternative to the PPF. The open funds would be licensed and regulated according to the rules of the employer-based DC scheme and by the same supervisor. Many open fund providers would also participate in the employer-based scheme as asset managers contracted by the trustees of exempt funds. Individual participants would be subject to the same restrictions on withdrawals, tax treatment and pay-

ment of benefits. However, contributions could be flexible and the open funds could offer a wider (but still limited) number of portfolio options.

3.4.5.5 Microfinance and quasi-formal group schemes

A variety of organizations provide financial services, including certain types of insurance, for many informal sector workers.⁶⁸ In particular, microfinance institutions promoted by non-governmental organizations and mutual welfare funds financed by members and sometimes subsidized by government often provide disability, life insurance and other services to their members. Unfortunately, there are no estimates of the scope of coverage of the many schemes that exist around the country. One of the larger welfare funds is the one that covers beedi workers. Since 1993, LIC pays out benefits to them while premiums are paid through an earmarked tax on the sector. Among other things, the fact that identification cards were issued to many beedi workers has facilitated their entry into the EPF. One third of the estimated 1.3 million workers in this sector now have EPF accounts.

There also exist an unknown number of smaller welfare funds organized for specific occupational groups, often at the state level. Pillai (1996) for example, describes the mixed experience of the headload workers in Kerala. The relatively small scale of these schemes (fewer than 10,000 members in this case) and low incomes can lead to high administrative costs. In the headload workers example, the administrative costs consumed roughly one third of contributions.

The potential role for welfare funds and NGO-sponsored microfinance institutions in providing long-term savings vehicles for their members is unclear. The largest NGOs providing related services, such as SEWA or the Society for Promotion of Area Resource Centers (SPARC) are large and may be in a position to expand the range of their services or to offer more of their members disability and life insurance coverage.⁶⁹ But are participants in these programs truly interested in long-term contractual savings

⁶⁸See Jain (1999) for a brief review.

⁶⁹SEWA has around 120 thousand members and SPARC has centers in 14 cities. Jain (1999) reports that 12,000 women paid 60 Rupees per year for insurance against maternity, widowhood, illness, communal violence etc.

instruments, including annuities.⁷⁰ While SEWA and others intend to expand its services to include old age pension provision for members, the nature of their products are shorter term, reflecting their members' need for liquidity and flexibility. Direct provision may be costly, especially for smaller organizations. One possibility would be to use the new open funds and arrange for group contracts that would reduce transaction costs for their members.

3.4.6 Transfers to the Lifetime Poor and Destitute Elderly

Universal coverage in India's compulsory retirement savings system is neither practical nor advisable in the short run. Even if coverage expanded very rapidly it would not affect the incomes of those who are already old. For these individuals, a safety net below the contribution-based system is required. Official poverty estimates suggest that more than one third of the population live below the poverty line.⁷¹ Assuming that the proportion is similar for the elderly, it would appear that the social assistance program reaches less than one third of the poor old. Moreover, the benefit levels are very low and are falling in inflation-adjusted terms every year because they are not indexed.

There are at least three reasons to be cautious when considering an expansion of the social assistance scheme. The first reason is the most obvious, the fiscal cost. In addition to direct costs, transfers may change people's behavior posing a cost for the society overall. For example, there is some evidence that benefits may lead to a reduction in labor supply or savings. There is also a possibility that an increase in public transfers will result in a reduction of private transfers, leaving the recipient only slightly better off. Finally, if the social assistance benefits are high relative to those paid through the basic pension, there will be little incentive to participate in the latter program.

None of these appear to be strong arguments against expansion of social assistance to the elderly in India. The cost of doubling the average benefit

⁷⁰Rutherford (2000) refers to a product offered by a large microfinance institution in Bangladesh, the Association for Social Advancement (ASA), which has three million members. The five-year "contractual savings" product was considered long term.

⁷¹There is currently an active debate over the correct poverty rate in India (see, Deaton & Tarozzi (2000), for example). These arguments are not sensitive to these estimates.

or the number of recipients in the short run would be roughly 0.04-0.05 percent of GDP. It is interesting to note that this is roughly equivalent to the central budget contribution to the EPS, a transfer that we have argued should be eliminated on grounds of equity.

It is also unlikely that benefits will induce a significant reduction in labor supply or savings. As already noted, the very poorest households in India save little. If most of the recipients were members of such households, as is likely to be the case, there would be little scope for changing behavior in this regard. Given high co-residence rates, any “leakages” to the rest of the household or reduction in private transfers would still benefit poor families. The economic losses due to reduced labor force participation of poor older workers with low productivity and failing health is also likely to be negligible. A benefit of 150 rupees per month would be much lower than the basic pension and well below absolute or relative poverty line measures. In any case, there would be very little overlap between the parts of the income distribution covered under the two schemes.

The potential welfare gains from reduced poverty appear to be great relative to the potential costs. However, the ultimate impact of the program depends on how efficiently it is administered. Earlier, this report cited evidence that questionable criteria were applied in different states, that the eligibility determination was not always based on objective assessment and that the transaction costs to recipients could be high, potentially reducing take up. These problems should be addressed prior to the expansion of the system.

Specifically, the incidence of the program should be measured. This could begin with a detailed study of one or more selected states, followed by the construction of a set of standard auditing procedures. Eventually, the results of these periodic audits would be made public. Allocations to the states from the Union budget under the NOAPS program could be increased for those states where the funds were found to have had the greatest measured impact on poverty among the elderly.

3.5 Conclusions

Based on a review of current programs, this paper has argued for a major shift in India’s system of old age income security. The argument can be

summarized as follows: In the context of an aging population, less than one in ten workers participates in a pension plan. About one third of these belong to an arcane civil service scheme that is increasingly viewed as unsustainable. The rest belong to a system that requires high rates of contribution but delivers little in the way of consumption smoothing or longevity insurance. For those too poor to save, there are social assistance schemes, but their impact on poverty among the old is probably marginal. Finally, the indirect impact of formal pension schemes on the economy is probably negative through fiscal pressures that crowd out other needed programs, labor market distortions and the inefficient allocation of long term savings.

There is growing momentum for pension reform as manifested in several important policy initiatives in recent years and there now appears to be a consensus that reforms are necessary, at least in certain areas. Despite this progress however, pension reform will be an extremely complex undertaking in the Indian context.

First, it will be difficult to achieve a coherent vision of pension reform given the disparate elements and actors involved. The links between different parts of the system are important. Civil service pension reforms at the state level will be heavily influenced by decisions made in Delhi. Developments in the private pension sector will (and should) influence both the civil service scheme and the EPFO-managed schemes. Any attempt to introduce a new regulatory and supervisory structure for private pensions would have to be reconciled with the existing treatment of exempt funds and the role of the EPFO as their supervisor. Changes in other sectors, such as the mutual fund industry, may be necessary for the success of a system based on private asset management. The list could go on.

In addition to giving due consideration to these policymakers must also consider a planning horizon that goes well beyond what is required in most areas of public policy. Decisions made today can have very long term implications and reforms will play out over very long periods of time. In fact, while designing the new system is extremely complex, the most difficult task is often managing the transition from one system to another.

While the task is daunting, the potential benefits are huge. Reform would provide current and future contributors with a viable alternative to a traditional family support system that will come under increasing strain as

the demographic transition unfolds. For the millions of Indians that will not participate in the near future, important indirect benefits are expected through improved fiscal conditions and the positive impact of a well-designed and funded pension system on the economy at large.

As in so many areas, the challenge of old age income security in India will be met when formal, public pension provision is viewed with the level of confidence that approaches the informal, private alternative.

