

Greying of Indian Railways

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Introduction

Indian Railways is the largest undertaking in the country employing nearly 1.6 million workers. Salaries, wages, allowances and other benefits for this large workforce account for 56 per cent of the working expenses of the Indian Railways.

Pensions also fall under the same category of expenses, but deserve special attention due to the inevitable rise in the amounts which need to be set apart for this purpose. For instance, in 1980-81, the contribution to the pension fund (as an appropriation from railway revenues) was 4.65%. By 1997-98, the corresponding figure had risen to Rs.3,456 crore² and formed 13.3% of the railways' working expenses. This is a cause for serious concern, but the railways have so far not taken any measures to address this problem. The adverse impact of increasing pensionary liabilities on the financial

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² One 'crore' is equal to 10 million

performance is now palpable. It is, therefore, imperative that the railways formulate an appropriate strategy to meet this challenge.

Since the pension fund was established in 1964, it is not as if the railways are or were unaware of the problem. As a commercial undertaking, the railways were required to contribute the actuarially estimated amounts to this fund so that the balance in the fund accurately reflected the amount paid in a particular year, as well as the potential cumulative liability for the pension benefits earned for each year of service. The railways failed to do so. In addition, they did not operate the fund in the manner it was originally contemplated and simply dressed up their balance sheets to reflect this contribution.

This study intends to focus attention on the implicit debt which has been accumulating over the years on account of insufficient contributions made to the fund by the railways. They can no longer afford to remain indifferent to the massive liabilities which would surface in their prospective budgets on this account. The study also suggests reforms to the pension scheme being currently operated by the railways, with a view to improving its financial position in the coming years.

Background

The pension scheme of the Indian Railways was introduced with effect from 16 November, 1957. All employees inducted into the railways after that date were compulsorily covered by the new pension rules. Existing employees were covered by the state railway provident fund (SRPF) scheme, which was similar in scope and content to the contributory provident fund scheme in vogue at a few other departments of the central government. Following the extension of the pension scheme (applicable to central government employees) to the railways, only those employees who did not opt to switch over to the pension scheme continued to be covered by the SRPF scheme.

Subsequently, and as a result of the recommendations of the Fourth Central Pay Commission, all those covered by the SRPF scheme and still in service as on January 1, 1986 were deemed to have switched over to the pension scheme on that date unless they had specifically exercised their option to continue in the SRPF scheme. The present position is that practically all railway employees are governed by the railway pension scheme.

For accounting purposes, pensions were charged to revenues of the year in which they were actually paid. This procedure was similar to the one followed in the case of non-pensionable railway employees. In their case also, the government's contribution to the provident fund was charged to the accounts in the year in which it fell due. This procedure worked well in the initial years; the number of pensioners was not large and the monetary outgo was equally small. With increasing number of staff opting for pension, the outgo was likely to increase manifold in the years to come. It was also expected to significantly vary from year to year.

The railways countered this problem by setting up a pension fund on 01 April, 1964 which would receive contributions from the annual railways revenue. It was also decided that from 1964-65, the actual pension payments in each year would be charged to this pension fund. The provision for credit to the pension fund and for withdrawals therefrom was proposed to be covered by two new Demands for Grants to be sanctioned by the Parliament in the same way as contributions to and withdrawals from the railways' Depreciation Fund were covered.

The Railway Board correctly felt that such a measure was essential as the annual cost of staff should reflect not only the amount paid but also the potential cumulative liability for the pensionary benefits earned against each year of service. It was also considered desirable that the burden of this expenditure should be evened out from year to year. In a note sent to the Department of Economic Affairs in January 1964, the then Financial Commissioner for the railways made the following observations:

“The railways are expected to operate as a commercial undertaking. The railways have a very large number of employees. The cost of their pension..... is high; it is also a high proportion of the working expenses paid by the railways. It is further not unlikely that the railways, after increasing their employee strength..... may then begin to contract as the British and other railways in the West have already begun to do. It will be quite unreasonable to expect the smaller labour force of those days, to earn sufficient revenue not only to meet their own cost but the cost of lakhs³ of employees who had retired earlier but for whom no adequate provision had been made for the payment of pensions, as they fall due. The correct course is, therefore, to build up a pension fund at least from now, as we have built up a Depreciation Fund so as not to have a false picture of our surplus position and of our future liabilities.”

The Economic Secretary of ministry of finance replied:

“We agree that in view of the steadily rising pension bill which the railways will have to meet, it would be appropriate for a commercial department like the railways to devise a procedure whereby its working expenses bear the pensionary liability more or less on an accrual basis rather than on the basis of the actual payments as and when made. We are, therefore, in agreement with your proposal to set up, with effect from the next financial year, a pension fund from out of the railway surpluses; the transfers to the fund as well as the withdrawals therefrom being covered by a vote of Parliament”.

At the request of the railways, the Controller of Insurance had assessed that in order to meet the cost of pensions including family pensions, as they fell due in respect of a stationary population of 10 lakh employees (estimated to opt for the pension scheme), an amount of around Rs.30 crore would have to be credited to the pension fund every year. However, in actual practice, the annual appropriations to the fund were far less, ranging from Rs.12-16 crore during the period 1964-65 to 1974-75.

³ One Lakh is equal to hundred thousand

A revised actuarial exercise was carried out in December 1974. It revealed a shortfall of Rs.252 crore in the pension fund as on March 1970. The amount in balance was Rs.80.02 crore as against the Rs.332.34 crore required to meet the potential cumulative pensions liability. No action was however taken to make good this shortfall. This was the first blow to a well-conceived pension fund.

The fresh actuarial exercise had also suggested enhanced appropriations to the pension fund starting 01 April, 1975. However, once again, the actual contributions to the pension fund were far less till 1978-79. Thereafter, the contributions were stepped up. But, as it turned out, the actual payments were larger than the contributions assessed by the actuary, as well as the contributions made by the railways to this fund.

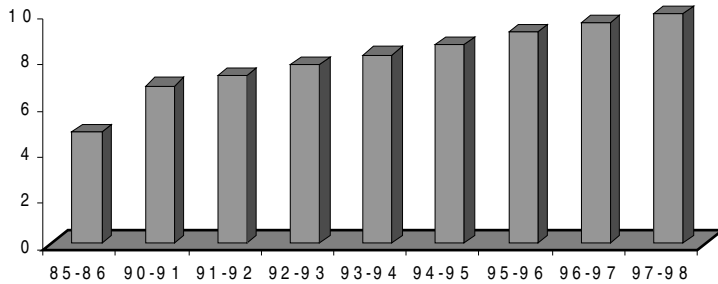
An inhouse assessment in 1981 revealed a shortfall of Rs.203 crore in the pension fund corpus. Despite this, no action was taken to meet this shortfall. Thus, the accrued pensionary liabilities kept on mounting, and the *raison d'être* of the fund was completely lost.

Over time, the system of periodical actuarial exercises was also discontinued. The initial actuarial calculations were based on certain assumptions regarding mortality, ill health, retirement, etc. The closeness of these assumptions to actual experience had to be watched and necessary adjustments made from time to time so that the fund always remained self-sufficient. But this was not done.

The Burden

The Indian Railways have witnessed a fourfold increase in the number of pensioners during the last two decades. From a low of 2.71 lakh pensioners in 1981, this figure touched the 1 million mark in 1997-98. The graph below depicts the steady rise over the years.

Lakhs

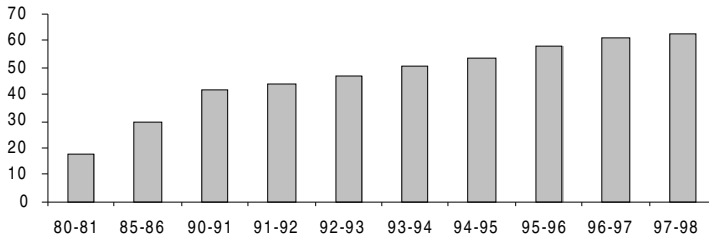


Pensioners

This phenomenal increase in the number of railways pensioners can be explained by two significant developments – the increased life expectancy in India (78 years for a retired government servant) and the large induction of 5 lakh new employees in the fifties. The impact of this large recruitment exercise was felt only in the nineties – when these employees began to retire.

In consonance with the sharp rise in the number of pensioners, the dependency ratio has also registered a sharp increase; a high of 63 in 1997-98 as against a mere 17 in 1980-81. *Pari-passu*, the burden on the serving employees to support their erstwhile colleagues is growing manifold. In the years to come, this ratio will increase further, as the railways will have to trim its staff strength. It is not unlikely that over a period of time, the number of pensioners more-or-less equal the number of serving employees.

Percentage

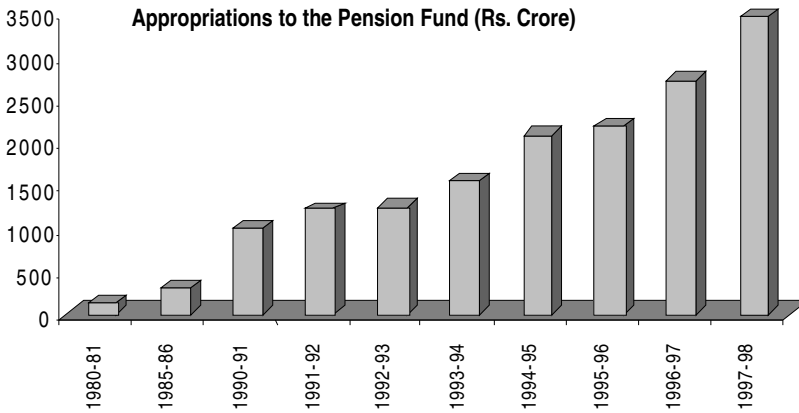


In addition to the impact of an increase in the number of pensioners, the pensionary liabilities of the railways have also been influenced by the implementation of the recommendations of successive Pay Commissions. These recommendations led to an increase in the emoluments of railway employees, betterment of their promotional avenues, and liberalisation of their pensionary benefits. Similar welfare approaches cannot be ruled out in the future.

The announcement by the central government to raise retirement age to 60 years would no doubt help in arresting the outgo on pensionary benefits – though only in the short term. In the long run, however, the impact may be neutralised by further increase in life expectancy – a distinct possibility in the coming decades. In line with the developments elsewhere in the world, India would also be experiencing substantial greying of its population.

The amounts appropriated from the pension fund for the period 1980-81 to 1997-98 are indicated in the table below. In 1980-81, the withdrawals were Rs.106 crore. Within a span of 18 years, this amount increased more than 300 fold to Rs.3,456 crore (by 1997-98) accounting for roughly 13.3% of the working expenses as against 4.65% in 1980-81.

⁴ Dependency Ratio = 100 * number of pensioners / number of employees



The burden of pensionary liability on the railways has to be appreciated in the context of:

- a. An environment of downsizing in the government and falling budgetary support,
- b. A climate of growing competition and the railways' falling market share, and,
- c. A rampant political profligacy.

As is well known, the share of budgetary support from the government in the total plan outlay for the railways has been declining – from 75% during the fifth plan to 23% in the eighth plan. The ninth plan projected an even lower level of 20%. A steady decline in government support is making things even more difficult for the railways. In the years to come, Indian railways will have to depend largely on internal resource generation to meet its financial needs and obligations.

The Need

Currently, railway employees enjoy a defined benefit pension. Employees who complete a prescribed minimum period of service, are entitled to a defined percentage of their last emoluments as pension. As the corpus of the pension fund is insufficient for potential cumulative pensionary liabilities, the term 'pension fund' is a misnomer as the nature of the fund differs from the accepted connotation of the term. Appropriations from general revenues of the railways are used to meet this pensionary liability. Sadly, even though a separate pension fund was established in 1964, this is intrinsically a pay-as-you-go (PAYG) plan today.

With a dependency ratio of one pensioner for less than two workers, the contribution rate was 30 per cent in 1997-98, as against less than 9 per cent 1980-81. Any further increase in the dependency ratio or in the quantum of retirement benefits would push up the pension contribution further⁵. In this context, the following observations of the Fifth Pay Commission (Para 132.8, Vol. III) are worth noting:

“Increased system dependency rates, i.e. the ratio of number of pensioners to the number of workers, have put pressure on the viability of PAYG schemes. As such, rapid increase in this rate has caused pressure on public pension systems, resulting in a situation where most of the countries of Eastern Europe and South America have made their pension plans more sustainable by converting part of the pension obligation into a funded contributory scheme ... Large funds have accumulated under occupational pension plans amounting to 133 per cent of GDP in Switzerland, 117 per cent in the Netherlands, 105 per

⁵ Normally, under a purely contributory PAYG plan, the benefits accruing to the current retirees determine the contribution (paid either by the workers or from general revenues). Then $C = BD$, where C is the rate of contribution, B the benefit rate and D the dependency ratio (beneficiaries/workers covered under the scheme). For example, if there is one retiree for every five working employees and if beneficiaries have been promised an average pension equal to 50 per cent of the average wage, a contribution rate of 10% of wages will cover system costs. If the dependency ratio rises to one retiree for every two workers, either the contribution rate must be enhanced to 25 per cent or the benefit rate be reduced to 20 per cent of the average wage. Since it will be difficult to effect any reduction in the benefit rate, it is obvious that the contribution rate will have to rise.

cent in UK and 72 per cent in USA. In Chile, which represents an example of successful pension reform, the funded pension schemes are government-mandated but are privately managed by specialised fund management companies. The funds have accumulated resources which are equal to 30 per cent of GDP and achieved a real rate of return of 13 per cent per annum”.

Simulation exercises carried out by consultants engaged by the Fifth Pay Commission indicate that the estimated expenditure on pension for the civilian employees will go up from Rs4,650 crore in 1997 to Rs27,180 crore in 2015 and Rs 1,14,500 crore in 2030. Their report further suggests that if the government contributes an amount equivalent to 17.73 per cent of the wages of new entrants, it can provide 50 per cent of the final wages as pension after retirement without incurring any PAYG liability. However, the government may not find it easy to implement this plan since the pension expenditure under PAYG for the existing pensioners and current employees would remain unchanged; hence there will be a progressive and steep increase in the total expenditure on account of pensions for the next 40 years.

If, in addition to the above, the government also contributes 18% of the salary of current employees to the fund, it will cause a progressive reduction in the annual PAYG liability (ranging from 40% to 7.5% depending upon the remaining years of service) for such employees. As a result that the net additional expenditure by the government will not be as high as in the former case and the break-even point will also be reached earlier – after around 27 years.

The report provides yet another set of calculations which show that if the government contributes 5.85 per cent of the employees' wages into a pension fund it can reduce its PAYG liability for every year of contribution so that, at the end of 33 years, the 50 per cent PAYG pension would be reduced to a 33.5 per cent PAYG pension and a 16.5 per cent funded pension. After about 27 years, the annual expenditure on pensions would be lower than the expenditure incurred if the entire pension was paid on a

PAYG basis. The projected year-wise figures of expenditure for all government departments as a whole (excluding defence services) as given in the report are only broadly indicative of the magnitude of funding required for defined benefits plans.

The railways will, of course, have to work out separate projections of expenditure based on the forecasts of increase in the number of its own pensioners, the dependency ratios, the average amount of pension payable to its employees in different pay categories, the total amount of wages payable every year, etc. The size of railways' contribution to the fund required to achieve the objectives of each of the above-stated three plans can then be arrived at.

Other alternative schemes can also be thought of and simulation exercises carried out of at least equal value in real terms to the current basic pension. However, since enormous funds will be required for replacing the PAYG system overnight, partial funding, with the railways contributing a percentage of the employees' salary into a designated and independently operated fund, can alone provide the answer to the railways' mounting expenditure on pension payments.

So far, the railway pension fund has not been given the attention it deserves, either by the railways or the finance ministry which administers the fund. An ideal pension fund operates exactly like a provident fund with investments made in designated securities. In the case of provident funds, 60 per cent can be invested in government securities and special deposit schemes and the remaining 40 per cent in public sector bonds. There has, in fact, been a distinct change in the pattern of investment of such funds during the period from 1993-94 to 1996-97, as may be seen from table below:

(in percentage)

Investments in	1993-94	1994-95	1995-96	1996-97	1997-98
Central Government Securities	Nil	25	25	25	25

State Government Securities & other Negotiable Instruments guaranteed by Central or State Government	15	15	15	15	15
Special Deposit Schemes	70	55	30	20	20*
Bonds of PSUs and PSFIs, Certificates of Deposit of Banks	15	30	30	40	40

** 10 per cent investment in private sector bonds has been permitted.*

The railway pension fund has no such provision for investment and the amount is held as a cash balance. The only interest accrual is on the balances maintained in the fund which are negligible, though even on this amount the interest rates paid are significantly lower than those payable on treasury bills. For instance, if the entire balance of Rs 713 crores during 1995-96 had been invested in 364-day treasury bills at a price of Rs 88.40, it would have given a return of 13.2 per cent and the interest on that balance would have been Rs 94.15 crores. However, the actual interest earned was Rs 51 crores, which is only about 6.5 per cent.

Since as much as 40 per cent of provident fund investments are now permitted in PSU bonds, railways ought to follow the western models of setting up a pension fund, albeit for part funding of pension payments, and invest in public sector bonds which would give a much higher rate of return than what is currently credited on the cash balances available in the fund (as part of the Consolidated Fund of India) by the government.

This mechanism would be particularly helpful in a situation where funds from the government's budgetary resources have been drastically reduced, internal generation of resources can be limited and, extra-budgetary resources, such as borrowings through IRFC, are expensive. For instance, the taxable bonds issued by IRFC have in the past carried interest in the range of 15 to 16 per cent (only now the rate has been reduced on account of a regime of low interest rates introduced by the RBI) which obviously pushed up the amount of lease rentals payable by the Indian railways. If the

pension fund had been properly operated there would have been ready buyers of IRFC bonds at costs which would have satisfied the requirements both of the pension fund as well as of IRFC/railways.

The advantages of setting up an independent pension fund are, therefore, manifold:

A gradual reduction in the pension payouts from general revenues and, hence, release of more funds for plan activities;

future increase in pension payments – both under PAYG and funded segments of the scheme – can be absorbed to a great extent by generation of additional income from the investments made by the fund; and

IRFC bonds can find a ready market in the railways own fund thus benefiting both the fund and the IRFC besides minimising the risks of investment.

The Method

Pension funds in countries with immature financial systems often accumulate reserves which almost always are required to be invested in government securities or the securities of state enterprises. The ultimate use of these funds is often not known since data are unavailable and money is fungible in the government budget. Very often, the governments are tempted to spend these reserves on consumption rather than investment, with the result that funds are not available when needed. It is, therefore, essential that pension reserves are kept separate from the rest of the budget and are managed by an autonomous body.

Regulation of the funding of benefits is a key aspect of the regulatory framework for defined benefits pension funds. Calculation of funding requires a number of actuarial assumptions, in particular, the assumed return on assets, projected future wage growth (for final salary schemes) and future inflation (if there is indexing of pensions).

Minimum funding limits provide security of benefits against default risk by the organisation setting up the pension fund. In the US, the Employees Retirement Income Security Act of 1974 introduced the Pension Benefits Guarantee Corporation to guarantee (upto a certain limit) benefits of funds in default. This increased the burden on the companies running a pension scheme, and, as a consequence, the growth in pension funds slowed. The number of new defined benefits plans dropped while some firms switched over to defined contribution plans.

More recent changes in US regulations have clarified funding rules. Pension fund liabilities have been defined as the present value of pension benefit owed to employees under the benefit formula, discounted at a nominal rate of interest. Implicitly, these are the obligations of the fund if it is wound up immediately. Indexation upto retirement, as is normal in a final salary scheme, gives the projected benefit obligation which is not guaranteed except in the UK. However, taking account of future obligations instead of focussing purely on current liabilities could permit smoother levels of contributions as the fund matures.

In the UK, recent regulatory changes have limited overfunding to 5 per cent of the projected obligations, enforced a degree of indexation (upto 5 per cent) of pensions upto retirement for early leavers and outlawed compulsory membership. A decline of the company pension fund sector is predicted but, to date, there is little evidence of this happening.

The interest rate assumed to be earned on assets is a key aspect of funding arithmetic. If it is overestimated, funding may be inadequate; if underestimated, there may be overfunding. Some of the countries, like Japan, fix the contributions assuming a certain nominal rate of return on fund assets, others, like the Netherlands, UK and Canada, allow for an assumption of wage growth.

Requirements of full funding do not completely solve the default problem. Full funding requires a complex calculation that involves actuarial assumptions. The future rate of return on assets determines the

growth. Inflation and year of retirement determine future obligations. None of the variables is known with certainty. The values that employers and their actuaries use in these calculations strongly influence the contribution rate deemed necessary for an actuarially sound fund. Also, for funding requirements to be meaningful, governments should specify their key actuarial assumptions, such as expected rate of return and wage growth.

How should the investment portfolio be regulated to prevent excessively risky investments? If investments fail, pensions could be in trouble, and if there are government guarantees, the burden would ultimately fall on the government treasury. On the other hand, overly strict regulations defeat the capital market advantages of pension funds. In the US, the rule requires sensible portfolio diversification but places no limit on portfolio allocations other than a 10 per cent limit on investments in securities of the sponsoring employer. The case of the UK, where pension funds have taken advantage of the regulatory freedom to place a large share of their portfolio in equity investments, is similar. In developing countries, the restrictions on equity investments are generally much more strict.

To ensure competent and responsible administration of pension funds and protect their solvency, minimum capital margin needs to be prescribed. Shortage of local expertise can be overcome by temporarily utilising the services of foreign fund managers by working out a suitable arrangement within the framework of governmental regulations. Asset Management Companies (AMCs) who have so far been managing the mutual fund industry have not been able to generate much confidence among the investors. The selection of AMCs will, therefore, pose a major problem, but it can be overcome by permitting foreign fund-managing agencies of proven track record to start joint ventures with Indian companies already in this business locally. Developing countries reluctant to embark on joint ventures may have a hard time assembling the expertise needed to run the pension funds efficiently, especially in the early years.

In Chile, the pension fund is an independent entity, segregated both legally and financially from the fund management companies. The assets of

the pension fund belong exclusively to individual members and are neither attachable nor affected by any financial losses suffered by the asset management companies. Besides, these companies are required to maintain investment reserves equal to 1 per cent of the total assets of the pension fund they manage. The reserves have to be invested in the same assets as the pension fund under the asset management company's management to ensure that they apply the same incentives in investing the resources of the pension fund as are applied to their own resources. There are no floors requiring purchase of government bonds or other "socially useful" investments.

Currently, the upper limits are 50 per cent on government bonds, 30 per cent on corporate equities, 10 per cent on foreign securities and specified limits on bank deposits, mortgage loans and other assets. There is also a provision for a "profitability reserve" wherein the excess over a prescribed percentage of investment return is to be placed. Similarly, when the real investment return for the pension fund is below a prescribed figure, the AMC has to make up the difference by transferring funds from the profitability reserve. However, the twelve months' average used in calculating returns unduly emphasises short-term performance which is not desirable for long-term contracts. An alternative approach would apply narrower limits on performance over 3 to 5 year periods.

Financial regulation aims to protect the participants from fraudulent or imprudent functioning of the managers of financial institutions. One way to provide such protection is through regular disclosure of information. AFPs in Chile are required to provide statements to contributors three times a year disclosing the monthly contributions made by the employees, the accumulated balance and rate of return on individual accounts.

To protect against inflation, pension funds managers could invest a portion of their portfolios in assets that provide an effective hedge against inflation. More than 95 per cent of the investments of AMCs in Chile are in equity, real assets, or indexed bonds. Hedging against inflation is, however, more difficult in countries with less developed financial markets, poorly

indexed financial instruments and an inflation rate which is high and volatile.

Another problem concerns the workers' exposure to the risk of a sharp decline in the market at the time of retirement. This risk could be reduced by requiring workers to purchase small annuity contracts periodically once they reach a predetermined age, say, 50 years. The timing problem could be mitigated more effectively by developing variable annuities whose value would rise and fall with the market rather than being fixed on the retirement date.

Recent developments in the UK have focussed attention on the functioning of the pension fund managers. The UK's big four firms of fund managers have been able to increase their market share significantly since 1990, largely by winning balanced fund mandates which give one fund manager discretion to invest in a wide range of assets classes. This has led to increased concentration in the hands of a few in an industry where the biggest has been considered to be the best and safest bet.

Events of the past few months, however, suggest a fundamental change in the attitude towards the fund managers. The most recent example is that of Unilever who have dismissed MAM, the UK's largest fund manager, from a £1bn portfolio because of poor performance. Two other major companies – PDFM and Gartmore – which have suffered the worst performance problem, were hit by their decision to hold a large proportion of assets in cash. As asset allocation is a key component of balanced management, this failure on the part of these companies has called the system into question.

This rethinking has also been caused – more fundamentally so – by the Pension Act introduced by the British government about a year ago, which has made pension funds reassess the way their assets are managed. The minimum funding requirement – a central feature of the Act – insists that funds exactly match their assets with their liabilities, that is, the money needed to pay future pensioners. As the liabilities are based on the

movement of key indices, the change has served to increase the attraction of index funds for trustees. The investment experts have, therefore, suggested that for best results, there should be a mix of index tracking, balanced management and specialist managers for managing different types of assets.

Although occupational pension schemes (which may cover workers in civil service, public utilities, large corporations, etc.) were initially unregulated, substantial regulations have been devised in every country where such schemes are introduced. A basic reason for regulating complex pension schemes is that the workers may not fully understand the schemes or may not realise that the pension promises are underfunded and, therefore, not trustworthy.

Also, if the government guarantees payments to the retirees out of these funds, the managers of pension plans could be tempted to make excessively risky investments for the reason that in case the investments fail, the burden will eventually be passed on to the government. Regulation thus prevents the organisations controlling the pension funds from taking advantage of such guarantees (or other concessions) by pursuing inefficient or inequitable ways. A basic problem, however, remains in that the developing economies may lack the institutional capacity to regulate effectively.

From the start, the developing economies need to frame regulations requiring a sound long-term financial basis. Funding requirements may reduce the temptation for the employers to make irresponsible promises and increase the trustworthiness of the promises that are made.

A promising model for enforcing regulations is in place in the Netherlands. A single statutory authority, the Insurance Supervision Board, oversees occupational pension plans. Pension funds have to provide the Board with detailed information on benefit payments and investments. The Board ensures that pension fund commitments are adequately covered by assets and plan rules and conditions are satisfactory.

This model of monitoring, i.e., one supervisory body, specific rules on funding, standardised actuarial assumptions, portability provisions and periodic on-site inspections, have considerable merit for developing economies where regulations, disclosure requirements and enforcement mechanism relating to pension funds are at an early stage. Indonesia recently enacted a new pension legislation covering regulatory and disclosure issues that could serve as a model for developing countries. Significant among the major provisions of this legislation, which could be relevant for the Indian railways, are:

An occupational pension programme must be operated as a legal entity separate from the employer's business, with the pension fund's assets held by an approved custodian.

Pension programmes must be fully funded.

Permissible investments should be specified, with strict diversification standards. Transactions between the pension fund and the employer should be restricted.

There should be regular reporting to the participants (it could also be an elected body of workers/employers) and independently audited financial statements and actuarial opinions should be submitted to the Ministry of Finance.

Both the contributions and the pension fund investment income should be tax-free, while pensions are taxed as normal income.

The portfolio distribution of pension fund and the corresponding return on the assets held would determine the viability of the fund. The findings given in one of the research papers written for the World Bank (E.P. Davis, 1993) indicate that for domestic assets the highest returns (and the highest risks) are normally offered by equities, followed by property. Both are generally in excess not only of inflation but also – crucially for final salary plans – of the growth rate of average earnings.

International diversification in equities also offers sizeable real returns, at generally lower risk than domestic shares, despite exchange rate hazards. While international investment may involve the dangers of institutionalised capital flight, loss of control by monetary authorities and depriving local markets of the increased availability of long-term funds, it has the singular advantage of contributing to the credibility of domestic stabilisation policies and opening up the domestic economy to enable it to become a part of the global economy. Liberalisation of capital outflows may also encourage inflows by convincing foreign investors that they will be able to get out of the market quickly in case the need arises.

Bonds constitute over two-thirds of pension fund assets in Sweden and Denmark, largely due to portfolio regulations : 60 per cent of Danish assets have to be invested in domestic debt instruments, while the majority of Swedish assets are to be in listed bonds and debentures. In the United States, bonds form around 40 per cent of pension funds' portfolios. In contrast, in the UK, the bonds' share has fallen sharply: from 50 per cent of gross assets in 1966 to 14 per cent in 1990. But this is largely due to the fact that, after abolition of exchange controls, UK funds sold bonds to buy foreign assets.

Loans constitute a large proportion of the Dutch and German pension funds' assets. Loans by German funds are largely given to banks and companies whereas Dutch funds lend predominantly to the public sector. Swedish and Swiss funds, which used to rely heavily on loans, now do so only to a limited extent. Generally speaking, loans face greater liquidity risk than bonds, while having the advantage of being tailored to the requirements (longer maturities, etc.) of the borrower and the investor.

The Costs

The efficacy of a pension scheme depends partly on its administrative costs. But a proper comparison of the administrative costs of different pension

schemes is difficult because of the enormous differences in country conditions, the kind and quality of service provided, and cost accounting techniques. Nevertheless, there is enough evidence to show that the country's per capita income and number of workers covered by the pension plans are two major determinants of administrative costs.

It is often not possible to measure administrative costs. Public pension plans, in particular, systematically understate their costs. For example, in the US, the cost of investigating recalcitrant employees does not appear in the books of the Social Security Administration, although they add to the expenses incurred by the Internal Revenue Service. There are also bureaucratic costs of delayed payments and inconvenience costs to pensioners which remain unreported.

A pension scheme operating in a poor country faces different types of resource constraints than a scheme operating in a rich country. On the one hand, administrative costs may be higher in a rich country because of higher wages. On the other, weak communications infrastructure and banking system may raise the cost of account and disbursement of pensions in a poor country. Besides, scarcity of computers and of skilled personnel needed to use them could also raise the cost of record-keeping.

Certain features of the pension system, such as the scope and quality of the services provided, the amounts and kinds of investments made and indexation of annuities (which are more expensive to administer) also influence the costs. In publicly managed plans with substantial reserves, the surpluses are usually required to be invested in government bonds or bonds of the state enterprises. In this case, investment expenses are negligible and investment returns are low. In contrast, where investments are allowed in a broad range of private as well as public securities, the pension schemes incur higher expenses but also allocate capital to more productive uses and, as a result, earn a higher rate of return allowing a lower contribution rate to finance a given pension scheme. There is thus a clear trade-off involved, about which a judgement has to be made.

There are also multiple external and internal influences on costs which need to be considered while determining whether a pension system is administratively efficient. In practice, such influences get ignored and simplified cost ratios that are often misleading are used as indicators of administrative efficiency.

Two ratios that are usually presented are administrative expenses as a percentage of total contributions taken or of total benefits paid out. In general, these ratios are high in immature systems with young populations. For instance, Indonesia and Kenya spend 30 per cent and 72 per cent of contributions, respectively, as administrative costs. In contrast, Japan and the US spend 1 per cent or less of benefits and contributions as operating expenses. These ratios, however, do not tell us anything about the internal efficiency of the pension schemes.

Another ratio is the administrative cost per member of the pension plan. Although this ratio avoids the bias against young countries with immature systems, it is also not an adequate measure of administrative efficiency, because it does not account for the quality of service provided, the price of labour and capital, and economies of scale. Moreover, such a ratio is useful for comparison purposes only when the countries/pension systems compared are of almost an equal size and with, more or less, similar per capita incomes.

No objective norms for deciding on the optimum level of administrative costs can, therefore, be laid down. The right way, perhaps, is to compare statistical data from other countries with almost similar characteristics and then institute practices for lowering these costs below those which may be expected as a result of such comparisons. Also, as capital markets become globalised, large pension and insurance companies will increasingly operate as pension fund managers across national borders (provided they are permitted to do so by the respective governments), and can ensure high quality of service, strong investment performance and lower administrative costs.

The level of management fees charged by the fund managers depends on the competitive structure of the market. In the competitive UK market, a fund may pay about 0.2 per cent, whereas in the US fees tend to be higher at about 0.4 per cent. In countries such as Switzerland and Germany, with relatively uncompetitive fund management sectors, the rates are much higher – 1 per cent or more. In Japan, till recently, only trust banks and life insurers could manage funds with trust banks charging upto 1.8 per cent and life insurers charging 2 to 5 per cent of the inflow.

But more important than administrative costs is the efficacy of asset management. Countries with uncompetitive fund management may find that there are no incentives for obtaining a high return on investments. In India also, competition among the really capable fund managers may be very much limited and if railways do wish to operate through an independent asset management company, they will have to draw up an agreement which imposes penalties on the company for poor management and rewards it for earning higher than targeted returns.

Recommendations

1. In order that the net revenues of the Indian railways do not get depleted on account of the increasing burden of pension payments year after year, it is essential to operate an independent pension fund in which the annual contribution made by the railways can be put and allowed to earn interest at prevailing market rates. This will enable the corpus of the fund to grow at a faster rate. It is not possible to do so under the existing arrangement where the balances lying in the railways pension fund receive a credit of about seven per cent only from the central government.
2. The railways should seek approval from the Government of India for a complete segregation of their pension fund accumulations from the consolidated fund of India. Railways should also be free to invest these funds in approved securities though the guidelines for making these investments may be drawn up in consultation with the Ministry of Finance.

3. The railways can opt either for full funding for the new entrants (maintaining PAYG system for the current employees) or for partial funding for all employees. In the case of the former, it could be made a condition of service that they shall have to contribute a fixed percentage of their salaries to the designated pension fund so that the railways can cope more easily with the financial strains inevitably associated with transition to a funded system. However, if a disparity in the pension schemes of the railways and other central government departments cannot be introduced, the railways may opt for the second alternative. Depending on the extent of funding required, an actuarial exercise will need to be carried out to determine what the annual contributions to the pension fund should be.
4. As a result of inadequate provisions made in the past, contributions to pension fund will initially have to be much higher. However, if partial funding is introduced, the PAYG liabilities will show a gradual reduction. Based on various parameters, such as rates of increase in wages and interest, growth in numbers of working employees, life expectancy and dependency/passivity ratios, and, finally, the salary structures, railways will have to prepare simulation models for working out year-wise amounts to be contributed to the pension fund and the corresponding decrease in PAYG payments. It can then be estimated how long it is going to be before the reduction in PAYG payments overtakes the increase in contributions to the fund. After this break-even point is reached, higher savings can be expected with each succeeding year. The objective of setting up the pension fund would then have been realised.
5. The railways must reflect the accrued pensionary liabilities of the previous years in their accounting statements so that the implicit debt accumulated by them gets formally recognised and a truer picture of their finances is presented to the government and the public.
6. It is necessary that the pension fund is managed by an experienced and competent Asset Management Company. Railways may hold discussions with the LIC to find out whether they can manage the fund and what their terms and conditions for undertaking this work will be. Companies

managing similar funds abroad may also be considered provided their rates are competitive.

7. Fund managers should generate and guarantee a rate of return on investments which could ensure payment to pensioners without raising the level of appropriation from the railways' revenues.
8. Administrative cost of the fund should be carefully calculated and the magnitude of such expenditure clearly understood, since this will be a permanent addition to the railways' working expenses.
9. Part of the accumulated balances in the fund could be utilised for investment in IRFC bonds. A provision to this effect could be made in the agreement to be entered into by the railways with the fund management company. Such an arrangement will ideally meet the interests of both the parties but will require fine-tuning of the rate of interest on the bonds so that while the pension fund gets adequate returns, the viability of IRFC's leasing arrangements with the railways remains unaffected.

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