RISK SHARING IN EMPLOYER RETIREMENT PROVISION IN INDIA

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1 SUMMARY

1.1 Most types of traditional defined benefit employer retirement benefit scheme involve taking on significant risks of various kinds. This paper describes those risks in the Indian context and suggests how they may be mitigated.

1.2 Employers naturally find material risks unattractive and look to eliminate them by introducing defined contribution arrangements. However this transfers to employees the significant risk of an inadequate retirement income. This paper describes how retirement schemes may be designed that sit mid-way along a “risk spectrum” that goes from the traditional final salary pension scheme (all risk with the employer) at one extreme to the defined contribution scheme (all risk with the employee) at the other. The key concept is that of risk being shared between employer and employees.

2 RISKS

2.1 This paper concerns the risks that an employer faces in providing retirement benefits. There is risk associated with:

- The amount of benefit
- The investment return on assets relative to the nature of the liability
- The cost of securing the benefits as employees retire.

2.2 Throughout this paper, “risk” means risk for the employer sponsoring a retirement benefit scheme, as opposed to risk for the employee, unless otherwise stated.

2.3 The risks faced by employers in respect of retirement benefits schemes are not independent of the many other business and economic risks to which companies (and governments) are subject. For example, a reduction in interest rates may increase the cost of the employer’s pension scheme by more, or less, than the reduction in the company’s borrowing costs. The interaction of the risks involved in providing retirement benefits with other business risks is beyond the scope of this paper.

3 RETIREMENT BENEFITS IN INDIA

3.1 Since minimal social security benefits are provided out of general taxation in India, it ought to be the case that employees should value employer based retirement schemes more highly than in countries with generous Government benefits. It is debatable whether this is actually the case, but it is certainly true that employer retirement provision is an important social issue.

3.2 The statutory requirement to provide gratuity and Provident Fund benefits means that employers have to provide both defined benefit and defined contribution retirement benefits. However the statutory minimum gratuity benefits are relatively low, and part of the Provident Fund balances may be withdrawn prior to retirement.

3.3 A part of the Provident Fund contributions is used to accrue entitlement to benefits from the Employees Pension Scheme 1995. However, the benefits from this scheme are also relatively small for most employees (and poorly understood due to the highly complex design of the scheme).

3.4 In order to provide employees with adequate retirement incomes, many employers voluntarily provide pension benefits in addition to gratuity and the Provident Fund. Since the design of such schemes is not subject to any statutory constraints, employers are free to choose not only the level of contributions that they wish to pay but also the degree of risk that they are likely to bear in future as the scheme develops.

3.5 Some would argue that the only realistic option for employers in the modern world is to provide defined contribution benefits. With sharp falls in interest rates and worsening annuity rates, it begins to seem that final salary pension schemes are recklessly dangerous. What is the truth of the matter, and is there a middle ground to be explored where risks are shared between employer and employees in a controlled, balanced way?

4 INTERESTED PARTIES

4.1 First, a summary of the interested parties:

4.2 **Government:** should have an interest in ensuring that its citizens are properly financed for their old age. This may lead to tax incentives for employer-based pensions, but also to legislation as to how such schemes should be operated.

4.3 **Employees:** typically unwilling to provide adequately for their own retirement without employer support and tax incentives (which is why employer sponsored pensions work better in practice than individual retirement savings).

4.4 **Employers:** strongly influenced in their policy towards provision of retirement benefits by the framework set by Government, including tax incentives. Also influenced also by “market practice”, i.e. what other companies, particularly their competitors, are doing.

4.5 **Trustees:** responsible for managing funds and administering retirement benefit schemes.

4.6 **Insurance companies:** in the market for investment of retirement funds and the provision of annuities to pension scheme members.

4.7 **Accountants:** Accounting Standard 15 specifies how employers must report the cost of providing retirement benefits in their accounts. International accounting standards such as IAS 19 have the same objective but specify entirely different rules.

4.8 It could be said that the problem of retirement scheme design is about balancing the conflicting constraints and objectives of these interested parties. Therefore the following sections summarise likely objectives and then review the main types of retirement benefit scheme design.

5 POTENTIAL OBJECTIVES

5.1 **Post retirement income:** the prime purpose of a retirement scheme is to provide an income after retirement.

5.2 **Employee appreciation:** employers seek to derive value from the benefits provided to support their recruitment, retention and reward objectives.

5.3 **Minimise costs:** for a given level of benefit, employers seek to minimise both cost and cost volatility.

5.4 These objectives may be in conflict.

6 RISK SPECTRUM OF RETIREMENT SCHEME DESIGN

6.1 It may be helpful to consider a "risk spectrum" of scheme designs. One extreme of the spectrum is where all financial risks lie with the employer, such as the final salary pension scheme. At the other end of the spectrum are defined contribution schemes where the risks lie with the employee. In between are career average, cash balance and hybrid designs, which are explained below**.**

	Highest risk
Defined benefit	Final salary pension with no employee contributions (or fixed employee contribution rate) Final salary pension with variable employee contribution rate Final salary pension with benefit discretions Career average pension Gratuity Cash balance
Hybrid	Final salary with defined contribution top-up Defined contribution for younger employees; final salary for older employees
Defined Contribution	Matching (ie variable) employer contribution rates Fixed employer contribution rates
	Lowest risk

6.2 The commentary below highlights the main risk profiles of these alternative scheme designs. It should be noted that, generally, employees appreciate schemes with greater guarantees, and hence usually greater risks for the employer.

6.3 **Final salary schemes with no employee contributions (or fixed employee contribution rate):** A defined benefit final salary scheme is the most risky type of retirement benefit arrangement for an employer. Of course, salary increases are within a company's control, to an extent, but that degree of control is severely limited in practice by labour market influences.

6.4 In India, actuarial valuation of final salary pension schemes usually includes allowance for future salary increases even though no such increases have yet been earned. The same reserving principle is built into the major international pension accounting standards. However, when management decisions are taken about employee salary increases, no calculation is made of the past service cost of those decisions. Instead the costs are registered at the next actuarial valuation or company accounting date.

6.5 In principle, a procedure could be established to detect the cost implications at the time of making decisions about employees' salaries. For example:

- Install a management discipline that recognises the past service cost of awarding salary increases when they are given.
- Fund on the current unit basis and require additional funding of the back service cost of each year's salary increases.

6.6 But in practice, salary levels appear to be set with little regard to the knock-on effect on the cost of pension benefits.

6.7 **Final salary schemes with variable employee contribution rate:** In the table above we noted the existence of final salary schemes with a variable employee contribution rate. Internationally, there are a few such plans that require employees to pay a fixed proportion (such as one third) of the total ongoing cost – in other words to bear that proportion of any increase or decrease in the cost after an actuarial valuation. In India some pension schemes in the public sector require employees to pay a substantial portion of the cost.

6.8 This is a design for risk-sharing, but it tends to mean that one generation of employees may be required to pay extra for the pensions of the preceding generation.

6.9 The risks and unpopularity of having to ask employees for a very high level of contribution in times of poor investment returns can make this design unworkable.

6.10 **Final salary schemes with benefit discretions:** A more important way of risk sharing in final salary schemes is through the mechanism of benefit discretions.

6.11 Examples of risk-sharing discretions are:

- Pensionable salary increases – even if pay is increased substantially, there is no reason why pensionable salaries need be increased to the same extent (or even at all) each year. The employer has the discretion to restrict pensionable salary increases according to the actuarial surplus or deficit in the scheme (although not to the extent of reducing existing pensionable salaries). Several companies in India have adopted this strategy in response to falling interest rates.
- Early retirement – the employer may have discretion as to the generosity of the terms available to employees retiring before normal retirement age (in addition of course to having control of the number of early retirements through Voluntary Retirement Schemes);
- Post-retirement increases – although these are uncommon in India in the private sector, some employers provide increases after retirement that are dependent on the ability of the company to afford them.

6.12 It is often assumed that discretions tend to only increase costs but this need not be the case. The key is to design a scheme such that the best estimate cost of the guaranteed benefits is lower than the long-term cost that the employer is prepared to pay. The difference can then be used to provide discretionary benefits when the employer is able to afford them whilst providing a margin to absorb the cost of adverse experience when times are tough.

6.13 **Career average schemes:** The career average scheme is a defined benefit pension scheme without the linkage to final salary. Instead, the retirement pension is based on the accumulation of pension amounts year by year. Each year the amount of pension earned is calculated as a set percentage of pensionable salary. This is added to the amount brought forward from previous years, possibly plus with an appropriate annual uplift. The annual uplift would be determined in accordance with a clearly understood formula, such as an index of consumer price levels. The cost of such a scheme, per unit of pension accrued, is less than that of a final salary scheme because of the generally lower rate of revaluation in line with prices than with salaries. Therefore a larger annual accrual of pension than that of a final salary scheme can be promised for the same cost.

6.14 Alternatively, an annual bonus addition can be awarded at the employer's discretion rather than following a fixed formula. The discretionary bonus might be linked to the investment performance of the scheme's assets over the previous year or to the financial performance of the employer.

6.15 The career average design provides an attractive blend of sharing financial risks between the employer and employees, whilst also enabling the employers to align pensions with its own business performance to a limited extent. Further advantages are:

- it takes account of the individual's pay pattern throughout a career, rather than just in the final pay period as in a final salary scheme. It therefore caters for employees whose earnings may decline in real terms towards retirement

- there is less risk exposure during periods of high salary inflation or pay restructuring than in a final salary scheme.

6.16 Some disadvantages of career average plans are:

- there is still the risk of deficits if investment returns are lower than anticipated
- because, for historical reasons, all defined benefit schemes have been final salary schemes the design is not seen as a natural choice.

6.17 However, attitudes to the career average scheme may be changing in other countries. For example, the UK's largest private sector employer has recently introduced a career average scheme with annual bonuses. The rates of bonus are decided each year by the company having regard to:

- the performance of the fund and
- the performance of its own business.

6.18 Thus, the pension payouts in the long term should be reasonably well aligned with the company's business objectives, and the extent to which these have been achieved.

6.19 There does not appear to be any reason why a tax approved pension scheme in India must be a final salary scheme and hence why career average designs may not be considered in practice.

6.20 **Gratuity schemes:** Gratuity schemes are of course extremely common in India as a result of the Payment of Gratuity Act. A gratuity scheme is a defined benefit scheme that carries significantly less risk to the employer than a final salary pension scheme because by expressing the benefit promise in terms of cash not pension, all annuity risk is transferred from the employer to the employee.

6.21 Of course many employers in India provide gratuity benefits only at the statutory minimum level. However schemes could be designed such that the employer provides an enhanced gratuity scheme rather than both gratuity and pension. This would benefit employees relative to the provision of minimum benefits only, whilst sharing risk between employer and employee to a much greater extent than is possible with a final salary scheme.

6.22 Tax considerations are an impediment to providing significantly enhanced gratuity benefits under the current income tax rules. However it would appear to be possible for an employer to obtain a full tax deduction on contributions to such a scheme if the terms of the scheme were to require the lump sum at retirement to be used to purchase an annuity.

6.23 **Cash balance schemes:** The cash balance scheme is a gratuity scheme such that benefits are not defined in terms of final salary (i.e. it is career average gratuity scheme). This design is very common in the United States, where the accumulation of the cash balance during service is commonly linked to deposit rates of interest.

6.24 The benefits of a cash balance schemes in the US may be taken in either lump sum or annuity form. In India it would be necessary for the accumulated proceeds of a cash balance scheme to be used to buy an annuity on retirement in order to achieve tax inefficiency. Such schemes are in fact very common in India (see below) - they are commonly known as defined contribution schemes!

6.25 **Defined contribution pension schemes:** At the lowest end of the financial risk spectrum are the defined contribution pension schemes. Here the cost is within the employer's control and all investment and annuity risk is with the employee.

6.26 A defined contribution scheme that invests in assets that provide a secure return (as is the case in India) is essentially the same as a cash balance scheme. The accumulation of the "cash balance" is determined according to the yield earned on the scheme's investments.

6.27 As noted above, Indian income tax rules require retirement benefits from defined contribution pension schemes to be taken as annuities, except to the extent of one-third commutation for cash at retirement.

6.28 **Hybrid plan designs:** Employers can decide to combine some of the different forms of retirement provision discussed above. For example a final salary pension scheme can be used to provide a low level of benefits plus a defined contribution top-up, or final salary pensions can be restricted to employees with minimum age and service requirements, with defined contribution pensions being offered to other employees.

6.29 Internationally, hybrid schemes are uncommon because their complexity is generally held to increase administration costs. Moreover the complexity leads to lack of understanding on the part of employees, which in turn reduces the extent to which employees value the cost to the employer of providing the benefits.

6.30 However employers in India are highly familiar with the provision of multiple retirement benefit schemes as most employers provide Provident Fund (itself a hybrid of a defined contribution scheme plus the Employees Pension Scheme) plus gratuity as well as possibly a further pension scheme and leave encashment arrangements. The efficiency of operating such a complex mixture of schemes is questionable, since the mixture is determined largely by tax considerations rather than an holistic approach to providing for employees' security in retirement.

7 TYPES OF RISK

7.1 The above discussion of the range of scheme designs has already noted the major risk factor of final salary linkage. This section discusses the other risk types before looking at alternative ideas for mitigating risk to the employer.

7.2 **Investment policy:** Investments held by retirement benefit schemes in India are widely held to be low-risk by international standards as a result of the investment rules for income tax approved schemes that provide a high level of capital security. However the key risk in investing for retirement benefits (particularly in the case of a defined benefit scheme) is not protection of capital but that the investment return will be low relative to the growth in liabilities. The following risks are potentially significant in India:

- Scheme assets provide no hedge against inflation (and salary) related liabilities.

- The average term of scheme assets will generally be very much shorter than the terms of the liabilities exposing the scheme to an increase in liabilities that exceeds the increase in asset values when interest rates fall (as has occurred in recent years).

- Credit risk, particularly in the case of bonds that are not guaranteed by central government.

7.3 Asset/liability mismatch is, in reality, a very serious risk factor. It is generally very difficult or impossible to identify a portfolio of assets that will generate a stream of income that will match the expected liability outgo.

7.4 The above investment risks do not apply to the employer in the case of defined contribution pension schemes, although of course this is simply because such asset/liability risks are transferred to the employee. In the context of a defined contribution scheme liability risk simply means that the employee will fail to accumulate sufficient funds to secure an adequate retirement income.

7.5 Although it is a defined contribution arrangement, an exempt Provident Fund carries the risk that that the investment return achieved will be insufficient to cover the statutory minimum interest rate.

7.6 **Fraud/custody risk:** The case of Enron in the US where many employees' 401 (k) defined contribution schemes were heavily invested in worthless shares of the employer illustrates the risks attached to outright fraud or simply poor governance. Such risks are not restricted to corporate excess – for example the case of the Seamens' Provident Fund in India.

7.7 These risks are likely to apply to defined contribution as well as to defined benefit schemes. If a defined contribution scheme suffers such losses then there is likely to be moral, if not legal, pressure for the employer to provide compensation.

7.8 **Accounting standards:** Accounting Standard 15 exposes employers to the risk that the reported cost of its retirement benefits schemes will be volatile from year to year because there is no provision for spreading actuarial deficits over a period.

7.9 Accounting standards may also be changed, potentially resulting in a sudden increase in reported cost. This is a controversial issue internationally, as accountants worldwide debate the merits of harmonising national standards in line with a global standard such as International Accounting Standard 19.

7.10 **Annuities/Longevity**: Many pension schemes were designed many years in the past when life expectancy was much shorter.

7.11 Will there come a time when medical advances can extend the span of human life almost indefinitely? Uncertainty about future longevity is a key risk factor. In India this is a particularly important issue given the likely wide variation in longevity between different socio-economic groups and the shortage of mortality data.

7.12 Since pension schemes in India are required to purchase annuities from an insurance company for each employee at retirement the longevity risks are lower than in countries where pension schemes pay pensions directly to beneficiaries out of the scheme's assets. However the risk remains that annuity rates will deteriorate over the pre-retirement period as LIC or other insurers tighten their rates to reflect increasing longevity.

7.13 **Legal and regulatory risk**: As the importance of and reliance on employer based retirement benefits increase, governments (and their tax authorities) are increasingly likely to introduce legislation to regulate the operation of such schemes. Such regulation is likely to increase employer's costs (and uncertainty about those costs).

7.14 At present companies see the transition from defined benefit to defined contribution plans as a way of shifting the risks to employees. However, taking a longer-term view, governments may well seek to reverse this trend. Internationally, defined contribution schemes tend to be less regulated than defined benefit schemes but this may be largely because in many countries defined benefit schemes used to be the norm. It is likely that in the next 10 years many millions of employees worldwide will retire with defined contribution benefits that are significantly lower than they had been led to expect. Will this put political pressure on governments to introduce minimum benefit requirements for defined contribution plans, turning them back into defined benefit schemes?

7.15 **Taxation:** The taxation position of retirement benefit schemes can be changed – potentially imposing significant retrospective costs on employers (and employees). When governments are seeking to encourage a savings culture to develop they will generally concede attractive tax concessions. However once sizeable funds have been established the temptation to introduce new taxes, for example taxes on investments or annuities that were previously exempt, may be irresistible.

8 RISK-SHARING SOLUTIONS

8.1 The preceding sections have identified the main areas of risk to employers in providing retirement benefits. We have also noted the spectrum of alternative scheme designs that are available. The basic choice from among these alternatives is how to share the total risk between employee and employer.

8.2 Now we discuss some further ideas for managing the pension risk. The ideas we discuss are in the two key areas of:

- asset/liability mis-match
- annuity risk.

8.3 **Asset/liability mis-match before retirement:** No investments are available, or are ever likely to be available, that will match final salary pension liabilities. This is because salary increases are under the direct control of employers (i.e. individuals). It is possible that bonds that are tied to a general index of national salary escalation might be marketed, but no such securities are currently available in any country.

8.4 A solution to reduce, or even eliminate, investment risk under a defined benefit scheme is therefore:

- Design the scheme such that benefits do not increase in line with salaries (such as a career average scheme or a scheme for which increases in pensionable salary may fall behind actual salary increases at the employer's discretion).
- Invest in bonds such that the term of the assets held corresponds to that of the liabilities.

8.5 Of course exact matching of assets and liabilities is unlikely to be possible. In India the investment regulations and a relative shortage of long-term bonds would be a barrier. However there is nonetheless an opportunity for actuaries to advise employers on the merits of longer-term bonds. We should also be actively participating in public debate as to whether the investment regulations require reform and whether central and state governments should issue more bonds of longer durations.

8.6 In some countries, investors can buy long-term bonds indexed to consumer price inflation. Were this to happen in India, it would open up the possiblity of matching liabilities of career average or cash balance schemes under which benefits are increased in line with a consumer price index.

8.7 **Annuity risk:** The risks under a defined benefit pension scheme (whether final salary or career average) are higher than under a gratuity or cash balance scheme that provide lump sum benefits rather than pension. Schemes targeting a lump sum (e.g. gratuity or cash balance schemes) rather than pensions may therefore represent a fairer balance of risk between the employer and its employees.

8.8 The fact that Indian tax rules favour retirement schemes that provide benefits in annuity form does not preclude targeting a lump sum on retirement – just that the tax rules require the lump sum to be used to buy an annuity rather than taken as cash. Under such a defined benefit scheme targeting a retirement lump sum it is the employee, rather than the employee, who bears the risk that annuity rates at retirement will be less favourable than currently expected. However because it is a defined benefit scheme, it is the employer who bears the investment risks prior to retirement. This is risk-sharing.

8.9 For the employer, the advantage is that their risks can be limited whilst taking comfort from providing some measure of income security to former employees in retirement. In other words, if an employer is unwilling to take on all of the long-term risks inherent in a defined benefit pension scheme then this need not mean that the only option is a defined contribution scheme. That would be a shift to the opposite extreme along the risk spectrum.

9 CONCLUSION

9.1 This paper has considered how these risks impact on different types of employer pension provision and looked at some ways of mitigating these risks. The area of mitigating these risks is an opportunity for actuaries in India to advise their clients and, perhaps even more importantly, raise the level of public debate concerning retirement provision. The opportunity exists in particular to look at:

- Introducing a discretionary element into defined benefit retirement schemes – in particular by explicitly separating pensionable salary increases from other increases in remuneration.
- Designing new or relatively uncommon types of scheme design; such as career average schemes or cash balance schemes.
- Advising on investment policy in order to reduce asset/liability mismatching.
- Actively participating in public policy debates on pensions so that the case for employer provision, with risks equitably shared between employees and employers is heard.

10 ACKNOWLEDGEMENT

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10.2 Any errors or omissions in putting their work into the Indian context are mine alone.

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