

## **Role of actuaries in defined contribution environment**

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*The nature of retirement provision reflects the culture of the country. However the global trends do affect the basic structure of the pension solutions. The Defined Benefit pension schemes seem to be on the way out and being replaced by Defined Contribution schemes. This paper reflects on this trend with UK industry in the backdrop, impact on the actuarial advice and relevance to Indian environment.*

### **Background**

The original development of Final Salary pension schemes was based on three main factors:

1. Employees spending their whole career in one company, hence employee loyalty is expected and need to be rewarded.
2. Collectivism and collective responsibility being reflected in the corporate culture.
3. Stable economic environment

The relationship between employees and employers is key to the development of the pension schemes. Employers often felt a responsibility to reward long service employees by maintaining a defined proportion of their standard of living into retirement. Hence there was a need for a structure that would link the pension with the salary drawn while in employment. With the stable economic environment, career average plans came into vogue. When the inflation and investment returns became more uncertain, the final salary schemes came into picture to protect employees against the unpredictability of inflation.

### **Advent of Defined Contribution Plans**

The following cultural changes had phenomenal effect on the way pension plans were looked at:

1. Fall of communism accelerated the fall of collectivism
2. Individual talent and recognition became an important tool to reward performance
3. Employers became wary of the real costs of the DB schemes
4. Transfer of Employee Benefit responsibility from HR function to Finance
5. Development of DC vehicles for contracting out State Pension benefits in 1988

Given the obvious advantages of DC plans over DB plans, it was obvious to expect a flood of conversion from DB to DC. However the pace of conversion was affected by many factors such as:

- a) Existing surplus in DB schemes masked the actual cost
- b) Inertia acting against the change
- c) Opposition by members
- d) Risk limited by closing DB schemes to new members

### **DB to DC conversion process**

It is basically a transfer of risk from the employer to the employee. The risk is the volatility of the standard of living that each employee can maintain in retirement. Important points to bear in mind in the conversion process:

1. Clarity of objectives
2. Impact on pension costs for the sponsor
3. Advantages and disadvantages are put fairly to the employees
4. Benefits projected under DC plan are based on comparable assumptions to those projected under the DB plans
5. Use of surplus in the DB plan

Actuaries can add significant value to the conversion process due to a holistic understanding of both DB and DC regimes.

### **Role of Actuaries in DB schemes**

The primary role is to provide advice to the trustees and employer on contribution rates and funding levels. The detailed role encompasses:

- a) Scheme Actuary for conducting valuation for
  - setting the contribution rate
  - to establish whether assets are adequate to meet the liabilities
  - check any surplus
- b) advise in the event of bulk transfers
- c) benefit amalgamations
- d) Rates for exercise of options e.g. conversion of pension to cash at retirement, reduced pension for early retirement, increased pension for late retirement
- e) Scheme Design
- f) Asset liability modeling
- g) Communication to scheme members about the scheme
- h) Blow the whistle

### **Role of Actuaries in DC schemes**

Under DB schemes the contribution is set at the outset. In a DC scheme the contribution rate is a dynamic variable that has to be assessed frequently in light of the current situation. Admittedly there are few purely technical issues in DC schemes, the members who face the risk, need quality advice. The possible areas of involvement are:

1. Scheme design by considering alternative designs for different objectives. The effect of future conditions on these benefits can be assessed to assess the risk
2. Targeting one benefit has implications for benefits arising in other situations.
3. The impact on the future cash flow for the employer and linkages to recruitment, staff turnover and salary progression.
4. Statutory valuation
5. Review of the continued ability of the scheme to meet its original objectives
6. Illustrations of benefits
7. Investment selection and risk management

8. Design of investment vehicles
9. Assess the cost of flexibility and portability in a DC scheme vis-à-vis DB scheme
10. Impact of elimination of cross-subsidy

Basically as the risks are transferred to the employee, there is a greater need for advice for the members. However other professions can also advise on these issues. The challenge is to demonstrate unique added value that we actuaries can bring on the table.

### **Reasonable Expectations**

Actuaries can play an important role in developing expectations of the members of a DC scheme. The range of benefits likely to emerge from a DC arrangement can be projected with likelihood level of each benefit stated. Lifestyling is becoming quite common, however the reasonability of the price paid can also be determined.

### **Projections**

Projections can add value in a no. of ways:

- a) Compare various products
- b) Project range of benefits for one product
- c) Illustrate the impact of events like – late start, early retirement
- d) Suggest the impact of an investment strategy
- e) To help the members in their financial planning

### **Compare DB and DC arrangements**

Actuaries can demonstrate the key differences:

1. Risk exposure
2. Cost to the employer / member
3. Funding level
4. Suggest which scheme is better to meet the objectives with minimal risk

### **Issues in DC plans**

We need to think from the customer's angle to understand the issues. A customer would like to maximize pension on retirement. The basic factors that could affect the pension are: contribution rate, retirement age, choice of pension plan, choice of funds, AMC, investment return, taxation, cost of buying annuity, lifestyling( switching over to low risk funds in last few years before retirement).

The current hot issues are:

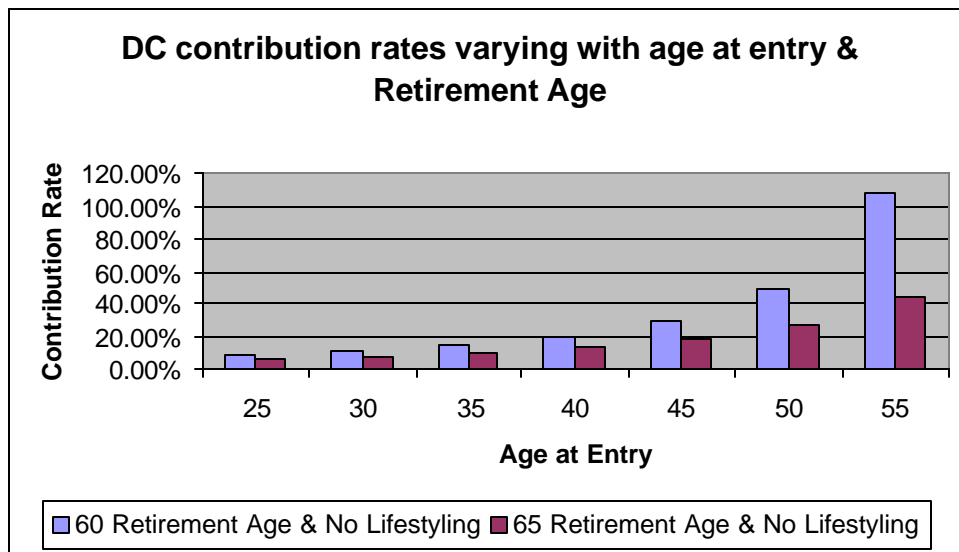
1. Contributions do not reflect individual circumstances
2. New DC plans with contribution rate lower than the DB schemes they replace
3. The prospect of lower expected investment returns means that the rate of contribution needs to be increased to fund an adequate pension
4. Life expectancy in retirement is increasing rapidly and thus will increase the cost of buying annuity on retirement
5. Falling interest rates would further increase the cost of annuities

**Relevance to India**

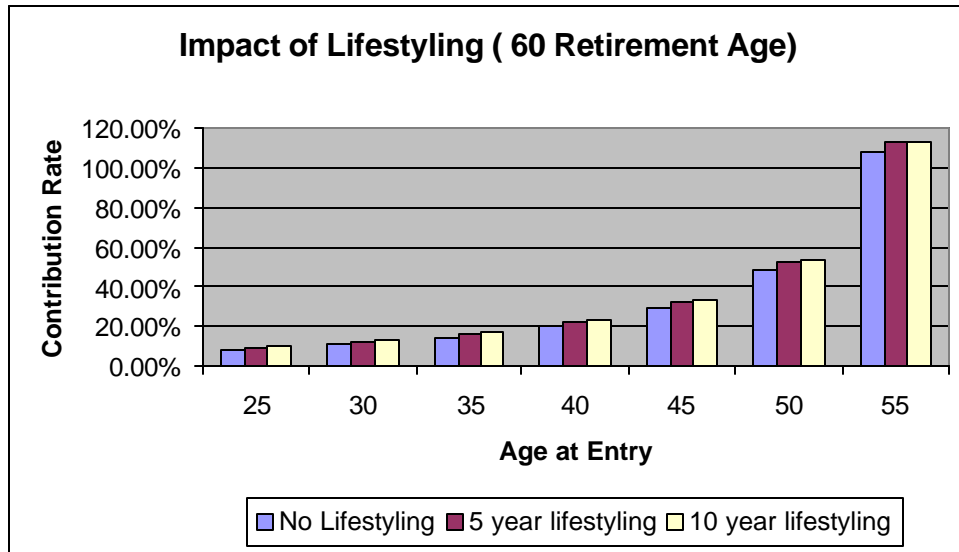
India is well positioned for a revolution in pension provision considering the savings potential of the working class. The life expectancy has been increasing fast with rising standard of living. Actuaries have a prominent role in the development of DC schemes given the non-sophistication (financial) of pension savers. We have a very important role to play in providing accurate projections, communicating to the members, DB to DC conversion, DC enhancements.

If we take an example of the contribution rate, we can assess the impact of various options such as retirement age and lifestyling. The table and graphs below depict the impact of these factors on the required contribution rate to achieve a pension equivalent to 50% of salary.

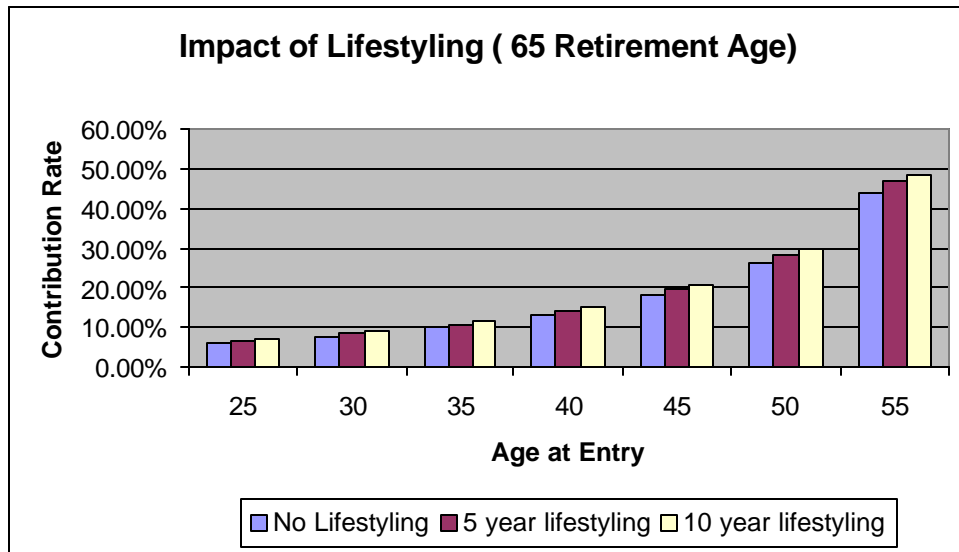
Retirement Age	Lifestyling	25	30	35	40	45	50	55
		Age at Entry						
60	No	8.5%	11.0%	14.5%	20.0%	29.5%	49.0%	108.0%
65	No	6.1%	7.6%	9.8%	13.0%	18.0%	26.5%	44.0%
60	Yes - 5 yrs	9.4%	12.0%	16.0%	22.0%	32.0%	53.0%	113.0%
60	Yes - 10 yrs	10.0%	12.8%	17.0%	23.0%	33.5%	54.0%	113.0%
65	Yes - 5 yrs	6.6%	8.3%	10.7%	14.2%	19.5%	28.5%	47.0%
65	Yes - 10 yrs	7.1%	8.9%	11.5%	15.1%	20.6%	30.0%	48.5%



*By increasing the retirement age from 60 to 65, for a person starting to contribute at age 25, the contribution rate can be reduced by 2.4% thus resulting in saving 28% of the contribution.*



The cost of lifestyling in last 5 years before retirement, for a person starting to contribute at age 25 planning to retire at age 60, is 0.90% additional contribution resulting in 10.5% additional expenditure on pension savings.



The cost of lifestyling in last 10 years before retirement, for a person starting to contribute at age 25 planning to retire at age 65, is 1.0% additional contribution resulting in 16.4% additional expenditure on pension savings.

**Conclusion**

Its acknowledged that DC schemes have less of technical issues, but there is an opportunity to provide quality advice to scheme members, sponsors by considering a range of scenarios and assigning probabilities to each scenario. The financial planning of members would need critical actuarial inputs to enable the members to take a well informed decision.

**References:**

The roles and responsibilities of Actuaries in DC Environment (BAJ 5), Actuaries in Pensions (BAJ3), Developments in Social Security and Pensions Worldwide (BAJ2)