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TOTAL REWARD - AN ACTUARIAL PERSPECTIVE

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Total Reward - An Actuarial Perspective

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August 1998

Abstract

In this paper, I describe a rôle for the actuary in the valuation of employees' reward packages. The concept of value is discussed, actuarial approaches proposed for valuing reward packages and key areas requiring an actuary's analytical approach are highlighted for further investigation.

Key Words: Total Reward; Value; Competitive benchmarking; Job matching.

1 Introduction

Background

Without doubt, the relationship between employers and employees has undergone tremendous transformation in recent years. Many employers are reviewing the ways in which they reward their employees in order to:

- improve productivity;
- aid recruitment and retention of key employees.

From the altruistic philosophies of the past, a new employer doctrine has emerged: freedom; flexibility; employee empowerment. Employees could be forgiven for being sceptical about such dogma and choose to interpret the soundbites rather differently.

- Freedom could mean being given a mobile telephone by the employer, but it brings with it the potential for intrusion into an employee's personal space.
- Flexibility is welcome but it always seems to favour the employer!
- Employee empowerment involves the transfer of risks from employer to employees who may not understand the nature of such risks.

The problem is that what the employer values is not necessarily the same as what the employee values. By considering the values that each party places on the "deal", robust reward strategies can deliver what is required: motivated employees whose behaviour fulfils both their own career aspirations and supports business objectives.

In this paper I consider:

- **HOW** to value elements of reward;
- which **ELEMENTS** to value;
- what we mean by **VALUE**.

Before doing so, Total Reward, itself, needs to be defined and why actuaries can play an important rôle in Total Reward studies.

What is Total Reward?

I would describe Total Reward as "***The sum of the values of each element of an employee's reward package***."

Employees, if asked to list elements of reward, might name, perhaps, four: salary; bonus; company car; share options. (As a pensions actuary, it is somewhat disillusioning not to find pensions and death benefits among them.) In fact, most employers offer at least twenty further elements of reward including holiday, sickness/disability benefits, good working environments, training and career development.

Leaving aside basic salary and bonuses, the cost of providing these elements of reward is not cheap. Frequently, they can amount to as much as 40% of basic salary. For key individuals within an organisation, they can easily form the major part of the reward package.

Why Actuaries?

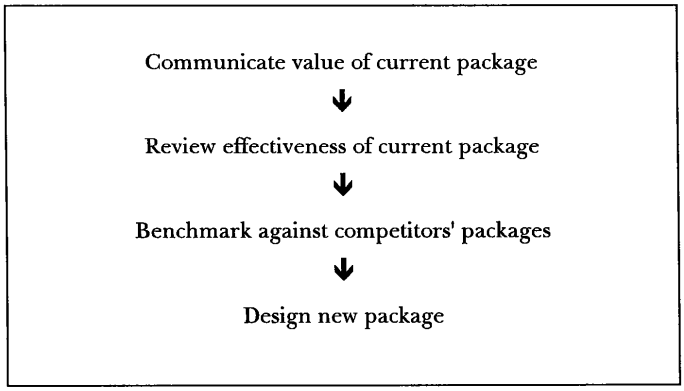
Currently, there is much debate in the actuarial profession as to its future direction. "What is an actuary?" is a question which will exercise Institute minds yet again. What is clear is that actuaries will work in a much broader range of disciplines than at present. An actuary's skills lie in methodical and analytical approaches to problem solving. Increasingly, these problems will lie without the usual sphere of actuarial practice. One area is Human Resource (HR) strategy and, specifically, Total Reward. Many elements of reward require standard actuarial techniques

(eg valuation of pension and death benefits) and it would seem natural for the actuary to become involved. Other reward elements such as valuing a "good" workplace environment require a little more than PMA80 tables and a calculator!

Actuaries might be required to work in multidisciplinary teams alongside other professionals. There is much the actuary can contribute, not least the capacity to break down complex problems into a series of smaller exercises which can be tackled systematically. In the same breath, actuaries have much to learn - that some pension scheme valuations (produced at considerable expense) are now something of an art form when, in reality, pensions are often perceived as being of little value, demonstrates that viewing pensions in isolation is a dangerous occupation. Employers and employees may lose sight of the intrinsic value of pension benefits - all they will see is expensive wrapping and throw it away, with dangerous repercussions for the future work of actuaries.

Reward strategies

Many employers are currently reviewing their strategies so as to target rewards more effectively, and reinforce business objectives. Key stages in the process are shown below.



At each of these stages, measurement of Total Reward plays an important part but not only for employers. Employees, particularly executives, will be looking for flexible reward frameworks which will accommodate their needs. As employers attempt to improve the recruitment process, flexibility will be an important consideration for the potential key employees. In a buoyant job-market, executives are more likely to dictate what they require.

2 Value

Thus far, ***value*** has not entered my discussion of Total Reward. There are two parties in the process, each employing different measures of value.

- To the employer, value might represent the ***cash cost*** of providing a specific element of reward. Alternatively, the employer might also measure value by the economic cost of the reward.
- For the employee, value could also mean the cash cost borne by the employer but it is more likely to be the individual employee's perceived worth of the element of reward under consideration.

As a simple example, consider holiday or vacation entitlement. There are approximately 250 working days in the year (excluding weekends and public holidays). Therefore, each day's vacation could be viewed as costing $\frac{1}{250}$ or 0.4% of basic pay. This is one measure of value which might be adopted by the employer and/or employee.

However, from the employer's perspective, an extra day's vacation in a consultancy could mean some seven hours lost in chargeable work with a significant impact on company profit. The lost profit represents the difference between the charge-out rate and the costs associated with the employee (pay, rent, support, etc). Therefore, the economic cost to an employer granting additional vacation is not simply 0.4% of pay per day.

Some employees place a very high value on their vacation entitlement relative to other elements of reward. Other employees enjoy being at work and find vacation a break with routine which is more stressful. Exactly what this value represents differs not only from employee to employee, but also for the same employee. Most employees would welcome additional vacation but beyond a certain point, the marginal utility of vacation begins to fall.

Therefore, there are different measures of value. Employer cost is often the simplest route to take and the one most commonly adopted for current Total Reward exercises.

Communicating value

Effective communication is one of the most crucial factors in maximising reward and cannot be underestimated. Most benefits received by employees are perceived as being of little value despite the high costs borne by employers. In my experience, finance directors frequently complain that there is little appreciation of the high employer contributions paid into company-sponsored pension schemes. If pensions are given little thought by employees, effective communication is required. Otherwise, there is little point in offering a top-of-the-range scheme when resources would be better targeted elsewhere.

To illustrate this point, consider the problems imposed on executive pension provision by the Earnings' Cap (introduced in the Finance Act 1989). This was an area where many pensions actuaries initially viewed the problem as one of simply replicating the uncapped pension benefits. These pensions actuaries could have used the opportunity to develop more imaginative solutions. Executives remarked that they would have seen the additional resources directed elsewhere towards something highly valued, such as contributing towards their children's school fees ***now***, rather than increasing their benefits ***later*** to a level not essential for maintaining lifestyles in retirement.

Therefore, it is imperative to increase the perceived value of the reward package. Valuing the various elements and presenting reward statements graphically each year is a powerful tool in this process. If employees can see the value of "intangibles" such as pension and training compared against that of their company cars, "values" will be assigned to rewards previously deemed to be of little or no worth.

Total Reward (or compensation) statements have been in use for a number of years and throw up interesting questions for employers. For example, after studying their statements, it may become apparent to employees that there is inequity in relation to age-related benefits. However, such statements are powerful messengers in conveying the value of fringe benefits to employees.

3 Approaches

Employer cost

A description of an employer-cost approach to valuing a Total Reward package is set out in Appendix A. Appendix B sets out a simple example of the approach. Whilst employer cost is relatively straightforward, it suffers from a number of problems which are discussed below.

- Some elements such as pension require a number of assumptions to be made. When comparing several companies, identical assumptions should be used for each as it is the relative levels of different packages which is important and not the precise value of the package in monetary terms (which is somewhat subjective depending on the approach and assumptions).

- Elements of reward are subject to different taxation treatment and two companies may provide identical benefits but one may use a more tax-efficient approach. A similar problem exists in relation to national insurance contributions. The real problem is that if, for example, a company wishes to deliver a reward package to an executive worth £250,000, the cost will also depend upon the individual's personal taxation position.

- The employer cost approach ignores the indirect costs associated with providing the reward (eg administration), so that differently structured reward packages of the same reward value may have different economic costs.

- Some elements of reward have strong correlation. For example, it has been suggested that there is a relationship between sickness absence and vacation ie where vacation entitlement is perceived as low, employers have observed higher sickness absence rates.

- Many elements of reward are "worth" less than 5% of basic salary and showing the precise level indicates a spurious degree of accuracy. In view of this and the comments made above regarding correlation, the values of elements such as pension, ill-health/disability benefits and death benefits should be combined.

- The packages of different employees will be compared at a snapshot in time. Whilst this is satisfactory for those within a company where pay awards are granted at the

same time, for a competitive benchmarking exercise, allowances for the different timing of pay (and bonus) awards need to be made.

- In competitive benchmarking, subjective decisions will often be made regarding job matching (see section 4).

Economic value

The economic value approach seeks to establish the true cost to the company in terms of profitability. It is a useful exercise for management to understand the opportunity cost of an element of reward. For example, provision of a company car is a benefit well-perceived by employees. Company cars may represent a more efficient use of resources compared to expecting employees to use public transport etc.

Reward elements, under this approach, should be valued by reference to the risk-discount rate available on the organisation's internal projects. Furthermore, all costs associated with each reward element should be allowed for. These may include:

- taxation;
- national insurance contributions;
- administration;
- communication;
- rents, services etc.

Measuring reward is essential for developing an effective reward strategy. Any framework based on economic value will lead to a complicated reward system which is hard for employees to understand. If it is difficult to understand how efforts are rewarded, the strategy will not be a successful motivator.

Employee perceived value

Much research has been carried out into what motivates employees (eg Herzberg and Vroom). Employers and employees often see things very differently: what may be regarded as an improvement to the employer may be viewed as exactly the opposite by some employees. Any changes made must be accompanied by good communication for them to at least stand a chance

of succeeding. Often, the ***way*** in which a decision is reached is of more significance to employees than the decision itself.

According to V H Vroom, individual behaviour is affected by what the individual wants to occur, the probability of the event happening and how strongly the individual believes the event will satisfy a need.

What follows from Vroom's theory is that, in order to motivate employees;

- employers should ensure that employees understand what is expected;
- the connection between efforts and ensuing rewards should be transparent;
- the rewards given should meet individual needs;
- implementation of complicated reward systems will not increase an employee's effort.

If the last point is true, then many employers may be directing significant resources into fringe benefits such as pension schemes with little return or appreciation by employees. It may be more appropriate to motivate employees through basic salary, bonuses and the psychological elements of the contract (see below) rather than through improving fringe benefits.

F Herzberg's theory of motivation draws a distinction between motivators and maintenance factors. The latter need to be provided simply to avoid feelings of dissatisfaction and include physical working conditions and fringe benefits. The former include achievement, interesting work and recognition, from which the employees derive true satisfaction. One could argue that fringe benefits are needed to "play" but do little to motivate. The motivational impact of ***possibly*** higher pension payments in forty years' time is hard, if not impossible, to visualise.

Hence, it seems that fringe benefits may do little to motivate employees but the author would like to conduct further research into this area. Increased transparency might result in more standardised industry-wide benefits programmes being offered in future. For example, standard defined contribution pension schemes which target a reasonably generous level of income would give increased transparency. Creativity could then be used elsewhere in the reward package to motivate the employee and form a stronger psychological contract.

Ideally, the competencies required by an organisation and the rewards offered should fulfil the needs of its employees. However, employee needs may be very different and what an employer provides as a motivator may not be an efficient use of resources. In short, employee "values" might be assigned by reference to measures, some of which are not reflected in reward packages. An employer might provide them but not communicate them well to employees.

This set of measures, which has been sometimes termed the psychological contract, may carry more weight with the employee. Poor salary rises may be acceptable in the context of a strong employer-employee psychological contract. What elements make up such contracts?

An initial framework would include the following building blocks:

- Workplace Environment;
- Training and Development;
- Job Security;
- Balancing Home and Work Life;
- Career Path;
- Challenging Work.

If the employer provides what the key employees desire in these key areas, the psychological contract is hard to break and forms the platform for good recruitment and retention.

Do organisations communicate these elements as part of their recruitment and retention literature? Let me briefly address two of the building blocks not normally discussed but becoming increasingly of concern: the Workplace Environment and Training and Development.

Workplace Environment

Employers recognise that, at a time of low employment, key employees need to be treated well and kept happy. Up until recently, the working environment has been established simply to ensure compliance with the minimum requirements necessary for the business to be carried out: adequate illumination and temperature, low levels of noise and humidity. Poor workplaces can lead to what is termed "sick-building syndrome", which is characterised by headaches and lethargic depression, resulting in increased absence and low productivity. The majority of larger organisations are now offering flexible working arrangements and these are changing the design of the workplace. Given the high costs

associated with renting office space, rates and service charges (around £8,000 per annum per employee in London's West End), many employers are offering employees the opportunity to work from home at times more suitable for the employee. As long as the delivery of work is punctual, the employee has freedom as to the hours of work. This approach is well-suited to those with young families or those with difficult journeys to the office who value the chance to spend time in an environment in which they are comfortable and, perhaps, more productive. Consequently, many employees are beginning to view the workplace environment more positively. Flexibility as to where the work can be carried out is now an important factor for potential recruits. Armed with a mobile telephone and a lap-top computer, employees are questioning why they need to be at their desks all day, every day.

Training and Development

Most recruits to professional organisations undergo extensive training, both to carry out the day-to-day work and also to gain the necessary skills to gain professional qualifications. Most new recruits to the professions will enjoy the challenge of tackling new concepts. In these early stages, there is much emphasis on impressing upon recent joiners the manner in which work is carried out at the organisation. Once the professional qualification has been acquired, formal training often ceases, the employee knowing enough to become an efficient earner of revenue for the organisation. However, employees require ongoing training so that they can develop as individuals within an organisation.

To take the actuarial profession as an example, most graduates would see their initial goal as completing the professional examinations. At the same time, they receive on-the-job training. On qualification, the training requirements are harder to identify. Some employees may begin to feel frustrated and look farther afield for new challenges.

Continuing development is vital to retention of key individuals who require fresh challenges in order to remain motivated. Many employers are recognising this by offering further training, perhaps in skills not necessarily required for the job. Some are offering employees the chance to take up further study in order to develop the competencies required for promotion.

Particularly for professionals, offering continuous training and development helps form a strong psychological contract between employer and employee. However, it is difficult to value (not simply the resources per employee spent on training) when much of the training "valued" by employees is of an informal nature. From an employee's perspective, what the employer ***spends*** may not be the appropriate measure of value.

If the employee gives more weight to the psychological elements such as job security, workplace environment etc, then it would be sensible for the employer to attempt to assign "values" to these intangibles and include them in its evaluation of the Total Reward package.

Compared with the Employer Cost approach, Employee Perceived Value suffers from even more problems.

- There is a great deal of subjectivity because of individual perceptions. Therefore, making comparisons between employees in different companies has little meaning.
- Some individuals will consider the value of some elements in pre-tax terms and others will consider them in take-home terms, for example, salary.

One method, which the author proposes to carry out research into, is in developing a scoring card index along the lines set out in Appendix C to this paper. I believe that this measure of value can then be incorporated into the valuation of the reward package. As an index on its own, it would provide useful information for potential recruits looking at employment within a particular industry. Clearly, following research into employee preferences, other factors may come to light which merit inclusion in the scoring card. Different employees will also attach different "weights" to each element - this is an individual choice.

With employer assistance, the author hopes to develop an employee-perception method to value Total Reward packages. It will be interesting to discover how the company's reward costs are directed compared to its employees' perceptions and needs.

Assumptions

Actuaries are more "comfortable" with making long-term assumptions. They are less at ease with short-term estimates and it will be interesting to observe the development of market-based valuations of pension schemes.

Assumptions also need to be made in a Total Reward exercise. For example, if bonuses are awarded, estimates of the rates for the coming year need to be made. When we are considering the relative levels of reward packages, the assumptions for valuing elements such as pension should be uniform across employer regardless of the specific investment strategy adopted by each employer. As we are attempting to determine a best-estimate of the cost of providing the next year of pension benefit accrual, this suggests the use of the Projected Unit method in conjunction with best-estimate economic assumptions (see Thornton and Wilson, 1992). To the extent that the assumptions themselves can affect the relative ranking of different packages, sensitivity analyses should always be carried out.

It must be borne in mind that carrying out measurement at a particular juncture in time will affect the value of the overall package. For example:

- the value of share options will vary according to the share price on the day of the valuation;
- the value of mortgage subsidies will fluctuate according to changes in interest rates prevailing in the market from time to time.

Furthermore, some traditional actuarial approaches do not lend themselves easily to valuing reward packages from an employee perspective. For example, a particular funding method such as projected unit may be of no relevance to the employee. Of greater perceived value might be the increase, over the year, in the transfer value. A defined contribution pension arrangement, in this respect, has greater transparency and higher employee perception (notwithstanding the risk transfer).

The employer-cost approach of Appendix A, looks more closely at the methods and assumptions for different benefits. Where an employee has options, it is assumed he/she will elect for the option which maximises his/her own value. For example, where an employer offers an employee an option to increase private medical cover to include spouse and/or dependants in return for a higher employee contribution, the value to be used is the higher of the two allowing for deduction of the employee's own contributions.

4 Job Matching and Job Evaluation

The example set out in Appendix B compares different reward packages for the ***same*** employee. Comparing the reward packages of the employees in similar positions at different organisations is not a straightforward process. Indeed, the results of a valuation of the packages may demonstrate that employees with identical job titles may have very different job "sizes". This may reflect the way in which an organisation is structured. For example, a multinational company may have each manager's responsibilities organised nationally whereas another may have a manager working across many countries. The job titles provided for benchmarking may be similar but the "size" or competencies required vary significantly.

Notwithstanding the problems, benchmarking against these companies within the same comparator group is usually reasonably straightforward. A more interesting problem is determining the appropriate comparator group for a very large diversified organisation. In such organisations, the relevant comparator group will depend upon the specific position under consideration.

This process is called ***Job matching*** and is required when carrying out competitive benchmarking. For example, management accountants within a pharmaceutical group will be considering reward among a completely different comparator group to that of the industrial chemists. At other levels, unskilled workers may be more interested in employment prospects in the local labour market rather than remaining within a particular industrial sector.

Increasing mobility in the labour market, particularly among professionals, means that job evaluation will need to be more consistent . ***Job evaluation*** is concerned with the competencies required to carry out a job rather than the personal qualities of the incumbent.

Most job evaluation systems aim to describe and rank jobs by reference to objective criteria called competencies. The more competencies required, the "bigger" the job size, and the larger the reward package. Ideally, this means that one could come up with a list of alternative jobs for a specific employee. For example, actuaries have a set of skills which, with some degree of training, are transferable to other disciplines. Given the increasing tendency of professionals to switch jobs to take on fresh challenges, the competency frameworks will assume greater importance for HR functions.

Global competitive benchmarking

Many multinational companies are looking to harmonise reward programmes across identical operations in different countries. This trend is likely to continue as greater steps towards European integration continue. Employees will be comparing packages not only within their locality but also cross-border.

Total Reward exercises will become increasingly important but there are a number of problems which compound the difficulties previously mentioned:

- adjustments to Total Reward values need to be made to reflect the costs of living in different countries and while such indices already exist (eg that produced by the Organisation Resources Counselors Inc, London), they are open to subjectivity.
- elements of reward in national labour markets may be a function both of what is provided by the State and of local tax rates, so that Total Reward including State benefits might be considered to be a fairer comparison.
- Job-matching becomes even more difficult;
- choosing economic assumptions to value certain rewards consistently across different economies.

These problems may not be so insurmountable as may seem to be the case. With Economic and Monetary Union no longer a mirage, there may be convergence in employee packages and, possibly, greater consistency in State benefit delivery over time. Standards of living, certainly within the European Union, are expected to converge and values will be denominated in a common currency. The likelihood is that global (certainly pan European) Total Reward exercises will become easier to perform in a few years' time.

5 Conclusions

Drawing it all together

Once an organisation both communicates to employees its rewards and understands how employees value these rewards, it can assess how best to reward employees in order to motivate them. Successful reward strategies do not necessarily mean spending more; indeed rewards not valued by employees can be reduced and the resources directed elsewhere.

Total Reward is, therefore, not an end in itself but is a good starting point on the road to designing and implementing a successful reward strategy. It can lead into flexible benefit arrangements where employees can pick and choose from a menu of benefits. Indeed, some employers allow employees to take the value of most of their reward packages as cash and, once again, Total Reward measurement is required.

Total Reward studies are important exercises in both benchmarking overall benefit packages and producing employee statements which raise awareness regarding company benefits. They are likely to become increasingly popular, particularly in view of the widespread interest in Flexible or cafeteria-style benefits. However, given the author's comments about the motivational aspects of fringe benefits, one could infer that the implementation of expensively administered "flex" plans has more to do with cost savings than recruitment and retention.

It should be recognised that problems stem from using Total Reward valuations. They are not designed to identify differences between specific benefits because the relative levels depend, to some extent, upon the methods and assumptions adopted but also on the eligibility criteria relating to specific rewards. When comparing the total value of packages, comparisons can be made but statements regarding the absolute values of specific benefits, such as early retirement costs, should be avoided.

Therefore, there are many complexities, not least the measures of value. However, while these need to be stressed, clients will prefer some measurement of reward packages rather than nothing at all and actuaries must respond to the challenge. Who will these clients be? Traditionally, they have been organisations but one feels that, in an environment where job prospects are good, astute employees will become increasingly aware of their bargaining power. At interviews, it is becoming increasingly common for the interviewee to dictate the content of the reward package. Employers need to know the upper limit on what it wishes to spend;

employees need to know the price of what they are asking for. This is where the psychological contract is forged and where Total Reward will become of increasing importance so that potential recruits will know the value of their current and prospective packages. On the other side of the table, the employer will need to know what the interviewee is requesting and how much it will cost. Perhaps it will be the employee who will turn the tables on the employer and redefine freedom, flexibility and employee-empowerment.

There is much talk, as we reach the end of the nineties, of a contemporary society who are "wedded to the workplace". Certainly, everyone is working much harder but some employees feel more that they are "welded" to the workplace. As we approach the new millennium, perhaps more attention will be given to the psychological aspects of the employer/employee relationship. The opportunities exist for the actuary to redefine and apply himself in this sphere of activity. One hopes that the actuary will do so and not miss out by assuming the rôle of a cynic who, as Oscar Wilde observed, is a person "who knows the price of everything and the value of nothing" - Discounted value, perhaps ....?

Appendix A

Total Reward - Employer Cost

This appendix outlines one approach to valuing the principal elements of reward shown below:

- basic salary;
- variable pay eg allowances, bonuses and commission payments;
- pension benefits (including early retirement provision and spouse's death after retirement pensions);
- death-in-service benefits (lump sums, spouses' pensions);
- long-term disability benefits;
- private medical insurance;
- vacation entitlement;
- company car schemes;
- share schemes;
- mortgage subsidies.

Basic Salary

This data is collected from the employer. Allowance should be made for the incidence of salary reviews.

Variable Pay

Target bonus and ***target*** commission figures should be used and should be consistent with the measurement period adopted for salary. The problem with ***actual*** is that it reflects individual performance rather than meeting the intended ***target*** objectives of the position being benchmarked.

Appendix A

Pension Benefits

Defined Contribution

For such arrangements, the employer cost is straightforward and is, simply, the employer's total contribution. In matching arrangements, the employee is assumed to opt for the scale which maximises the financial benefit to himself.

Defined Benefit

From the employer's viewpoint, using the Projected Unit method in conjunction with realistic assumptions, is the preferred and most readily understood approach. Values calculated using this method (based on the following year's cost) are most likely to be consistent with the measurement of other elements of the package. The implicit assumption is that past service benefits are fully funded.

Employee contributions are to be deducted from the overall estimate of the cost of providing the benefits. For executives, the pension benefits' calculations should have regard to both Revenue maxima (where appropriate) and the Earnings' Cap.

In valuing rewards in UK studies, the following ***realistic*** long-term economic assumptions could be used at the current time.

Economic Assumptions	**% per annum**
Price inflation (RPI)	4
Real investment returns	5
Real earnings growth	1½*
Real pension increases (LPI)	(½)

* plus additional scale, depending on industry sector

The advent of mandatory limited-price indexation (LPI) on future accruals eases some of the problems previously encountered in determining the appropriate allowance for discretionary pension increases - discretionary increases above LPI are to be ignored, unless pension increases are ***guaranteed*** to match price inflation.

Appendix A

Early retirement

Rates of early retirement vary both by the ages at which pensions can be drawn, and the level of reduction. For example, two schemes allowing reduced pensions from age 50 might be expected to exhibit the same proportions retiring at age 50 in the calculations. However, if one grants pensions reduced at 6% per annum for early payment but the other uses only a 2% per annum reduction factor, the take up rates for early retirement could be very different.

Long-term disability benefits (Ill-health/PHI)

PHI premium rates are to be used as an approximation for the cost of providing ill-health benefits from the pension scheme (before retirement age). Tables of standard rates are available which allow for different rates of escalation.

Eligibility criteria are not incorporated into the valuation process but should be ***commented*** upon. Schemes may provided extremely generous benefits but the criteria could be so stringent that the benefit is never paid in practice. The benefit is, therefore, less costly than assuming the company pays in all cases.

Death-in-Service Benefits

The cost of providing both the lump sum and spouse's death-in-service benefits are calculated by reference to standard sets of rates used by an insurance company. The benefits valued are the full lump-sum and/or pension payable on death during the following year.

Private Medical Care

Sample insurance company, age-related premium scales should be used. The differentiators will be levels of cover ie London/Provincial and member/plus spouse/family. In the context of overall costs, the value is currently low but likely to take on increasing importance in the future.

Vacation Entitlement

Various approaches exist to placing a value on vacation entitlement. Each day's entitlement is valued as 0.4% of basic salary ie the annual basic pay divided by the number of days in the year excluding weekends and public holidays.

Appendix A

Company Cars

Both status-held and "job need" cars could be valued as 35% of the purchase price which corresponds to spreading the list price over a 3 year leasing period. The value is subject to the minimum of any cash alternative. Allowance is also made for fuel costs in relation to private mileage either at 5% of either the purchase price or minimum cash alternative, as appropriate.

Share Schemes

These fall into 2 main groups:

- company matched schemes eg "buy one - get one free", subject to a maximum amount;
- options to buy shares.

The former is "straightforward" to value (the value being exactly equal to the amount being paid by the employee in the "buy one - get one free" example). The employer cost will be calculated assuming an employee will maximise his financial opportunity.

Options should be valued using the Black-Scholes option pricing approach. However, there are practical problems in applying Black-Scholes including:

- availability of share price history for the company over the preceding three years and, if the data is not available, assumptions to be made;
- uncertainty regarding framing long-term reward strategy in the context of short-term changes in option prices.

Mortgage loan subsidies

These are to be valued as the difference between the market rate of interest and the subsidised rate, applied to the maximum value of mortgage loan.

Appendix B

Example of Competitive Benchmarking using Employer Cost approach

Consider the packages being offered by different actuarial employers. A 25 year old new graduate has been offered jobs with A, B and C and is weighing up the various reward packages. Her main concerns, at this stage, are:

- basic pay;
- annual bonus;
- vacation entitlement;
- her own pension;
- training/study packages.

These elements are described in the following table (and are not intended to be an accurate reflection of actuarial packages!).

	A	B	C
Basic Salary	£20,000	£20,000	£22,000
Maximum bonus	10% of basic salary	12% of basic salary	20% of basic salary
Vacation	5 weeks	5 weeks	4 weeks
Pension			
▪ level	$\frac{n}{60}$ x Final Salary	$\frac{n}{45}$ x Final Salary	Joint Defined Contribution of 8% of basic salary
▪ retirement age	60	62	65
▪ guaranteed incs.	RPI	LPI	N/A
▪ employee conts.	nil	5% of basic salary	5% of basic salary
Training/study package	25% of basic salary	25% of basic salary	15% of basic salary

Which employer should she pick? On the face of it, **C** offers at least 10% more money in terms of salary and bonus. However, the graduate thinks that the training/study packages of **A** and **B** are both worth 25% of basic salary and **C**'s 15% of basic salary.

She needs to value the package offered and pick the highest, all other things being equal.

Appendix B

Consider the Total Reward values measured both as percentages of basic salary and in monetary terms.

1 Basic Salary

Straightforward, although allowance should be made for incidence of pay award dates.

2 Bonus

Our graduate is given information relating to the maximum bonus rate. In the absence of further information, she ***assumes*** that she will earn 50% of the maximum bonus.

(A, B, C) = (5%, 6%, 10%)

3 Vacation Entitlement

0.4% for each day of vacation

(A, B, C) = (10%, 10%, 8%)

4 Pension

Estimated cost of providing the next year's benefit. (Appendix A sets out the economic assumptions used for the valuation of defined benefit schemes). For simplicity, an additional salary scale has been applied, equivalent to 1% per annum over the period to retirement. The annuity values of 12 and 11.5 allow for pensions increasing at RPI and LPI levels respectively.

A $\frac{1}{60}$ x Sal x $\left(\frac{1.065}{1.09}\right)^{60-25}$ x 12 - 0% Sal = 9% Sal

B $\frac{1}{45}$ x Sal x $\left(\frac{1.065}{1.09}\right)^{62-25}$ x 11.5 - 5% Sal = 6% Sal

C 8% Sal - 5% Sal = 3% Sal

(A, B, C) = (9%, 6%, 3%)

5 Training/study package

Graduate is told by the employers their annual spend on their graduate training packages. Therefore, expressed as a percentage of basic salary:

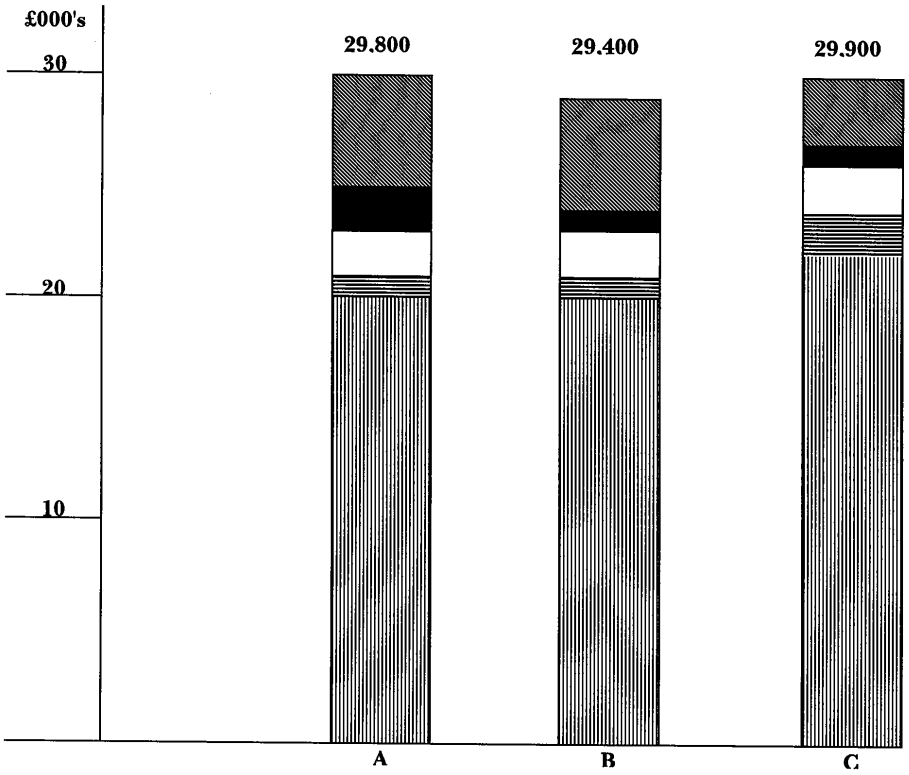
(A, B, C) = (25%, 25%, 15%)

Appendix B

	A		B		C	
	% of basic salary	£	% of basic salary	£	% of basic salary	£
Basic Salary	100	20,000	100	20,000	100	22,000
Bonus	5	1,000	6	1,200	10	2,200
Vacation Entitlement	10	2,000	10	2,000	8	1,750
Pension	9	1,800	6	1,200	3	650
Training/study package	25	5,000	25	5,000	15	3,300
Total Reward value	149%	£29,800	147%	£29,400	136%	£29,900

The results of a Total Reward study are most powerful as a communication tool when presented graphically, as shown below.

Total Reward



On the basis of her 5 principal criteria, there are no significant differences between the overall packages on offer from the three firms and she should now consider other elements, such as workplace environment, career opportunities and reputation.

Appendix C

Employee Value - Psychological Scoring Card

The organisation's HR manager fills in the scoring card below, for each of the jobs under consideration. This net score or crude index represents an addition to/deduction from the value of the reward package expressed as a percentage of basic salary.

Bad ←			Average	→		Good
-3	-2	-1	0	+1	+2	+3
			Job security		√	
			Basic salary	√		
		√	Career prospects			
			Fringe benefits			
			√ Challenging work			√
			Training/development		√	
	√		Flexibility			
			Workplace environment		√	
√			Vacation entitlement			
		√	Bonus			

Net points score 2 + 1 - 1 + 0 + 3 + 2 - 2 + 2 - 3 - 1 = + 3

For example, in this case each point on the scale represents 2% of basic salary and the addition is 6% of basic pay. The maximum addition would be 2 x 3 x 10 = 60% of basic pay.

Employees would also be asked to rank the various factors above against each other. By weighted rankings, a statistically credible sample of employees would be asked to determine how they would like the total value of their reward packages to be allocated and also how they think it is actually allocated at present. Both the crude index value and the conversion to percentages would be refined after conducting attitude surveys, focus groups and comparisons with the HR manager's scoring card.

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