



## Costs, Risks and Security of Voluntary Defined Benefit Pensions (Part One)

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The provision of defined benefit pensions by companies is a voluntary action, which, beyond some inchoate paternalistic motivation, naturally suggests that analysis of the associated incentives for the company sponsor and other parties is appropriate. The question: why should a company offer pension benefits, which are administratively onerous and risky, rather than wages? This is particularly relevant when one stated objective of this government is the encouragement of the continuance of good defined benefits schemes - to quote Mike O'Brien, Minister of State for Pension Reform<sup>1</sup> "I want to send a clear message to employers with good DB schemes – we want you to continue".

The only direct incentive for a company to create a defined benefit scheme arises from the absence of an employer's National Insurance contribution for payments to scheme funding. Even at today's levels, this is relatively small at approximately 13% of the pension contribution. The deductibility of contributions from sponsor corporation taxes is not a relevant consideration since current wages paid are also deductible. The advantage to a shareholder of £1 as pension contribution to an employee rather than as immediate wages is just 9.5 pence (i.e. 13 pence netted down for corporation tax). This may be taken as evidence of only weak government support.

In theory, the provision of private sector voluntary pensions should involve risk and cost sharing between government, company and employees. Government participation is motivated by the desire to reduce later reliance on the state pension system and incentives are provided through the taxation treatment. In the UK this has the form known as EET, where contributions are tax deductible, funded investments accrue without payment of income taxes and the pensioner is then subject to income taxes on the pension received in retirement. The pensioner may also cash commute part of his entitlement (up to 25%) as a lump sum free of income taxes on retirement. This arrangement is often described as inter-temporally fiscally neutral, which, if true<sup>2</sup>, would be further evidence of only weak government support at best.

It is, though, the accrual tax concession which has real consequence. In an economy where the individual is subject to income taxes on investment income, the future accrued capital value of pension savings can be orders of magnitude larger than the individual may achieve directly. To provide some quantitative intuition, future (deterministic) capital values arising from £1 of

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<sup>1</sup> Global Pensions, 21 January 2008, [http://globalpensions.com/showPage.html?page=gp\\_display\\_feature&tempPageId=686617](http://globalpensions.com/showPage.html?page=gp_display_feature&tempPageId=686617)

<sup>2</sup> The truth of this statement is difficult to evaluate as it depends upon present and future tax rates for individuals and companies and the relative productivity of capital investment in the public and private sectors.



current contribution for three levels of income tax and two rates of return on investment for a twenty year period are shown in Table 1 below. As not all of these incentive effects are immediately intuitive, Box 1 investigates some aspects quantitatively.

<b>Twenty Year Horizon</b>				
<b>Marginal Income Tax Rate</b>		<b>0%</b>	<b>40% (current)</b>	<b>83% (highest)</b>
	<b>5%</b>	<b>£2.65</b>	<b>£1.81</b>	<b>£1.18</b>
	<b>15%</b>	<b>£16.37</b>	<b>£5.60</b>	<b>£1.65</b>

Table 1: Future capital values of £1 invested

These future capital values are the prime determinant of retirement income. However, there remains significant uncertainty and risk for an individual employee saver as to retirement income. The capital values and the conversion of these capital sums to income both depend upon the vagaries of financial markets. Risk sharing between company sponsor and employee is an obvious solution.

In a situation where, because of tax effects, the best that an employee saver can achieve is lower than that possible within a pension scheme, it is rational for the employee to wish to participate in the scheme. The cash commutation option alone is sufficient reason for an employee to wish an employer to create and maintain a scheme. Moreover, as this future value is uncertain, the rational employee should be prepared to forgo some part of the full gain associated with the scheme, which lowers the current contribution cost for the sponsor, providing an incentive to the employer to create the scheme.

The negotiating game here is rather more complex in that employees, collectively, because of their diverse ages, can share risk among themselves through scheme rules under which years of service determine benefit entitlements. This lowers the dependence of the scheme upon market prices at any particular point in time. It also lowers the cost of provision to the employer. There are two

**Box 1**

Table 1 can be used to gain some insight into the potential magnitudes of the cost benefit sharing potential of incentives. In the figures which follow no account has been taken of the cash commutation option in risk and cost sharing. In an environment where individual income taxes and investment accrual rates are high (83%, 15%), equal sharing of risk and cost between employees and sponsor results in a pension promise to the employee of £9.01 of future benefit (i.e. the average of £16.37 and £1.65), and has a current cost to the sponsor £0.55 (i.e. £9.01 discounted at 15% for 20 years). By contrast, when individual taxes and investment accrual rates are low (40%, 5%), equal risk sharing results in a promise of just £2.23, and at a cost to the sponsor £0.84. The negotiating flexibility is greatly reduced. If the original promise of £9.01 was agreed, its current cost to the sponsor under the lower investment accrual rate would have risen to £3.40. This simple illustration shows how severe the basic problem faced by pension schemes really was, when, in the 1990s, both investment rates and taxes declined.

In addition the effects upon shareholder value are themselves a function of corporation taxes. When these taxes were 52%, the post tax cost to a shareholder of a promise of £9.01 was just £0.26, while at the more recent 28% rate the £2.23 promise costs a shareholder £0.61.

The economics have changed markedly and some of the effects are not naturally intuitive.



inherent smoothing mechanisms at work here, arising from the multi-year nature of sponsor contributions and also the lowered dependence upon individual accruals. Closing a scheme to new members actually raises benefit cost progressively precisely because it crystallises inter-employee risk sharing, which then declines with the passage of time.

The optimal solution to this negotiating game is one where employees share risk among themselves and with the employer in the form of defined and less uncertain, less risky future benefits to the advantage of all. This is greatly complicated by the presence of preserved deferred members within a scheme. This class of member, former employees, does not have common incentives with current employees, for whom ongoing employment is usually a major concern, tempering the pension element of the labour contract greatly. It is also interesting to note that this class of member was introduced gradually by a number of changes to legislation spread over more than a decade, which suggests that its introduction in a single act would have been entirely unpalatable.

The treatment of pensioners in payment functions as a signalling mechanism informing the negotiations between employee and sponsor, and is the source of pensioner's rather limited negotiating strength.

Over the decades there have been many changes to legislation which have added further benefit entitlements and costs to the provisions of a scheme. The £1 of benefit promised has been increased substantially by these actions, to above £2 by some estimates, a further disincentive to create or maintain a scheme, but this is well travelled territory and not centrally relevant to the subject here. Such historic actions do, though, cast doubt upon government intention.

Some regard the “contracted out” rebate, the refund of contributions made for entitlements due under the State pension system but foregone, as a form of incentive. At inception this was true, but at present rates, by virtue of its insufficiency<sup>3</sup> it is now a disincentive to the creation of schemes. Advanced corporation tax was similarly not an incentive but rather a refund to remove taxation inequities – its removal a further disincentive.

A pension promise is to be met at many times, far into the future, when the employee has become a pensioner. This opens the possibility that the employer will be unwilling or unable to meet these obligations as they fall due, and begs questions about the security or credibility of the promise. This issue has become known as the sponsor covenant.

But before addressing those questions, there is a further incentive consideration, which should be considered, related to scheme creation. An employer wishing to curtail the provision of

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<sup>3</sup> The current rate was lower than that recommended by the Government Actuary and even that remains “under review”.



pensions must effectively<sup>4</sup> now terminate the scheme and wind it up, purchasing annuities reflecting the entitlement rights of all individual members. These can only be purchased from regulated Life Companies and, as a result of their regulation and existence with profit in mind, this cost is 20 percent or more above the accounting values reported in a company's statutory accounts. This is a pronounced barrier to exit and in fact is much larger than the initial government incentive to create a scheme. The risk sharing negotiating game has been moved against the employee to reflect this potential cost to the sponsor company.

The 2003 "debt on employer" legislation has the effect of ensuring that as long as a sponsor is solvent the pensions due will be paid. Of course this leaves the question of security should sponsor become insolvent, and was the principal subject of the Pensions Act 2004 and one of the driving forces behind the creation of the Pension Protection Fund.

Before considering the design, costs and incentives of the security mechanisms now in effect<sup>5</sup>, we should observe what effect these new regulations appear to have had upon pension schemes. The near contemporaneous changes to accounting standards (2002), the EU's IORP<sup>6</sup> Directive (2003) and the Pensions Act 2004 make causal attribution of behaviour to any one of these changes unwise.

Firstly, in Diagram 1, we look to the ratio of pension scheme administration expense as a proportion of pension payments for the period from 1992. It is evident from this that the costs of administering schemes have increased markedly, from approximately 3.5 percent in the early 1990s to approximately 6.5 percent recently. Absent any changes, the expectation would have been for this ratio to decline slowly. There is some evidence, from cluster analysis, that this shift is secular and implies that the new regimes have very significant ongoing compliance expenses. This is a staggering increase in administrative costs; a friction which severely restricts the future benefits attainable. Its inefficiency is a most significant disincentive to this form of provision.

BrightonRock's survey work indicates that pensions in the UK have in recent times cost some 28 percent of salaries, which may be expected to decline to 23-24 percent. However the comparable figure for Dutch schemes, which offer broadly similar promises and are subject to the same European regulation, achieve this at a cost of less than 20 percent of salaries. The institutional design of pension regulation in the UK now appears to be very costly indeed.

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<sup>4</sup>There are a number of nascent alternative solutions, such as sponsor substitution but none of these have gained much acceptance or use as yet.

<sup>5</sup> This will be the subject of another article, Part 2, but the impatient are referred to "Understanding Pension Guaranty Insurance" available at [www.brightonrockgroup.co.uk/press](http://www.brightonrockgroup.co.uk/press)

<sup>6</sup> Institutions for Occupational Retirement Provision

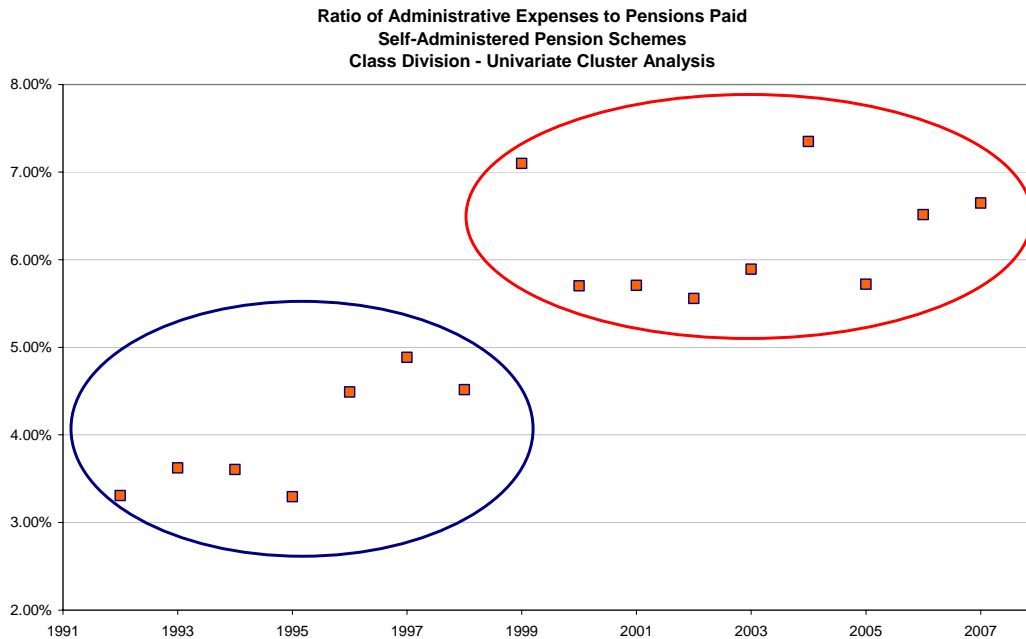


Diagram 1: Source: ONS MQ5 and BrightonRock calculations.

Secondly, in Diagram 2, we show the level of tax deductions (in constant 2007 pounds) due to special contributions<sup>7</sup> made to pension schemes. In addition this diagram shows a linear regression fitted to the data series from 1992 until 2001, which is extrapolated to 2007. This linear regression shows a slight positive slope over time as might be expected to arise from technicalities such as scheme closure to new members and interaction effects between risk factors like mortality and inflation. It is evident that the period from 2002 onwards is massively different from the prior experience. At some times the projection of expense from the 1990s, it is clear that the new regimes have had material effects on behaviour. **The scale of this tax loss to the Exchequer is remarkable; in the last three years this amounts to a total of £10.98 billion pounds.** It is several pence in the pound of income tax rates and even far more than the PPF’s estimates of the capitalisation it would require if it were a regulated insurance company, rather than the compensation fund that it is.

<sup>7</sup> This diagram shows the full tax deduction, though it should be remembered that HMRC now applies “spreading” rules to limit the effect upon exchequer tax receipts in any one year.

The Corporation Tax Cost of Special Contributions

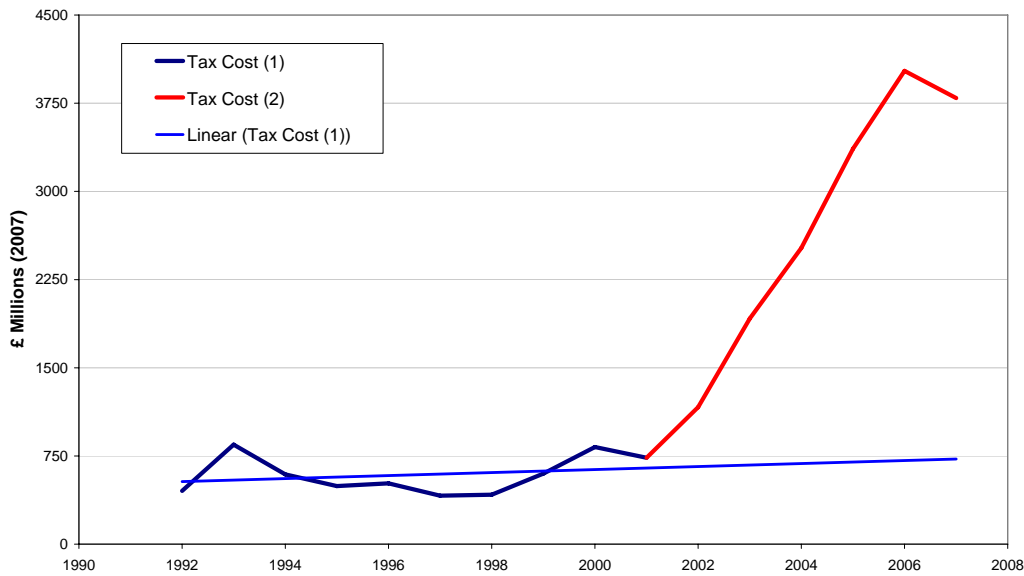


Diagram 2: Source: ONS MQ5 and BrightonRock calculations

This government may wish to encourage the ongoing provision of defined benefit pensions, but there is scant evidence in the analysis of incentives that this is any more than wishful thinking. The costs of pension provision under current regulation appear far too large, swamping the weak incentives evident. These costs are also sufficiently large to the economy that they have consequences in terms of social equity since these schemes cover only a small fraction of the population. It really is time for a rethink.