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A CONSIDERATION OF BOOK RESERVE SCHEMES

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ABSTRACT

With the financial services industries in the member countries of the European Union coming under increasing attention resulting in relaxation of cross border controls, this paper addresses some pensions matters in this European context and how they may relate to the U.K. The main theme of the paper is the book reserve approach to pensions provision. Details of the German book reserve method are provided before developing possible ways in which this philosophy could be introduced into the U.K. These possibilities are assessed and consideration given to the effect they may have on the economy, commerce, the pension fund industry and, not least, the actuarial profession in the U.K.

KEYWORDS

Occupational Pension; Book Reserve; Insolvency; Security

1. INTRODUCTION

1.1 A joint Working Party of Fellows of the Institute of Actuaries and the Faculty of Actuaries were asked to undertake a project relating to European pensions, on behalf of the Pensions Joint Committee. More specifically they were asked to consider the book reserve approach to pensions financing in detail and to explore the possible consequences for the United Kingdom pensions industry, should a book reserve approach be permitted in the U.K.

1.2 The working party was given the following terms of reference:

(1) To set out a full understanding of the German 'book reserve' approach to pension fund finances,
(2) To investigate the possibility of the introduction of a facility for book reserving in the U.K. coupled with the provision of suitable insurance arrangements against the insolvency of the employer, and
(3) To consider the long-term effects on:
  (a) company finance structure,
  (b) U.K. economy,
  (c) U.K. pension fund industry, and
  (d) actuarial profession,

  of the introduction in the U.K. of the facility of a system akin to the German system.

1.3 This paper is the result of the working party's deliberations. It is hoped that it will enable Fellows to have a better understanding of the German system. Most of the research was completed before the publication of the Report of the Pensions Law Review Committee on 30 September 1993. Although the working party were aware of the recommendations in that report, they have not revised this paper in the light of these recommendations. This research stands alongside the work of that committee.

1.4 Beyond that it shows that introducing book reserving into the U.K. would be very complicated; the paper outlines a way forward, but, more importantly it is hoped that the paper will stimulate discussion both on the model proposed and on the wider question of whether allowing the option of book reserving is worth pursuing further.

1.5 The paper has been structured as follows:

—Section 2 brings forward the main conclusions from the working party's deliberations.
—Section 3 sets out an understanding of the German system as an example of a book reserve system in operation.
—Since the 1989 Finance Act there has been the development of unfunded pension arrangements in the U.K. The working party felt it was appropriate to review this change in the U.K. marketplace before looking to the future. This is covered in Section 4.
—The Pensions Joint Committee has asked a separate working party under the chairmanship of Professor P. G. Moore to consider the macro-economic consequences of pensions funding. This second working party is due to report later in 1994. Although the book reserve working party did not contain experts in macro-economic theory, it decided it had to attempt to address the macro-economic consequences before it could suggest a future scenario. This work, with the caveat of the limitations of the working party, is set out in Section 5.
—If pensions financing in the U.K. were being considered from scratch, the German system could be copied. The working party concluded this could not be the case when pension fund assets in excess of £350bn already exist. Section 6, therefore, draws together the theoretical position and suggests a possible way forward should the U.K. government be keen to allow a book reserve system in the U.K.
—Section 7 deals with insolvency insurance, seen by many as the key to operating a book reserve system, and Sections 8–10 deal with the impact on various parts of the pension fund industry, including the actuarial profession. In particular, in Section 7 there is a summary of views from selected practitioners in the general insurance market on the likelihood that commercial insurers in the U.K. would be willing to make a market in insolvency insurance cover.

1.6 The working party would like to express their thanks to John Martin for his encouragement initially that this was an area in which he would like work to

be done, and to Andrew Payne who did most of the hard work for Section 3 on behalf of the working party.

2. Summary of Main Findings

2.1 *German Book Reserve Financing*

(a) The direct relationship between employer and employee (no trustees) is seen as an advantage. It reduces the administration cost for the employer and it gives employees the right to direct action against the employer should anything go wrong.
(b) The insolvency insurance gives very strong protection to the employees, but only for the benefits covered by the insurance.
(c) The employer has the advantage that the money which would otherwise be used as pension scheme contributions is retained as working capital within the business.
(d) The scheme is easy to operate as there is no concept of 'surplus' or 'deficit'.

2.2 *Considerations in Introducing Book Reserve Financing into the U.K. given the Existing System*

(a) Unless book reserves were replacing externally funded schemes entirely, systems should be designed so that there was no fiscal arbitrage between the two approaches to financing.
(b) The introduction of a book reserve system at this time would run contrary to trends in most other countries, and to restrictions on self-investment introduced in the U.K.
(c) A simple insolvency insurance arrangement like the German Pensions-Sicherungs-Verein (PSV)'s unit rate might not be acceptable to participants in the U.K. pensions marketplace.
(d) The higher level of social security pensions in Germany means that private pension provision there is an order of magnitude lower than in the U.K. This may limit the ways in which the German book reserve system could be adopted in the U.K.

2.3 *Adaptation of Book Reserve Financing to the U.K. Environment*

(a) Book reserve financing should be introduced as an option, over and above the current systems. To replace current systems with book reserves would cause too great an economic and political disturbance.
(b) Book reserves would therefore probably come within the trustee system, which could remove some of the perceived advantages as set out in §2.1.
(c) The theoretical problems inherent in introducing insolvency insurance to support book reserve financing can be solved, but it is unclear if a commercial market would be generated.
(d) Current unfunded unapproved schemes can serve as a base for book reserve financing in the U.K. if the two issues of insolvency insurance and of tax relief are addressed.

2.4 *Consequences of Introducing Book Reserve Financing into the U.K.*

(a) If there was a substantial move to book reserves financing, the economic impact on how companies fund their businesses could be profound.

(b) Pension scheme members are unlikely to view book reserve financing positively, as they will perceive a loss in security and a loss in transparency in the operation of their pension scheme.

(c) The introduction of book reserve financing would have a significant impact on the nature of the higher level advice currently provided by the actuarial profession. It is unclear whether the overall demand for actuarial services would increase or fall.

3. The German Book Reserve System and Insolvency Insurance

3.1 *Background*

There are book reserve schemes in existence in several countries, but the working party's terms of reference asked for the German system to be considered in detail, Germany being perhaps the country best known to operate on this basis. It is understood that the German system is itself based on an earlier Swedish model, and Spain also has historically operated a book reserve scheme. Some further comments on the Spanish book reserve system are to be found on page 33 of 'Retirement Provision in the Countries of the E.C.' by C. D. Daykin[(14)].

3.2 *The German Employee Benefits System*

3.2.1 Employee benefits provision in Germany consists of three main components.

3.2.2 *The State Social Security system*

This provides a wide range of benefits including a pension, on retirement with a full contribution record, of up to 45% of final gross earnings up to a ceiling of a pension of around DM 91,200 p.a. as at the end of 1993; but, because the Social Security pension is favourably treated for tax purposes, 45% of gross earnings may be equivalent to up to two-thirds of the corresponding net pre-retirement income after tax deductions. Retirement ages are in the process of being equalised at 65 for men and women. The changes are being phased in over the next 20 years. Previously women had the option to retire at 60 and men at 63 on unreduced pensions, subject to a sufficient contribution record. In future both sexes will be able to retire from age 62, but benefits will be reduced for early payment.

3.2.3 Employers and employees pay equal contributions for pension, health and unemployment benefits amounting on average to around 39% of earnings up to the relevant ceiling in total. (The ceiling for health insurance is 75% of that for pensions). In addition, employers alone pay an industrial injuries premium which varies according to the category of employment, averaging around 1·4%.

3.2.4 *Occupational pension arrangements*

These are provided voluntarily by employers to supplement the benefits available from the State. Most employers provide benefits for at least a part of the workforce, and the proportion covered tends to be larger for the larger employers. Overall about 50% of all employees are covered by such plans. Because of the high level of State pensions from which it is not possible to contract out, the average occupational pension in Germany is only about one-third to one-fifth of the size of the average U.K. occupational pension, when expressed as a percentage of final earnings. Many small employers do not make further provision for their employees. This needs to be contrasted with the U.K. when considering developments. In particular, the total private pension scheme assets in Germany for all types of financing are less than half the estimated figure for the U.K. The methods of provision of occupational pensions are outlined in Section 3.3, whilst the range of benefits provided is described in Appendix 1.

3.2.5 *Individual provision*

Individuals may effect policies with life offices to supplement the benefits provided by State and occupational arrangements. Limited fiscal support is given to this method of provision by making premiums tax deductible up to a limit under certain conditions. However, for many people the limit is used up by Social Security and other contributions. The funds accumulated by the life office are not subject to taxation, and the policy proceeds are generally tax-free subject to the same conditions as apply to premium relief—chiefly policies have to be on a regular premium basis for a minimum term of 12 years. Otherwise individuals may save for retirement through a range of personal savings contracts which do not enjoy similar tax advantages.

3.3 *Methods of Occupational Pension Provision*

3.3.1 There are four methods used by companies to finance benefits.

3.3.2 *Book reserves*

Under this, assets backing the liabilities are retained within the company rather than being held separately. This is the most popular method of provision, accounting for liabilities estimated at some DM 240 bn at the end of 1992, or about 60% of the total. The employee has a direct claim for his benefits against the company which meets the benefits from cash flow as they fall due.

3.3.3 Some companies, particularly the smaller ones, accumulate assets in separate insurance policies to meet the anticipated liabilities (so-called 're-insurance'). These policies cannot be compared with a traditional U.K. insured scheme, as they remain an asset of the employer who can surrender them or use them as security for a loan exactly as any other corporate asset. The employees have no direct claim against such policies. Such policies have to be shown as an asset in the company's balance sheet and hence can be included in the asset tax charge.

3.3.4 An advantage to an employer of using book reserve financing is the favourable tax treatment. Transfers to book reserves calculated on a statutory basis (see Section 3.5) reduce a company's taxable profits (corporation taxes are currently around 60%). A second advantage is to corporate cash flow during the period of employees' active service, making an employer less dependant on external finance than would otherwise be the case, and possibly providing capital more cheaply than from other sources.

3.3.5 Employers also feel in control of their pension scheme assets, though this is not so much an issue in the co-operative environment of Germany as it has been, for example, in Spain in recent years. The statutory structure of book reserve financing also means that it is cheaper to run than a basis with more discretion, as in the U.K.

3.3.6 From the employee's point of view, he has a direct call on the employer for any failure to pay the promised benefits. This is backed up by the compulsory insolvency insurance, but there is the concern that not all benefits are covered by this insurance. The need to invoke the insolvency insurance forfeits the right to post-retirement increases, not an issue in Germany to date because of the low level of inflation, but this may change in future. Finally, since the insolvency insurance basically works on a levy basis, there is the thought that the whole system could founder in a severe recession because of the size of the levy on the remaining companies, themselves in trading difficulties; the same outcome could also follow if cover was being provided directly by insurance companies.

3.3.7 *Direct insurance*

The employer pays premiums to an insurance company to secure benefits for employees on an essentially money purchase basis. Normally such policies effectively become the property of the employee once he has satisfied the vesting requirements (see Section 3.4), and thus do not form part of the employer's assets which are subject to asset taxation. The premiums paid by the company are offset against its taxable profits, but are regarded as a taxable benefit of the employees. It is possible for the employer to pay the tax on behalf of the employees at a special reduced rate on premiums up to DM3,000 p.a. The tax treatment of the benefits is the same as that for private insurance policies.

3.3.8 *Pension funds*

Despite the name, these are essentially small mutual insurance companies set up by an employer or a group of employers to insure benefits for their own employees. They provide benefits in a similar way to direct insurance and are subject to regulation by the insurance supervisory authorities. Because of the costs of setting up such funds, their use is restricted to industry-wide schemes and a few very large employers. It will be seen from the table in §3.3.9 that these external funds have assets of around DM90 bn—or less than 10% of the equivalent assets in U.K. pension funds.

3.3.9 *Support funds*

These are separate legal entities financed by employer contributions, but independent of the employer. Support funds have been in use for many years for many purposes in Germany, of which pension provision is only one. Support funds are used when they are more fiscally attractive than book reserve schemes; the government varies the balance between the two from time to time. The fund is not subject to the supervision of the insurance authorities and the assets may be loaned back to the employer. Under tax law the employee cannot have a direct claim on the assets of the fund, but, effectively, labour law gives him the security of the underlying assets and a direct claim against the employer for any unfunded vested liability. Tax regulations limit the extent to which liabilities can be pre-funded to a level well below what could be regarded as full actuarial reserving (see Section 3.5). Employers with support funds, like book reserve schemes, are required to have compulsory insolvency insurance.

The estimated distribution of assets at the end of 1991 was as follows:

	DM bn	Approximate %
Book reserves	240	60
Direct insurance	40	10
Pension funds	90	20
Support funds	40	10
Total	410	100

3.4 *Statutory Requirements for Occupational Plans*

3.4.1 *Benefit and contribution limits*

There are no statutory limits on benefits or contributions, although the tax rules limit the tax advantageous contributions to insured plans and support funds, but not to book reserve schemes. There is a ceiling on the pension which is covered by the statutory insolvency insurance—currently DM 273,600 p.a.

3.4.2 *Sex equality*

Clarification of the full implications of the Barber Judgment is awaited in Germany as in the rest of the E.C. Equal access and widowers' pensions on the same basis as widows' pensions are already mandatory.

3.4.3 *Early retirement*

Company plans have to make retirement benefits available (possibly subject to reduction for early payment) at the same time as they become available from Social Security.

3.4.4 *Insolvency insurance*

Insolvency insurance is compulsory for book reserve plans and support funds, as well as for certain forms of direct insurance where the employer has borrowed against the security of the policy (see Section 3.6 for full details).

3.4.5 *Vesting*

Mandatory vesting applies to the benefits of employees aged 35 or over who have either:

(a) completed 10 years of plan membership, or
(b) completed 12 years of company service and 3 years of plan membership.

3.4.6.1 The vested benefit is based on the prospective benefit, based on full service up to normal retirement age or earlier date of death or retirement, multiplied by the ratio of actual company service to potential company service to normal retirement age. For final salary plans no account is taken of salary increases after the date of calculation and there is no requirement to increase vested benefits before they come into payment. The vested benefits must be paid under the same terms as benefits for active members (including post-retirement increases), so vested beneficiaries have the same right to death, ill-health and early retirement benefits as active members—subject, of course, to the reduction in the amount.

3.4.6.2 For benefits provided under insurance policies the vesting requirements are the same, but they can also be fulfilled by assigning the policy, including all bonuses, to the employee.

3.4.6.3 Some company plans provide better vesting terms than the statutory minimum, particularly for senior employees.

3.4.7 *Post-retirement pension increases*

3.4.7.1 The law requires employers to review pensions in payment every three years, with a view to maintaining their purchasing power since coming into payment, as measured by the cost of living index for an average income four-person household. Any voluntary increases granted in the review period may be taken into account.

3.4.7.2 The three-year cycle applies to each pensioner individually, but it is permissible to group all those retiring in a given year for increase purposes, so that roughly a third of a company's pensioners may receive increases each year. Companies may avoid the liability to increase pensions if their financial position is such that the cost would threaten the future job prospects of the workforce or the growth of the company. The exact meaning of this provision is open to interpretation, and there have been several Labour Court cases to clarify particular aspects. Many companies have given no increases at all despite being financially healthy. This is largely a result of lack of awareness among pensioners of the legal requirements. Such employers run the risk of being challenged in the Courts and required to provide backdated increases.

3.5 *Calculation of Book Reserves*

3.5.1 The tax legislation sets out the method and assumptions for determination of book reserves (the so-called 'Teilwert' procedure).

3.5.2 *Method*

The funding method to be used is entry age funding with individual level annual premiums. No reserve is calculated for employees under age 30; employees joining before that age are treated as joining at age 30.

Thus if: x = age at valuation date
y = age at entry to company, minimum 30
w = retirement age
P = pension at retirement age

the Teilwert at age x is calculated by a formula of the type:

$$TW_x = P\left[\frac{M_x^{ra}}{D_x} - \frac{M_y^{ra}\, a_{x:\overline{w-x}|}}{D_y\, a_{y:\overline{w-y}|}}\right].$$

Note that, as for statutory vesting, the calculation starts from entry to company service (in this case with a minimum of age 30) rather than the date of joining the plan.

3.5.3 *Statutory actuarial assumptions*

Interest	:	6% p.a.
Salary increases	:	No allowance
Pension increases	:	No allowance unless promised at a specific rate under the plan
Withdrawal from service	:	No direct allowance; deemed covered by using minimum entry age 30
Retirement age	:	Either scheme normal retirement age or earliest early retirement age
Mortality	:	Standard (non-unisex) Heubeck tables
Ill-health retirement	:	Standard (non-unisex) Heubeck tables
Probability of being married	:	Standard (non-unisex) Heubeck tables
Age differences	:	Standard (non-unisex) Heubeck tables.

3.5.4 *Comparison with realistic liabilities*

In current conditions German actuaries are using the following financial assumptions to value liabilities under final pay plans for SSAP24 purposes, typically in conjunction with the projected unit method. These calculations are not required of German actuaries under the Teilwert system. Their adoption relates, therefore, to multinational companies—hence SSAP24—or to acquisition situations:

Interest	:	7%–8% p.a.; based on market yields on fixed-interest securities. A case can be made for using a (higher) rate of return on the company's own capital.
Salary increases	:	3%–4·5% p.a.
Pension increases	:	2·5%–4% p.a., in line with RPI expectations.

3.5.5 In addition, demographic assumptions appropriate to the particular company would be used. Normally this would include specific allowance for withdrawal from service, possibly a spread of early retirement ages and different ill-health decrements. The effect on the liabilities compared with the book reserves obviously depends on the precise assumptions and the structure of the membership.

3.5.6 The projected unit method of calculating accrued liabilities tends to produce lower reserves than the Teilwert method, as does the introduction of a withdrawal assumption. These effects are usually more than outweighed by the differences in the financial assumptions resulting in overall SSAP24 liabilities, typically 20%–40% greater than the book reserves. In individual cases the discrepancies can be much greater.

3.5.7 For plans which provide benefits which are not dependent on final pay (and for deferred pensioners under final salary plans) the SSAP24 liability may well be lower than the corresponding book reserves.

3.6 *Insolvency Insurance*

3.6.1 *Coverage*

The insurance is provided through the Pensions-Sicherungs-Verein AG (the PSV), which is a statutory mutual insurance company set up in 1975. A 1974 Act had introduced vesting and insolvency insurance to improve the security of pension scheme members. All pensions in payment and statutory vested benefits for active members and deferred pensioners are covered up to a limit of a pension of three times the Social Security ceiling (i.e. currently DM 273,600 p.a.). Thus, as well as an insignificant number of employees with benefits in excess of the ceiling, all employees whose benefits have not vested are excluded from protection—broadly this means employees under age 35 or those who have less than 10 years of plan membership. The new Federal States which comprised the former DDR were included in the western system from 1 January 1992. This means that, at the earliest, employees in those states will be covered by the PSV from 1 January 1995 and in some cases not until much later. Where employers provide vesting terms better than the statutory requirements, the resulting additional vested benefits are not covered by the PSV and neither are certain owner-directors. Also excluded are benefit improvements which took effect within a year of the insolvency.

3.6.2 Pensions in payment are insured only for their amount at the date of insolvency plus any guaranteed increases (which are rare in Germany). Increases under the statutory review procedure after insolvency are therefore not provided.

3.6.3 One way employers can extend insolvency protection outwith the PSV is to effect a form of reinsurance. Benefits are provided by means of an earmarked insurance policy which remains as an asset of the employer, except that it has a clause such that the insurance policy becomes assigned to the employee on the employer's insolvency rather than forming part of the total pool of assets available for distribution to all creditors. This device is normally only used to protect senior employees—either owner-directors or those whose benefits exceed the ceiling.

3.6.4 *Financing*
The PSV is financed by compulsory premiums from employers levied in proportion to the statutory book reserves held for the vested covered employees (or the mathematical reserves for support fund members). The premium basis will thus normally be slightly less than the total book reserves, as all employees aged between 30 and 35 will be excluded together with any others whose benefits have not yet vested. In 1991 the total premium basis was DM257 bn, or about 92% of the estimated total book reserves plus support fund assets.

3.6.5 The PSV calculates claim liabilities arising each year on a terminal funding approach. In other words the full liability is recognised for pensions in payment and attaching contingent dependants' benefits when taken on by the PSV or coming into payment during the year, but no explicit reserves are held against deferred vested liabilities. This approach was adopted as an acceptable compromise between pay-as-you-go and full actuarial reserving. The former would have produced an initially very low, but rapidly increasing, premium rate, whilst the latter would have required higher premiums and led to the build up of very substantial reserves in the PSV.

3.6.6 The PSV itself does not pay pensions, it merely reinsures them with a consortium of 74 insurance companies by paying single premiums for the pensions coming into payment. The single premiums are calculated on the basis of 3% interest, and as the benefits do not qualify for post-retirement increases, the basis is guaranteed to generate substantial profits. These are largely returned to the PSV, the insurance companies retaining only 2% of the premiums for their own profits with a further 5% being reserved against future dividend payments to the PSV. Therefore the element of insurance is minimal in practice, and the insurance companies regard this as experience-rated business.

3.6.7 The PSV's own reserves are relatively modest, largely consisting of an equalisation reserve equal to the average of the last 5 years' claims. This, together with an on account contribution at the start of the year (taking account of bankruptcies working through the systems expected to give rise to claims in the year), assists in the cash flow management of the PSV.

3.6.8 Claims on the PSV arise both from company insolvencies, when the PSV replaces the individual employees as a creditor of the company in respect of the vested pension liabilities, and from schemes of arrangement designed to enable an ailing company to stay in business. The PSV does not have any special status at the time of insolvency, but just ranks as an ordinary creditor. In a scheme of arrangement, the PSV will negotiate with the company, the other creditors and the courts with a view to reducing the immediate claims on the company. This can result in the PSV taking on a proportion of the pension liabilities while the balance remains with the company. The amount of assets recovered by the PSV from insolvent companies has to date been very modest.

3.6.9 The insolvency premium calculation follows broadly the following lines:

	total capital value of claims
plus	administration expenses
less	income on PSV reserves
less	profits from consortium
less	recoveries from insolvent companies
plus or minus	net transfers to/from internal reserves
gives	balance to be met from premiums.

This balance divided by the total premium basis gives the premium rate expressed as an amount per mille of the covered reserves. The rate is the same for all companies regardless of size, industry or any other risk factors.

3.6.10 *Experience to date*

The table below shows the premium rates over the 18 years of the PSV's existence.

Calendar Year	Premium rate (per mille), charged on amount of book reserves
1975	1·5
1976	1·9
1977	1·9
1978	0·7
1979	1·1
1980	1·4
1981	2·0
1982	6·9
1983	3·7
1984	2·6
1985	1·4
1986	1·1
1987	1·8
1988	0·9
1989	0·6
1990	0·3
1991	0·9
1992	0·8
1993	3·1

As expected, the financing method has led to volatile premiums, with the rate in the worst year (1982) being 23 times that in the best (1990). In recent years the volatility has reduced, because the PSV has been able to maintain more substantial internal reserves than in the early years and because the significance of the bonuses from the consortium has been increasing. The economic conditions in the latter half of the 1980s were also more stable than had prevailed in late 1970s/early 1980s. An increase in insolvencies in 1993 (in particular of one large company in the steel industry) led to the steep increase in the premium in that year, and the 1994 premium rate also seems likely to be relatively high. The table in Appendix II gives further details of the financial development of the PSV to the end of 1992, using the most recently available data.

3.6.11 The consortium, led by Allianz Leben, part of Germany's largest insurance group, is currently paying pensions to 130,000 beneficiaries, amounting to around DM360 m p.a. To put these statistics into perspective, if the consortium were a single insurance company it would rank 38th in Germany in terms of premium income and 70th in terms of sums assured (calculated as 12 times the annual pensions). Allianz itself has by far the largest participation in the consortium with 14·5%. Although not disclosed, its liability for PSV business might be estimated at around DM800 m or about 1% of its total assets. Similarly, Allianz's premium income from the PSV in 1991 would have been about DM57 m or about 0·7% of its total premium income.

3.6.12 *Proposed changes to insolvency insurance*

As part of a general reform of insolvency law, the government is proposing to make some changes to the insolvency insurance of company pension arrangements. It is not yet clear when the changes will take effect. The most significant of these proposals are:

—A reduction in the maximum level of cover provided by the PSV. At 1994 levels the limit would roughly halve from DM273,600 annual pension to DM141,120. The aim of this change is largely to restrict the scope for abuse. Even at the new level, very few employees are likely to be affected.

—An extension from one year to two years in the time period during which improvement made to plan benefits shortly before insolvency are not covered by the PSV. This is also an anti-abuse measure.

—Where a company enters into a scheme of arrangement with its creditors in order to continue trading, the PSV may take on a portion of the pension liabilities. To date such liabilities have remained permanently with the PSV whatever the subsequent state of the company's finances. In future the PSV will be able to hand back the remaining liabilities to the company after a limited period. The PSV tried unsuccessfully through the courts to return pension liabilities which it had taken on in 1982 from AEG after the company's fortunes recovered. Such a procedure would have advantages for employees, who could regain the possibility of post-retirement increases on pensions paid by the employer; such increases are not provided by the PSV.

3.7 *Conclusion*

Book reserve financing on the German model is an advantageous way to go forward when a country is establishing private pension provision from scratch. The drawback is that the existence of universal insolvency insurance in the PSV model is fundamentally linked to the overall strength of the economy in the country concerned, and there is the risk that the economy and the insurance cover could fail at the same time.

4. The Current Regime for Unapproved Pensions in the U.K.

4.1 *Background*

4.1.1 The Finance Act 1989 introduced the 'pensions cap'. It stated, broadly, that for new entrants to tax approved pension schemes from 1989, benefits could only be provided on earnings up to the 'cap'. The 'cap' is intended to increase in line with the Retail Prices Index each year. The number of employees affected by the cap will increase progressively as:

—increasing numbers of employees move jobs after 1989, and
—in any event, over the long term, earnings increase at a faster rate than prices.

As well as capped benefits, employees can be provided with additional benefits on a non-tax-approved basis. The working party felt that it was important to go through these developments in the U.K. since 1989 in some detail as an integral part of understanding the U.K. system before extrapolating how a book reserve system could be introduced here.

4.1.2 Non-tax-approved benefits may be provided either through unfunded arrangements or through funded arrangements. The two approaches are considered in the following sections.

4.2 *Funded Unapproved Top-Up Arrangements*

4.2.1 A funded unapproved top-up arrangement can operate identically to an exempt-approved scheme except that:

—There are no Inland Revenue maximum benefit limits.
—The employer's contributions paid are taxable on the employee as earned income, but they are normally deductible by the company for corporation tax purposes. However, different corporation tax rules may apply from those for contributions under exempt approved schemes.
—The employee's contributions, if any, are paid from taxed income.
—A fund established in the U.K. would be taxed at basic rate income tax on its income, and according to CGT rules on its capital gains (currently 25% in both cases). The fund would not be subject to the 10% additional charge on discretionary trusts if the scheme provided only 'relevant benefits'.
—The retirement benefits can be taken entirely in the form of a tax-free lump sum; any benefits paid as pension will be taxable on the employee.

4.2.2 Offshore funded unapproved pensions had been promoted on the basis that the investments held in the offshore fund would build up free of tax, provided the trust is established in a suitable manner and provided the members do not themselves contribute, but this facility was curbed by the Budget on 30 November 1993.

4.2.3 As with tax-approved pension plans, no National Insurance contributions are payable on contributions to unapproved pension schemes.

4.2.4 To tax pensions from funded unapproved schemes is inconsistent with the commonly espoused principle that money should be taxed going into a scheme or coming out of it, but not both.

4.2.5 The arrangement should be established under a trust deed and accompanying rules, with assets held by trustees.

4.2.6 From the employee's point of view, benefits provided by a funded unapproved arrangement are therefore as secure as those provided by an approved scheme. (If no separate trust fund was established, then the contract would be fully enforceable by the employee simply by virtue of being a contractual provision as part of his service agreement. However, the position would be more complex in respect of benefits for surviving dependants. For the benefit promise to be enforceable by a surviving beneficiary (whether for a funded or unfunded scheme—see Section 4·3), it may need to be established under trust or by deed poll.)

4.2.7 As the employee's tax position is different from the position under an exempt approved scheme, the employer will need to decide whether or not to gross up salary to compensate the employee for the tax on contributions. Any salary adjustments for this purpose would logically be non-pensionable. National Insurance contributions would be payable (by the employer only, since employees concerned will be earning in excess of the upper earnings limit) on salary adjustments.

4.2.8 The arrangements would be classified as a retirement benefit scheme, and therefore would be subject to the preservation and transfer requirements of an exempt-approved scheme, because the preservation and transfer regulations cover all retirement benefit arrangements even if not tax-exempt. Broadly speaking, if the employee were to leave service before retirement age he would be entitled to a preserved pension. This preserved pension would be revalued at up to 5% p.a. until retirement age. The employee would also be entitled to a transfer payment equivalent in value to the preserved pension, if he could find another scheme or insurance policy which would accept the transfer payment, since a transfer cannot be made into an approved scheme. Alternatively, (unlike the position under an approved scheme) the cash value of the preserved benefits could be paid to the employee.

4.2.9 The costs to the company will depend on the investment return achieved on the assets (net of tax).

4.2.10 As with an exempt-approved arrangement, the pension cost shown in the profit and loss account would have to comply with SSAP24. If, for instance, the funding rate differed from the SSAP24 cost, then a prepayment or provision would arise in the balance sheet.

4.3 *Unfunded Unapproved Top-Up Arrangements*

4.3.1 Under these arrangements, the employer makes no contributions, but undertakes to provide benefits at retirement. The benefits would be paid, as a lump sum or as a pension, directly out of company funds. The lump sum or pension payments would normally be tax-deductible to the employer when made, and the benefits received would be taxable on the employee. Depending on the tax rates and bands in force when the employee reaches retirement, it may be preferable for the employee for all benefits to be paid in lump sum form at retirement, in which case he could provide an income by using part of the amount to buy a purchased life annuity.

4.3.2 The employee's tax position would be different at retirement from that under an exempt-approved scheme, where part (around 25%) of the member's pension could be commuted for a tax-free lump sum, but the pension itself would be taxable as income. The company would agree either to provide equivalent gross or equivalent net benefits to those which would otherwise have been provided by an exempt-approved scheme.

4.3.3 An unfunded arrangement might be established informally by letter, or by a wide range of different legal methods, including board resolution, deed poll or the establishment of a trust (notwithstanding that the trust would have no funds). The documentation would need to cover virtually the same topics as a conventional funded scheme, but without sections on investment powers and Inland Revenue maximum limits. To avoid individual arrangements set up for different executives within a company on different terms, it would be better for one central scheme to lay down common conditions.

4.3.4 There are advantages in a trust being established and external trustees being appointed, as the external trustees could provide:

—moral and practical support to any member or his dependants in obtaining his rights if the company is unwilling or unable to pay, and
—continuity in the event of takeover if the business is sold and employment changes.

4.3.5 Because of the taxation advantages, this approach could be less expensive than a funded unapproved arrangement, but would lack security from the employee's point of view, in that the company may be unwilling or unable to keep its promise when the benefits are due. The employee's risk could be reduced in part if the benefits were payable in a lump sum at retirement, rather than as a company pension. The position of the employee in the event of sale of the company's business or insolvency before he retires is considered in more detail below.

4.3.6 In the event of the sale of shares of the company, the operation of the scheme would continue unchanged, although there would be new owners. In the event of the sale by the company of its business, the outcome is more complex. Pensions, even through an unfunded unapproved scheme, are specifically excluded from the protections provided by Transfer of Undertakings (Protection of Employment) Regulations. Some recent legal developments have cast doubt on whether this exclusion is effective under European Law. However, the most reliable judgment at present (December 1993) appears to be the Appeal Ruling in the Warrener case which supports the exclusion of pensions from the Transfer of Undertakings Regulations.

4.3.7 To protect the employee, the company should contract with the trustee that, if on the sale of the business there is still doubt surrounding the protection of pensions, then the company could remain liable to provide the accrued unfunded pension (or perhaps to pay equivalent compensation). This promise would also be held under trust. The problem is that the company may have no interest in meeting this liability, or ability to do so, unless it is secured.

4.3.8 One possibility would be for the terms of the scheme to trigger automatically that the scheme should become funded in the event, *inter alia*, of change of control of the business. Other events forcing the trigger would include insolvency or failure to meet the terms of an agreement. This mechanism is unlikely to be effective, and in any case the scheme becoming funded would cause the employee to be charged to tax on the whole amount funded at that point.

4.3.9 In the event of the insolvency of the employer, the position of the employee (or any trustees acting for him) would be as an ordinary creditor.

4.3.10 In theory the company could insure the benefits against insolvency. However, only very limited insurance cover is currently available. Cover can generally only be obtained and kept in force by companies that can demonstrate impressive financial stability: if stability was in doubt at any renewal, cover would be withdrawn. Hence, in practice, cover is likely to be available only to companies that do not need it. If insurance was taken out, the premium would be taxable on the employee. Cover appears to operate mainly on an annually renewable basis. The working party feels it is a false market, as cover would almost certainly be withdrawn when it was really needed.

4.3.11 It is possible, in theory, to secure the liability by a fixed or floating charge over assets of the company. For example, the company might agree to charge a property to the trust. This is an approach which has often been suggested. However, it is unacceptable to many companies. Any bank which held a floating charge on all assets would need to agree to the charge; it would be unlikely to do so even though it could be argued that the bank's security would be no weaker than if a funded scheme had been established for the same pension. An alternative would be to make a specific agreement with the bank that the pension scheme would hold a limited floating charge of higher priority than its own floating charge. The arrangements for charging assets would also be administratively very complicated, especially since the amount of the charge would usually increase each year.

4.3.12 Other possibilities include the purchase by companies of securities which are 'allocated' to the pensions liability. However, it would be necessary to ensure that such an approach would not lead to the scheme being regarded as funded. The definition of funding is the payment of money into a fund for the provision of retirement benefits (Section 595(1) of the Taxes Act 1989). In practice it does not seem to be possible to allocate assets against pension liabilities in such a manner that they provide effective security to the members, but the scheme continues to be treated as unfunded.

4.3.13 It might be argued that, it is unnecessary to attempt to protect the top-up pension, if the employee is in a position of control in the company. Thus an unfunded pension could be considered as performance-related deferred pay. The employee could then argue that, for the higher risk, there should be a greater potential benefit--so that the company should promise, say, a pension of more than two-thirds. This is possible in taxable pension arrangements such as this.

4.3.14 On leaving service, the preservation requirements would apply as they do with a funded scheme. The transfer regulations also apply, in principle at least, but if the Disclosure of Information Regulations are applicable, or are applied voluntarily, and consequently a regular actuarial statement is prepared, then it is permissible to adjust transfer values to reflect the level of funding. The result is that, for an unfunded scheme, the payment of transfer values can be avoided. The original employer might wish, nevertheless, to agree to make a transfer payment; if so, it would be taxable on the employee, even if the payment was to an insurance company or to the new employer in consideration of him taking on the liability for the past-service pension promise. The transfer amount could alternatively be paid directly to the employee, again being taxable; this would seem to be a more satisfactory approach, since the employee will then have cash from which to meet the tax bill.

4·3.15 The pension cost shown in the profit and loss account would have to comply with SSAP24. As no contributions would be made until retirement, a provision could accumulate in the balance sheet. To avoid unwarranted timing differences arising, it would appear appropriate that the tax relief ultimately obtainable should be allowed for.

4.3.16 The actual cost of providing an unfunded pension in the longer term will depend on the internal rate of return achieved by the company on the reserves set aside to provide the pension. It is arguable whether this would be the marginal rate of return (e.g. a saving in the cost of borrowing, because more cash would be available than if contributions were paid to a funded pension scheme) or the overall rate of return. In either case, and particularly the latter, this return could be liable to large short-term fluctuations. In order to achieve stability in the pension cost, an assumed long-term rate net of tax needs to be used.

4.4 *Lump Sum Death Benefits*

4·4.1 For remuneration up to the cap, death benefits are usually provided through a tax-approved scheme, which pays lump sums to dependants on a discretionary basis free of inheritance tax. Death benefits on remuneration in excess of the cap can be paid through either funded or unfunded unapproved schemes.

4.4.2 Whether funded or unfunded, the Inland Revenue has said that it will not seek to raise an income tax charge on employees on the costs of setting up and runnning the top up scheme provided these costs are separately identifiable.

4.4.3 The Inland Revenue has also said that the inheritance tax will normally be avoided provided the benefits are payable under discretion and that the recipients of the benefits do not include the employee's estate.

4.4.4 Most employers need to insure lump sums payable on earnings in excess of the pensions cap, in order to avoid excessive risk.

4.5 *Observations from U.S. Systems*

In Section 4.3 the difficulties for an unfunded arrangement on a change of ownership were highlighted. In the U.S.A. in a similar situation, the tax charges which arise in the U.K. can be avoided by creating the assets and transferring them into a Rabbi Trust for the benefit of the member concerned. As the name suggests, like trust law in the U.K., this vehicle was originally created for a completely separate purpose and was subsequently adopted for its use in the pensions area. It still has its limitations, only being able to be used on a change of ownership and not in the event of the insolvency of the employer.

4.6 *Conclusions*

4.6.1 A U.K. unfunded unapproved arrangement, as set out in Section 4.3, is well on its way to being a book reserve system. The difficult areas of transfer of the business or of insolvency of the employer still need to be better addressed, but this would also be the case with any book reserve system introduced. From the employer's view point, he would wish tax deductibility to be provided on the notional pension rights accruing, rather than at the time of payment of the benefits, to view an unfunded unapproved arrangement as a book reserve approach.

4·6.2 A funded unapproved arrangement suffers in the U.K. context from the tax charge levied on the employee, on the contributions on his behalf. This would need to be amended, but even then the funded approach would not look to be the best way of simulating a book reserve system, as the separate trust means the employer does not have control of the assets.

5. Some Thoughts on the Macro-Economic Consequences of Book Reserve Financing of Pensions

5.1 *Caveat*

In their development of the subject, the working party found it necessary to look at the macro-economic consequences of the various methods of pensions financing. It is understood that a further working party, experienced in this field, is currently looking at this subject more rigorously. This section should be read as assisting in the flow of the paper, but should not be treated as undervaluing the overall research, should the arguments here be considered as being loosely worked out. The working party would appreciate serious views on Section 5 as the potential conclusions are profound.

5.2 *General Economic Implications*

5.2.1 Past pension promises give rise to benefits which have to be paid, regardless of the form of financing which has been used to secure those benefits.

Those benefit payments as they fall due are a charge on the economy at that time. Such payments could be said to represent potential consumption foregone by the working population at that time. The 'burden' of those benefit promises on the then working population, if measured as in proportion to the total economic resources available, will only be affected by the financing mechanism which is being used to secure those benefits to the extent that those different mechanisms affect the total size of the economy.

5.2.2 The economy in this sense might be measured in terms of gross national product (GNP) rather than gross domestic product. GNP is domestic economic output plus income received from assets held abroad, but minus dividends paid on assets held in this country by overseas owners. This measure of the economy is used, as it would be advantageous to be able to counter demographic changes, in particular the fluctuations in the pensioner support ratio, by investment in a developed economy which has a contra-cyclical age profile to that prevailing in the U.K. e.g., Brazil.

5.2.3 There seems to be no clear economic consensus as to whether the provision for pension benefits through a financing mechanism with the purchase of real assets has any advantage in the long term over meeting benefit payments from current earnings.

5.2.4 In this sense the book reserve form of financing can be regarded largely as a mechanism with the benefit promises being met from the current retained earnings within the balance sheet of the sponsoring organisations. This differs from the situation where pension funds hold equity type investments to meet the benefit promises. Then the income generated from those assets is a transfer from the current cash flow of the corporate organisations in their profit and loss accounts to the pension funds in the form of dividends.

5.2.5 Thus, although there is a difference in the way that benefits are settled, to the individual company there is a much more significant difference between external funding and the book reserve system. In external funding the company 'loses control' over the monies being set aside, and has to attract capital for investment back from third parties (be they pension funds or banks). In the book reserve system its balance sheet will hold the provision for pensions, but in source of funds terms it has access to the provision and does not have to impress 'third parties' to receive capital. This could well mean that the cost of capital is reduced.

5.2.6 The CBI has long argued that the book reserve system in operation in Germany provides companies there with a cheap source of capital. If they had book reserve financing, corporate organisations would have less need for shareholders or bankers. They might not have to justify to their shareholders the uses to which money raised through share issues was to be applied nor justify to their bankers the purposes for which any loan was to be used. Freer availability of capital might suggest that companies would be able to invest in riskier projects than they would be prepared to do were the money to be raised from either shareholders or other external sources. On the other hand, they may also be prepared to consider projects which, while offering a positive return, would not provide such a return as would be required in order to satisfy these external financial sources. To the extent to which these new sources of money were available for investment in projects which would otherwise not pass the criteria for investment selection, and that investment was in real assets as distinct from bidding up the price of financial assets, there would be scope for greater economic gain.

5.2.7 The availability of larger amounts of capital within companies may make them more inclined to go for less profitable projects. One consequence might be a greater willingness to compete in areas where at present the desired rates of return rule out the possibility of taking on those already entrenched in a particular market. This may have a positive advantage to consumers, but may also cause the overall return on projects undertaken by companies to fall closely into line with the long-term rate of return achieved in other forms of investment.

5.2.8 Will availability of extra funds to companies make them more interested in more marginal projects? Presently corporate organisations look for real returns net of price increase and before tax of between 5% and 15% before they consider an investment as a viable proposition (Capital Projects Seminar—May 93[(15)]). Actuaries expect a gross real return of between 3% and 5%. Part of this gap is attributable to a difference between the expectation of corporate investors and the rate of return actually achieved. Companies are presently setting aside monies into pension schemes on assumptions of real rates of return of between 3% and 4·5%. This money would then be available for direct investment, and superficially would allow significant profitability on the difference between the rate of return expected to be achieved and the amounts anticipated by the actuary. There is then no loss to the company considering more marginal projects, provided the rate of return remains at or above the assumption made by the actuaries. Will the actuarial assumptions need to change? There would be less need to consider the short term in taking investment decisions because of the lack of interest in equity prices or in having to satisfy other lenders to the business.

5.2.9 A company would be investing directly, and not in the stock market as would be the case for a pension fund. However, companies may not be able to absorb all the additional capital which is available and may themselves become net investors in other corporate entities.

5.2.10 There will clearly be a displacement of other sources of finance: equities, bonds and bank borrowing, and therefore the demand for these types of instruments would decline. Although still important, companies would be less concerned about maintaining their share values, and over time they may not need to rely upon equity-type investment. There is an exception to this, however, in that those organisations which are in the financial market, such as banks, are only able to conduct business against free assets. Monies being received and held against pension liabilities are, by definition, earmarked against the liability falling on that organisation. These cannot, therefore, be counted as free assets in order to support the corporation's main business. The extent to which that financial business exists and demand for this type of capital finance would decline, because a switch to book reserve pension financing would itself be a substantial question.

5.2.11 It is worth noting that present investment in the stock market does not equate to direct investment in real assets, as corporations are only able to make use of finance raised through share issues to the market, not by the regular day-to-day trading in their stock market instruments. In consequence, each £1 invested in the book reserve potentially reduces equity demand by more than £1. This impact may be quite significant on professionals operating in the securities industry if demand for corporate purchase of financial instruments falls significantly. Although there are many other factors which would also affect it, it is worth noting that the stock market capitalisation in Germany is only about one-third of that in the U.K.

5.2.12 This lack of interest in raising share capital suggests a decline in the secondary market, which has consequences for the organisations whose business is participation in a secondary market, including, in particular, insurance companies.

5.2.13 This reduction in corporate usage of stock markets would remove a potential home for other forms of investments funds provided by the personal sector. These would need to be invested elsewhere, either in government debt or in overseas markets. Pension funds at present have a high overseas investment content. Would other institutions and the personal sector be so keen to adopt such a policy? If the personal sector was less attracted to overseas investments the supply of funds available for investment may then exceed the demand and so reduce interest rates. The savings ratio might then decline with implications for higher personal consumption and therefore a larger economic demand. However, the responsibility for investment may just pass to general insurers if they were providing the insolvency cover for the market.

5.2.14 In a perfect economy investment is equal to savings. Fulfilment of investment demand by book reserve retentions could cause a short-term imbalance between investment and savings. If an overall increase in investment demand could be achieved without significantly reducing consumption, there would be an increase in productive capacity and, hopefully, in the long term in the economy.

5.2.15 One result could be an increase in interest rates to encourage further savings. However, an increase in saving implies a decrease in consumption. Care would be needed in managing the introduction of a book reserve system to ensure the result was not to precipitate a move into recession. A reduction in interest rates is likely to worsen the picture by reducing savings available. Because of the reduction in reliance on borrowed funds, companies may be less subject to the influences of interest rate changes in their investment decision, blunting this as an instrument of economic policy. A longer-term view would bring more projects into the scope of suitability. Are there sufficient projects available at the rates of return desired? As already indicated, it seems likely that the average rate of return would fall.

5.3 *Projections*

5.3.1 To give some flavour of the possible shift in financial flows from investment in funded arrangements to book reserve systems, projections have been made assuming all companies immediately decide to switch to book reserve financing for future service accruals of pension benefits.

5.3.2 It is assumed that the existing liabilities, matched by assets under funded arrangements, will remain in place and would continue to be salary linked through to the time of individual employees leaving service.

5.3.3 In order to make this projection a number of assumptions have had to be made:

(a) The present size of funded schemes in the U.K. is taken to be £350bn excluding local authorities. It is assumed that this represents the mature position and that the total amount of funds now held against existing corporate pension liabilities would remain at this sum in constant earnings terms.
(b) One third of these existing liabilities relate to existing pensioners and deferred pensioners. (Recent discussions on the Goode Committee Report suggest this figure may be on the low side.)
(c) There will be no change in the overall size of pension liabilities either through changes in the workforce or changes in corporate practice in providing pensions for employees.
(d) All schemes provide pension benefits of $n/60$ of final salary with $n/120$ spouse's benefits. Pension increases are at a rate of 5% or RPI if less. Joint contributions to support these benefits are assumed to be 14% of pensionable pay.

5.3.4 Appendix III shows the results of the projections. Figures are shown separately for the net cash flows into book reserve systems, and the net cash outflow from the existing pension arrangements together with the total capital amount held within each of the two types of pension arrangements over the projection period. All figures are in constant earnings terms.

6. One Approach to Introducing Book Reserve Investments into the U.K.

6.1 *Introduction*

6.1.1 It would represent a fundamental switch of government philosophy to allow pension provision through an approved book reserve system, given recent moves to limit the investment of scheme assets in the sponsoring employer and widespread concern about benefit security following Maxwell. It also runs counter to trends in other countries, which are moving towards funding pension liabilities. The social and political implications of this change would require much consideration. For example, the Spanish Government's wish to move to an externally funded basis failed at its first attempt because employers would not surrender control of their pension scheme assets to the new administrative body, even though the employers would have received substantially improved corporate tax benefits by doing so.

6.1.2 The German system operates successfully because there is a greater atmosphere of trust between the workforce and the managers of the business.

6.1.3 Co-operation between employers allows the PSV to operate on a flat unit rate disregarding 'true' risks. The internal investment of book reserves has also been aided by the overall stability of the Germany economy, and by the smaller size of private pension liabilities, compared with the U.K.

6.1.4 In the U.K. it is believed that a similar supportive atmosphere will not exist either between employers and their employees, nor, perhaps, amongst employers themselves in view of the reactions to the NAPF's Exposure Draft on a compensation fund, prior to the NAPF making their submission to the Pensions Law Review Committee.

6.1.5 The working party is therefore unsure whether the environment will exist in the U.K. for pure book reserve financing because:

(a) employees will see all the benefits accruing to employers to the detriment of their security, and
(b) employers will not accept bailing out competitors in a universal insolvency insurance scheme, and hence a doubt is raised about the viability of providing the essential overall cover via a mutual support fund.

6.2 *Tax Structure*

6.2.1 There would need to be a mechanism for companies to receive tax deductions on allocations to book reserves, even though no physical contributions are paid. This would be a fundamental departure from the present position in the U.K.

6.2.2 There might also need to be a mechanism for limiting tax deductible transfers to book reserves. This would probably require limits on the tax approvable benefits that could be provided through book reserves (perhaps, but not necessarily, the same as the Inland Revenue limits on benefits provided through tax approved funded schemes). For defined benefit schemes it might also require some form of prescribed approach to calculating the tax deduction, possibly via a statutory actuarial method and assumptions. For 'defined contribution' schemes the permitted deduction could be a percentage of salary rather than being linked to defined benefits.

6.2.3 The Inland Revenue would need a policing mechanism to ensure that excessive tax deductions were not claimed.

6.2.4 The interaction of funded schemes and book reserves schemes would need to be considered. For example, it would be seen as unfair for no tax deduction to be given for a funded scheme (because of a company contribution holiday) in circumstances where a deduction would have been available if the scheme had been a book reserve one.

6.2.5 The potential impact on the investment markets could be significant, particularly if companies were permitted to transform funded schemes into approved book reserve schemes. Share prices, earnings prospects and the risk levels of both fixed interest and equity investments could change dramatically. The government would also need to consider the implications for funding the public sector borrowing requirement through issuing gilts.

6.3 *A Way Forward*

6.3.1 Sections 6.1 and 6.2 raise a series of fundamental issues. The working party have discussed them at length, and the majority view is that they are likely to preclude German style book reserve schemes being introduced in the U.K. The rest of this section has, therefore, to be viewed as a possible way forward in the U.K. context.

6.3.2 The working party recommends that a book reserve be seen as an additional investment option of the trust fund. The employer would have the right to decide how much of his new pension scheme contributions would be placed in a book reserve. Control of this book reserve within the trust fund would be given to a new body which the working party call 'Monitors'. They have an important role, but it differs from trustees because the employer has already taken the decision on how much money is going into the book reserves.

6.3.3 The presence of £350bn of externally funded assets controlled by trustees cannot be ignored. The trustees continue to have the same responsibility for the existing assets. In particular, any transfer of these assets into the book reserve should only be done if the trustees were satisfied with that investment decision in their role as 'prudent men'. This might mean that little of the existing assets would therefore be used in this manner.

6.3.4 Bringing the book reserve within the trust fund, as proposed, is also the working party's proposed solution to avoiding tax arbitrage between the two systems for direction of future money.

6.3.5 The working party is clear in its mind that the responsibilities of monitors are significantly different from those of trustees, because the employer decides how much money is being directed to the book reserves, and also when to liquidate the book reserve. It may be acceptable for this to be an additional duty of trustees, to reduce the overall cost of running the pension scheme. However, it is likely that all the monitors should be elected by the members of the pension scheme, whereas the Pensions Law Review Committee was recommending that only one-third of trustees were elected by the scheme members in a defined benefit scheme.

6.3.6 There are further complications with this hybrid approach for which rules could be set down, but which would make it more costly to operate a pension scheme; in particular, there has to be a mechanism to determine what part of an emerging benefit is met by a deduction from the book reserve account, and which part from the remaining assets.

6.3.7 It is worth repeating at this stage that the working party believes that book reserves financing is an excellent approach in a country encouraging establishment of a private pensions sector. It is very difficult to see how to integrate the approach into the current U.K. system without the political or professional will, unless for a defined segment of the market such as unapproved business. From a theoretical point of view, it is worthwhile for the profession to consider the problem, and to see what tangential developments may be of importance, particularly at a time when the whole U.K. approach is being re-assessed.

6.4 *A Share Transfer Approach To Book Reserve Investments*

6.4.1 The use of a book reserve to finance a pension scheme is effectively the investment of the assets by the trustees in the employer's business. From this realisation it is possible to consider a book reserve as a form of self-investment. This part of the paper considers how this might operate in practice.

6.4.2 *Definitions*

The following terminology will be used:

Monitors	—	the body responsible for operating and controlling the book reserve investment. The role of the monitors is expanded in the rest of Section 6.
Monitors Account	—	the book reserve within the employer's balance sheet.
Shares	—	the unit of measurement for the monitors account.

6.4.3 *Method*

In the theoretical model, the book reserve/self investment process would be:

(a) The employer passes the total contributions to the trustees; the trustees pass control of the book reserve portion to the monitors.
(b) The monitors purchase the insolvency insurance cover required.
(c) The monitors pay the balance of the book reserve contributions to the employer in return for their shares in the business.
(d) When members' benefits are provided by a payment of a transfer value or if it is decided to buy out benefits on retirement or death:

  (i) The monitors pass an appropriate amount of shares to the employer in exchange for the cash required.
  (ii) The monitors pass over this cash to the trustees to be added to what the trustees have themselves realised, to secure the members' benefits or pay the transfer value.

6.4.4 In practice this can be streamlined to:
(a) The employer creates the additional book reserve in his balance sheet.
(b) The monitors account is credited with the additional book reserve in (a).

(c) When members' benefits are to be provided:

(i) the monitors specify how much cash is to be provided by the employer, who pays it to them for transmission to the new pensions provider, and

(ii) the monitors account is debited with the reduction in the book reserve applicable to the ex-member.

6.5 *Securitisation*

6.5.1 Whilst there is no necessity for the book reserve to take any form other than a reserve within the employer's balance sheet, the tradition of funding in the U.K. is such that securitisation of the book reserve might make the approach more acceptable.

6.5.2 The book reserve is an asset held by the employer for the benefit of the pension scheme. Thus the employer is the only party which can securitise the book reserve. The securitisation could occur by the employer converting the book reserve into either (a) ordinary equity, i.e. conversion to 'normal self investment' covered in §§6.5.4 to 6.5.7, or (b) into special rights which could conveniently be called zero coupon asset priority shares or ZAPS, set out in §§6.5.8 to 6.5.10. The options are compared in §§6.5.11 to 6.5.13.

6.5.3 The advantages of securitisation for the employer are that:

(i) By issuing equity to the trustees he converts the book reserve into a normal scheme investment. This limits his balance sheet exposure.

(ii) By issuing ZAPS to the trustees he is increasing the security of the scheme's investment, which may lead the solvency insurer to offer a lower premium rate, since on a claim the insurer is more likely to be able to reclaim his loss.

It must be noted, however, that once the security has been transferred to the trustees, the trustees may decide to trade the security to other parties.

6.5.4 *Securitisation via ordinary equity*

For a quoted company the simplest way of operating the shares above is to credit the monitors with ordinary voting equity shares. These shares would therefore be tradable with third parties, and hence values for calculating the number of shares involved in any transactions would be available. The book reserve account is, in this case, only needed for determining the liability to be covered under the insolvency insurance.

6.5.5 For an unquoted company ordinary voting equity shares may exist, however their liquidity may be low. In such circumstances it would be necessary to legislate a method of valuation. For example, at the end of the company year the balance sheet for the company will identify the net assets of the company and the number of shares in circulation, so that the value of a share at that date could be calculated. It is obvious that this could be a major stumbling block, as it will be very difficult to get up-to-date information to enable this approach to function, particularly also because of the time allowed to finalise end-year accounts.

6.5.6 Unless monitors' share purchase/sales are restricted to these year ends, it would be necessary for employers using this financing method to produce accurate management accounts on a monthly or quarterly basis. Transactions would need to be restricted to these times.

6.5.7 Partnerships do not issue equity shares in the normal sense, nor are they currently required to produce audited accounts. The approach above, therefore, does not work. It could, however, be argued that the circumstances under which partnerships exist should preclude them from the use of book reserve funding for their employees' pension scheme.

6.5.8 *Securitisation via special rights (ZAPS)*

The actual liability of a pension scheme will vary on a daily basis as members accrue additional benefit and as members exit. The ordinary equity share approach above could, therefore, involve additional administrative restrictions and expenses on the scheme. In addition, the monitors are not strictly like other equity shareholders who are mainly interested in dividends and capital growths. The monitors are mainly interested in the security of the investment and the employers' cash flow being sufficient to provide for the benefits as they fall due. They are also concerned to ensure the prudent financing of the scheme.

6.5.9 In such circumstances, it would be possible to envisage the monitors account as solely a 'holding' within the employer's balance sheet. It would not be necessary for dividends to be paid on this monitors account. However, it would be necessary that:

(i) the monitors account within the balance sheet is kept separate from the fund for the other shareholders, and
(ii) the monitors account ranks higher in priority on the liquidation of the company than both the shareholders, and the banks and other loanstock holders.

6.5.10 These requirements of the monitors account could be securitised and ensured by issuing certificates for pre-determined nominal values. These certificates would be ZAPS. These would be granted absolute priority to the assets of a company that was being wound up, up to their face value. (In many respects they represent a call option on the company's assets.)

6.5.11 The ordinary equity approach has the advantage that the dividends received could either be reinvested in the employer, or in another quoted equity to provide diversification. However this could involve monitors and employers in a conflict of interest, particularly if the employer has cash flow contraints.

6.5.12 The advantage of the ZAPS approach is that the monitors need not concern themselves about dividend policy, unless this would affect the security of the scheme. In addition, if a market in ZAPS was established, it is possible that their value in that market would tend to increase if an employer was moving into liquidity problems. This could allow the monitors to increase the diversification of their assets during such a time.

6.5.13 It is also likely that this form of securitisation of book reserve financing, as proposed, will have few attractions to service companies which have little by way of fixed assets, as such companies could quickly lose control of their operations to the monitors.

6.6 *Rights and Obligations*

The monitors account is their investment in the employer. They are concerned as to the security of their investment and the prudent financing of the scheme. Hence they have similar interests to a bank which provides funds to the balance sheet. However, in view of the members' dual reliance on the employer, the interests of the monitors are more involved. One set of proposals for addressing these concerns is:

(a) When the share account equals or exceeds 10% of the shareholders' funds, the monitors acquire voting rights equal to:

$$\frac{\text{(Monitors account)}}{\text{(Monitors account + Shareholders' funds)}} \times \text{Total voting rights.}$$

(b) When the share account equals or exceeds 10% of the shareholders' funds, then the monitors are granted 1 seat on the Board of the company. For each extra 10% of the shareholders' funds, the weight of this Board representation is increased accordingly, e.g. if it is a 5-man board, at 10% they have 1 representative, at 20% they would still have 1 representative, at 30% they would have 2 representatives.

It should be appreciated that, for ordinary equity, a shareholder is an owner of the company, and ought to exercise control appropriate to his shareholding. The effect of this condition is to formalise this and to ensure that, where the pension scheme is a major provider of funds to the company, that it has some say in preventing its money being applied inappropriately. The monitors' duties would be to safeguard the scheme's investment, and hence probably to veto extremely risky business developments.

(c) Some restrictions on employers might be needed e.g.:

(i) Payment of the insolvency insurance premium should be mandatory, unless the full book reserve is being translated into the current form of segregated fund.

(ii) Book reserve investment and its extent would have to be notified to members in advance. Once specified, provision of the book reserve share account in accordance with the monitors' actuary's recommendation would be mandatory.

(iii) Changes to the extent of the book reserve investment or its ceasing by the employer should be possible only after 6 months advance notice to the members and monitors.

(d) If a company were to be liquidated so that the insolvency insurance cover was invoked, then the insurer (i.e. whoever is providing the insolvency cover—see Section 7) should provide the funds for the provision of benefits by the monitors, whilst in return, the insurer would receive the ZAPS/equity shares and exercise its control over the wind up of the company.

6.7 *Conclusions*

6.7.1 German style book reserve financing is unlikely to replace external funding in the U.K. It could, therefore, only be introduced as an option. Perhaps that would make its operation and the operation of the overall U.K. market more complicated, and some of the perceived advantages of book reserves would be lost.

6.7.2 The working party's proposals for a U.K. approach would work, but their implications for control of companies could mean that they were less appealing to U.K. employers. Much would depend on the relative views of employers between the cash flow advantages of the share transfer approach *vis-à-vis* the more open passing of control of the company to the pension scheme, than appears under the current segregated funding approach.

7. Insolvency Insurance for Book Reserve Schemes

7.1 *Introduction*

The book reserve method of funding pension schemes has not taken off within the U.K. due to the twin problems of benefit security and taxation rules. Actuaries should make it possible to solve the benefit security problem.

7.2 *Structure*

In Germany and some other European states benefit security is provided by insolvency insurance. This insurance is normally provided by a mutual support fund such as the PSV in Germany. Alternatively, the insurance could be offered on a commercial basis by insurance companies. Four possible scenarios have been considered for a U.K. system:

(a) *Via a mutual support fund.* The PSV uses a flat levy per unit of risk. The rate is subject to variability dependent on experience. The PSV manages to cope with surpluses and deficits by having a provisional levy at the start of the year and a clear-up levy at the end of it. Whilst this works quite smoothly in Germany, this may be due to their feeling of national solidarity given that virtually all schemes use the method. The reaction of employers within the U.K. is likely to be less appreciative, e.g. the NAPF's compensation scheme which was watered down due to the feelings of large members.

(b) *Via a mutual support fund.* The PSV approach could be amended by the use of a risk based levy. Such a levy would require greater statistical analysis to produce the rates. It also raises the problem of how to deal with surpluses and deficits, given that some people will pay more per unit at risk than others.

(c) *Via competing insurance companies.* The rate would depend on the individual insurance company's perception of the risk of default within a particular employer. The managers of banks already carry out this type of risk assessment, but they do not always get it right! Again there is a similar problem with statistics, and insurance companies may be less likely to pool their experience. The rate under the system is likely to be slightly higher, given that companies will wish to obtain some form of profit.

The situation needs to be considered that, if an employer cannot afford the rate which is offered by one insurance company at the time of renewal, how is cover to be provided in the interval until cover can be obtained from a competitor, or what about the employer who is decreed to be uninsurable at that time?

(d) *Via a pool of insurance companies.* This has some similarities to the procedure under the PSV and could provide an introduction to this field. It would allow the build-up of a pool of statistics which could be used by companies at a later date if they wish to set up separately. By using one set of rates the employer's choice would be restricted effectively to finding those participating insurance companies with the best administrative procedures. The profit for the insurance companies would come via efficient administration. If the employer could not afford the premium, then at least it could take immediate action. Consideration would have to be given to profit sharing throughout the industry, possibly via a front office, as in the PSV method.

7.2.2 Within the U.K., (d)—the use of a pool of insurance companies—appears to be the most suitable at the inception of the system. At a later date, once statistics and analysis has been built up on the risk and its volatility, the competing insurance company approach might be possible.

7.3 *Feasibility and Cost*

7.3.1 The feasibility of providing the insurance cover via a pool of insurance companies depends on:

(a) capacity within the insurance market (considered in §§7.3.2 to 7.3.7), and
(b) the premium rates being sufficient but not excessive (considered in §§7.3.8 to 7.3.14).

7.3.2 *Capacity*

Within the U.K., pension scheme assets are estimated to amount to £350 bn.

7.3.3 The worst case scenario would be that all U.K. schemes converted to book reserves in respect of all existing assets. The U.K. assets in general insurance companies for 1992 were £66.6 bn (source: ABI). Insolvency insurance is therefore likely to be a substantial, but managable, new class of business.

7.3.4 The real situation will vary over time, however *Business Briefing* publishes regular statistics from DTI and Companies House records for England and Wales from which Tables 7.1 and 7.2 have been extracted.

Table 7.1 Ratio of insolvencies to active companies

$$\text{Ratio: } \frac{\text{Number of insolvencies in the last 12 months}}{\text{Average number of active companies registered over the period}}$$

	Quarter			
Year	1	2	3	4
	%	%	%	%
1988	1·3	1·2	1·1	1·1%
1989	1·0	1·1	1·1	1·1%
1990	1·2	1·2	1·4	1·6%
1991	1·8	2·0	2·2	2·3%
1992	2·4	2·4	2·6	2·6%

n.b. Dormant companies have been excluded for the purposes of the statistics

7.3.5 Looking at Table 7.1, the 'longest recession since the War' has not produced a higher rate than 2·6% of active companies becoming insolvent. If 2·6% of the U.K. economy were insolvent, then the sum to be covered would be less than £10·5bn, reduced further by any assets in the company. The largest single fund, British Coal, is estimated to be worth approximately £13bn. The assets of the U.K. general insurance companies could, therefore, absorb the shock of such insolvencies, but it should be remembered that in recessionary times the same clients are likely to be incurring claims in parallel under several classes of insurance.

7.3.6 Table 7.2 Number of insolvencies

Industry	Year				
	1988	1989	1990	1991	1992
Agriculture	73	78	111	135	191
Manufacturing	2,730	3,041	3,834	5,023	5,449
Construction & Transport	2,019	2,227	3,377	4,619	5,091
Wholesaling	703	659	1,066	1,280	1,246
Retailing	1,086	1,039	1,599	2,114	2,477
Services	1,361	1,490	2,350	3,538	4,361
Other	1,455	1,922	2,714	5,118	5,610
Total	9,427	10,456	15,051	21,827	24,425

From Table 7.2, it is obvious that the global percentage from Table 7.1 hides the various sectoral rates. Analysis of the number of active companies registered between the various sectors of the economy is not currently available. However Companies House in Cardiff is accumulating this information. It is probable that initial sectoral data could be available during 1994.

7.3.7 Comments are made elsewhere in the report of the need to ensure cover is not withdrawn from a company just as soon as it is seen to be in trading difficulties (see § 7.5). General insurance actuaries to whom we spoke speculated whether the insurance companies would, therefore, wish to take an active role in companies in difficulties 'to protect their investment'. In other classes of business insurers might insist on the insured carrying a substantial excess to ensure commonality of interest, but that would not be permitted for this class. General insurers might not see this hands-on approach being one which they would wish to adopt, and it might lead to reluctance in their offering this cover. The presence of ZAPS might counteract such reluctance.

7.3.8 *The Premium Rate*

The premium rate will obviously depend on the precise risks covered, the period of cover, the interest rate and expenses.

7.3.9 The risk may also be affected by such factors as:

the economic climate,
the type of business involved,
the region in which the employment is carried out,
the number of staff involved, and
the size of the employer (balance sheet capitalisation).

7.3.10 The formula per unit of risk is effectively:

$$\sum_{t=0}^{t=n} p_t v^t + \text{Expenses}$$

where t = time
n = maximum period of cover
p_t = probability of default at time t.

7.3.11 The U.K. rate of claim in recession appears, above, to be 2·6%, whereas during 1988 to 1990 the highest claim rate was 1·6%. If a risk-based premium system is to operate, then the rate will differ over the economic cycle. However, sectoral differences will be important.

7.3.12 To introduce the system, it would be sensible to operate at a global rate of 2·6% plus expenses, say 3% with various companies rated as +0%, +50%, +100%, etc., depending on the expected risk. If all existing U.K. pension fund assets were insured, then the premium would be £10·5bn, being 3% of £350bn. However in this unlikely scenario, ZAPS would have been built up as the book reserve system had matured. By this stage the value of the ZAPS might be equal to 50% of the pension fund assets, and hence the mature annual premium would be closer to £5·25bn. This compares to £6bn for motor insurance and £19bn for all cover in 1992. Insolvency insurance could therefore provide a significant business opportunity for U.K. general insurance companies.

7.3.13 From previous arguments, it will be recalled that existing assets are unlikely to be switched to book reserves, thereby allowing a much lower and slower build up of sums at risk, and experience to be gained accordingly.

7.3.14 To the employer the cost of the capital offered by a book reserve would be 3% on average. Assuming that some companies and industries are more at risk than others, this cost of capital would be multiplied up. However, for small, well-run companies the rate is significantly better than might be obtained on a bank loan even at current base rates.

7.4 *Sum at Risk*

7.4.1 The details above indicate that a system of insolvency insurance could be devised at reasonable rates of premium. If the system is set up, then it is also necessary to consider how the sum at risk should be calculated.

7.4.2 Under the German system the amount of the book reserve is calculated on a statutory basis. The vested reserve must be insured, and the liability of the PSV is also clearly defined. If the U.K. were to set up a system where the amount of the book reserve was to be calculated on a statutory basis, then this amount would become the sum at risk for the insolvency insurance.

7.4.3 The U.K. system of pension funding has not evolved on a statutory basis, due to the diversity of companies and the various profiles of scheme members and their liabilities. If a similar approach is taken for book reserves, then the following considerations apply:

(1) The insurance is to cover a period of time, during which members will accrue additional benefits. As the employer is reinvesting money in his company via the monitors, there is no real position in which he can be said to withhold contributions to the scheme. Thus the amount of the book reserve automatically increases as the members accrue extra benefit.

(2) If the book reserve increases continually, then the insolvency insurance should either be continually increasing, i.e. effectively unlimited liability based on a measure for premium rate purposes—(it should be noted that the third party liability under motor insurance already operates on this basis), or the insolvency cover should be set at a level which is expected to cover a worst scenario claim during the period of cover, and this would be the maximum cover provided.

(3) If an unlimited liability is to be provided, then the measure could also be based on the basis of a worst scenario claim during the period of cover. It is likely that the insurers would wish to restrict the assumptions used for its assessment in this case. They would be concerned to ensure that the level of cover paid for was not understated.

(4) If the maximum cover approach is used, then each scheme would require actuarial valuations on a regular basis (and this requirement would probably need to be mandatory). To cover the worst scenario, this would involve multiple valuations on a wide variety of bases. It would be up to individual actuaries to decide that their calculations were sufficiently prudent for the purposes of the insolvency insurance.

(5) If the cover is invoked, then it must be assumed that the company is

insolvent. In view of this the value of any book reserve asset must be considered as nil for the purpose of assessing the sum at risk.

(6) There is an obvious risk of misuse of insolvency insurance by those individuals within the company who can set their own remuneration level. There might need to be restrictions as to the benefits that would be covered by the insurance for such individuals, e.g. the salary for benefit covered by the insurance might be restricted to the average pensionable salary over the three years prior to effecting the insurance cover or to making the claim.

7.5 *Moral Hazards*

There appear to be moral hazards affecting both insurers and insured under insolvency insurance. If the book reserve method is to succeed, then it is imperative that practical methods of reducing/removing these hazards be devised. The following are some suggestions:

(a) *Hazard.* Insurers may offer cover whilst the company is financially sound, but refuse to offer cover/terms as soon as the company's finances appear less sound. In the meantime a liability has accrued under the scheme.
Suggestion. Insolvency cover should be provided on stated premium rates for 3 years. There should be a rolling review each year, specifying the premium rates for the next 3 years from the date of review. Where the financial situation has deteriorated, the scheme would only be subject to a significant premium increase, or removal of cover, from the end of the current agreed rate period, i.e. 2 years hence.
This allows time for the scheme to diversify into funded assets or to wind up before the situation becomes extreme. In particular, the value of any ZAPS would increase in this type of situation. Other creditors may be more keen to purchase the ZAPS, so that diversification of the assets is easier.

(b) *Hazard.* The employer may liquidate the company knowing that the insurer will pay the scheme benefits.
Suggestion. As envisaged previously, the insurer will provide the necessary funds for the scheme liabilities, but in return will receive the 'shares' held by the scheme. The insurer will then have priority over all other creditors of the employer. The likely loss to the insurer is therefore reduced. If the underwriting has been done properly then there may, in fact, be no loss to the insurer.
In practice, in Germany, the PSV can become involved before a company goes bankrupt, and negotiates a survival package together with other creditors or potential creditors.

7.6 *Initial Reactions from General Insurance Actuaries*

7.6.1 The working party sounded out some actuaries working in the general insurance sector with a draft of the paper.

7.6.2 Their reaction was that they did not believe that the insolvency cover would be provided by an open, competitive market. Their principal point was that this was not insurance insofar as claims would not occur randomly, and have expected variances in occurrence. This was because claims would be driven primarily by an economic recession. There was also concern that above average claims would continue after the recession was over, but still caused primarily by the recession. This latter aspect has been addressed in this published report, in that the insurance would only cover claims occurring within the 3-year period of granted cover.

7.6.3 The actuaries noted the general insurance companies experience with mortgage indemnity claims, and said the companies would not be willing to take on what they perceived as a similar structure of business. The working party noted that several general insurance companies had been willing to make a market in the mortgage indemnity cover, even if they now felt they had priced it wrongly.

7.6.4 A further major concern of the actuaries consulted was the working party's proposal that going down the book reserve route was to be an option available to the market. They could understand why the structure was proposed, but from their specific viewpoint of advising general insurance companies, they felt this substantially reduced the chance of a market being set up because of the moral hazard involved.

7.7 *Conclusions*

There are no actuarial issues if insolvency insurance is to be provided by a mutual support fund. The commercial insurance approach will only work if a market is established and cover is maintained to a company which is perceived to be in difficulties, but not in liquidation. The initial informal reaction received is that the U.K. general insurance market might be reticent about offering this class of business. The working party has not explored the likelihood of insurers from the European Union coming in, or the large reinsurance companies leading the market.

8. The Impact of Book Reserve Schemes on Pension Scheme Members

8.1 The move from the separation of pension assets outside the employer's business under the direct control of a set of trustees will have a range of implications for employees whose pensions expectations are to be provided through the pension arrangement.

8.2 The courts now widely accept that pensions are regarded as deferred pay. In effect, the members of the scheme have beneficial ownership over the rights built up within the scheme and of any assets set aside to secure those liabilities. If the assets, control of those assets and the security of the pension rights are all dependant upon the employer, there is a conflict between the 'rights' of ownership and the disposition of those rights.

8.3 In practice, within a funded pension arrangement the direct rights of the members to control the operation of the pension scheme are extremely limited. Trustees will manage and oversee the operation of the scheme in accordance with a trust document and requirements placed upon them by legislation or common law. One of the primary requirements of a trustee is to act in the best interest of the beneficiaries. This can be interpreted as including the employer. However, generally speaking the employer will have overriding powers to decide the provisions of the scheme and, indeed, whether or not rights continue to accrue under it.

8.4 The extent to which a change to a book reserve system would affect the members depends to some degree upon whether the scheme will continue to be operated through some form of trust mechanism under the aegis of a set of monitors or whether the system would operate totally under the control of the employer. In either case the security of the pension rights accrued would depend upon the existence of insolvency insurance and the extent to which the liabilities of pension benefits were ring-fenced from other liabilities of the employer's business. It would clearly be desirable, from the member's point of view, that these liabilities count as priority liabilities in the event of a winding-up of the employing organisation, and that any insolvency insurance was written in such a form as to provide monies to meet that priority liability rather than falling into a general pool of assets against which all creditors would have a claim.

8.5 A scheme operated without monitors would leave the operation entirely in the employer's hands. This removes any independent control over the backing to the pension liabilities, completely removes any locus of the members over the pension liabilities and allows the pension arrangements to be operated in a much less transparent way than would apply in a trust scheme.

8.6 The existence of monitors would add reassurance to the members, some of whom may be appointed directly by the members, and would provide a central voice to represent and safeguard the members' interests in the operation of the scheme. Monitors would also have responsibility for ensuring that the reserves being set aside by the employer were adequate to meet the promises being made, and would be able to take their own professional advice to satisfy themselves that this was the case. They would also be better placed to protect the members' interests and to be able to 'whistle blow' to a regulatory organisation if there were doubts as to the adequacy of the funding mechanism or the level of insolvency insurance against which the employer was proposing to secure the pension liabilities.

8.7 The employer is likely to be resistant to the idea of monitors for the book reserve scheme. He would be surrendering a degree of financial control and leaving himself open to continuing disputes of the 'who owns the surplus' type if the reserving basis was thought to be too strong, particularly if it were set on a statutory basis.

8.8 There are a number of other practical difficulties from the members' point of view:

(a) It seems unlikely that the employees would be prepared to make pension contributions explicitly from their salaries which would be seen as being invested within the employer's business. This is largely a presentational issue; lower pension contributions from the employees should imply a lower rate of salary and vice versa. It would generally be in the employer's interest to operate the scheme by making it non-contributory, with adjustments to the salary levels paid to his employees. It would be possible to accept employees' contributions into some form of earmarked fund run along similar lines to an external AVC scheme. Meshing in the contributions accumulated within that arrangement with the defined benefits derived from within the book reserve element may prove to have serious practical difficulties.

(b) The right exists within present schemes for employees to make contributions to secure additional benefits, usually on a money purchase basis, although in some cases using a defined benefit approach. Employees would need to be satisfied that they were getting value for money for their additional voluntary contributions, and that these were safeguarded in the event of the insolvency of the employer. The operation of such schemes needs to be transparent. This suggests that an external provider would have to be used.

(c) Changes to provisions of the scheme would become part of direct negotiations between the employer and employees. There would be no identifiable surplus or deficit within the scheme which either party could use to justify their position. The benefits provided would be those laid down in the rules, and the exercise of the trustees discretion to provide, for example, pensions increases taking into account the financial state of the scheme, would no longer be an option.

Whether or not this could be regarded as an advantage or a disadvantage to the employees depends upon how discretions have been exercised in the past. At least by removing those discretions and having a specific set of rule provisions, employees would have the assurance of knowing precisely how their benefit entitlement was to be calculated.

8.9 In conclusion, employees are likely to be uncomfortable with a move to book reserve financing, although this may be tempered if there was adequate insurance available. If this was not the case, then such a move will be condoned only in cases where it means provision is available, which otherwise would not have been made.

9. The Impact on the United Kingdom Pension Fund Industry

9.1 *Introduction*

If retirement benefit provision by the book reserve method was made possible in the U.K. and on a basis which was as tax efficient as the existing methods, then the possible outcomes could be many and varied. Undoubtedly the creation of book reserve possibilities would not, in itself, have a great impact on the industry, but the reaction of the industry to the new rules would be a main factor in determining the outcome. In this section 'the industry' is used in the widest sense, to include as appropriate sponsoring employers, scheme administrators and all professionals including investment managers, pensions consultants, actuaries and life insurance companies who make a living from the existence of the pensions market. Actuaries are covered further in Section 10.

9.2 *Expansion or Contraction*

9.2.1 The pensions industry and, more specifically, the providers of pensions products have never been slow to identify and take advantage of any developments which would enable the industry to expand. Therefore, there is a strong likelihood that a major addition to the possible methods of pension provision which the book reserve method would represent, would generate a great deal of activity within the pension industry.

9.2.2 Although some of the activity would be a re-appraisal of existing arrangements, it would be expected that there would be significant amounts of new business generated as well. This would be because companies would be more willing to undertake to make pensions provisions if they retained the ability to utilise the invested money in-house. This facility could be seen as especially beneficial in the formative years of a young company, enabling them to use what cash they had to its maximum efficiency.

9.2.3 Other factors, although not directly related to the book reserve considerations, nevertheless could give impetus to any expansion already generated. Such factors could be the cutback of state provision (together with an emphasis on greater private provision perhaps), a healthier economic outlook and a more competitive employment market.

9.2.4 Given the comments above, is it possible, however, that the market could actually contract? Although it can only be speculation, the following developments could be feasible.

9.2.5 It is likely that the facility for operating the book reserve method would result in a perceived need for greater regulation and monitoring of such pension arrangements. The working party believes that this is likely to be the case because of the current climate of distrust in the U.K. regarding pensions, and the way in which book reserves would be introduced here. They are aware that it contrasts with the perceived advantages of the German system in allowing simple administration. This, together with the ancillary operations which would be required, would lead to greater administrative costs and burdens than the corresponding operations in Germany.

9.2.6 Proportionately, these costs would have a greater impact on smaller schemes and therefore, among those employers who currently make pension provision, there could be greater disillusionment with the idea of being involved with pensions at all. If they did decide to back out of pensions, although some personal pensions would be expected as replacements, this would not be expected across the board and probably not to the same level. If the administration was such that it also discouraged new schemes, then the result would be a reduction of the pension market.

9.2.7 From the employees' point of view, as seen in Section 8, there may also be some reticence to partake in an arrangement where the funds are effectively retained within the company coffers, despite any assurances which may be given and insurance, compulsory or otherwise, which may be effected. This reticence could lead to an overall contraction in the business although, perhaps some employees would opt for personal pensions instead.

9.2.8 It must also be realised that, if the product has to be sold, then the reward for selling would have to be competitive with other products being sold. If this is not the case, then any expansion would be difficult.

9.3 *Alteration to Existing Business?*

9.3.1 In the late 1980s the make-up of the pension provision cake was dramatically altered with the introduction of personal pensions in 1988. A significant proportion of business was developed on this basis of individual provision, albeit sometimes under a group personal pension umbrella.

9.3.2 With a book reserve facility available, it is possible that employers, who are currently contributing to personal pension arrangements, would see greater advantages, despite increased administration and costs, in being able to retain that money to the benefit of the company's own development. To be able to do this, while still satisfying the employees' demands for some form of pension provision, could encourage significant numbers of employers to take advantage of book reserves to set up company sponsored operations. The result would be a different pension provision cake from the one we have today. However, employees would be concerned about the security of defined contribution benefits determined solely by the strength of their sponsoring company.

9.3.3 This could be seen as an extension of employers' share option plans. This is a way forward that is currently being argued quite strongly in France as a solution to the need, in that country, to create more private provision for retirement. The French Law on ESOPS has recently been changed to make it compulsory for employers to provide these schemes if they have at least 50 employees (previously the limit had been 100). This applies to all companies, whether or not they have a public quotation.

9.3.4 The success of this system to date in France is encouraging its advocates. The difference with the U.K. situation being discussed is that French ESOPS are compulsory on the relevant employers, and in the U.K. an option in pension provision is being covered.

9.3.5 However, a large unknown in this particular equation is what sort of response would be forthcoming from the personal pension providers. Would they be able to develop and market a group personal pension product which was backed up by book reserves—or develop a new product which addressed the new requirements of the employer? It is difficult to imagine these providers relinquishing their share of the market without some form of rearguard action, and therefore it is difficult to predict how the existing business may alter.

9.4 *Other Developments?*

9.4.1 Reference has been made to the possibility that the introduction of book reserves could generate the development of new pension products, but what other developments are likely if the book reserves become a reality?

9.4.2 Obviously the level of self-investment would be expected to rise, probably quite substantially. A consideration of the macro-economic affect of the greater investment spread which would result was given in Section 5.

9.4.3 Whether the individual pension funds would benefit from the different investment philosophy would vary from scheme to scheme, and be subject to much greater volatility than at present. If risk can be taken as a measure of likely return, then, compared to what would be the less risky investment in quoted securities, the overall returns achieved by investing in 'all' companies including unquoted should be higher in recognition of the greater risks. Of course, at the individual company level there would always be some disasters, but this would also have to be taken as representative of the risks involved.

9.4.4 Without doubt the new regime would require the acquisition of new skills by those involved in the industry, but this could be of benefit when considering possible developments on a European stage. The U.K. pensions industry has proved itself capable of dealing with major developments and changes on many occasions in the past, and at the current time the situation is no different. Therefore, coping with book reserves and the opportunities which it offers would represent another challenge, albeit a significant one.

9.5 *Conclusion*

9.5.1 Undoubtedly the introduction of book reserves as a method of pensions provision would create a substantial impact on the pensions industry in the U.K. The extent and effect of the impact is more difficult to determine, although the new initiative could be expected to generate an expansion of the business. It is also anticipated that there would be more work involved for those within the industry coping with greater administrative and regulatory burdens.

9.5.2 However, in the same way that continuous development and sometimes quite substantial changes have been dealt with in the past, the introduction of book reserves should not create any greater problems or challenges than the industry has confronted before.

10. The Impact of the Introduction of a Book Reserve System into the United Kingdom on the Actuarial Profession

10.1 *Benefit Security*

10.1.1 The impact on the actuarial profession of the introduction of a book reserve system will primarily depend on the means by which benefits are to be safeguarded. As has been discussed above, benefit security could be ensured by means of an insurance mechanism or by some kind of support fund or by a combination of both.

10.1.2 *An insurance mechanism*
An insurance mechanism would require substantial input from the profession in assessing the viability of different systems and in developing the system which it was decided to adopt. There would be a significant demand for high level input from the profession to general insurance companies, should the establishment of a competitive insurance environment be sought.

10.1.3 When such a system was operational, the actuary would need to assess the sum at risk for each scheme. Actuaries could also be involved in assessing a suitable premium rate for the amount at risk, although this would involve putting a value on the strength of the company as well as the extent of the liabilities and would require specialist knowledge.

10.1.4 This would be a continuing process, as the insurance policy was renewed for each insurance period.

10.1.5 The funding recommendations produced by the actuary would be broadly similar to those produced at present, although there could be pressure for a minimum acceptable valuation basis by insurers.

10.1.6 *A support fund*
On the other hand, if security is based on some form of support fund, it is likely that a minimum reserving basis would be set. This would probably be subject to a detailed specification, but could be based on a more general Guidance Note, which would give some discretion to the actuary as to the basis.

10.1.7 If the basis, including assumptions, is specified in detail, the actuary could become merely a calculator, and further actuarial advice might generally be considered to be unnecessary. However, depending on the form of the minimum basis, actuarial advice on the long-term financing of the scheme may still be considered advisable.

10.1.8 The way a minimum basis was operated would need careful consideration. For example, problems could be caused for the company if it was decided that this basis should be strengthened at short notice. This is a fundamental issue. The German PSV has operated on one basis throughout, but Section 3.5 showed that the 'statutory' liabilities could differ by 40% from what an actuary might feel was his or her best estimate.

10.1.9 If the basis was specified to the extent that the calculations became no more than an arithmetical exercise, this would not necessarily be work which would require a qualified actuary. The involvement of a qualified actuary might be limited, for example, to certification that the prescribed basis had been satisfactorily applied. It is quite possible that a standard software package would become available for doing the prescribed calculations, which would make certification no more than a formality.

10.1.10 The charges which would need to be made for such work would be considerably less than at present, because of the reduction in professional input at an experienced level.

10.1.11 *General considerations for both methods*
Under any system, in order that the security of the members is more closely monitored, it is likely that the valuations would be required more often than the current three years and six months, perhaps even every year, and that they would be required much sooner after the valuation date than is currently the practice.

10.1.12 There may similarly be a requirement for the actuary to monitor the progress of the scheme between valuations.

10.2 *GN9*

10.2.1 GN9 itself would not need substantial revision, but appropriate additions or a separate guidance note would be necessary to cover any new requirements or certification.

10.2.2 In particular, additional guidance on the valuation of the assets would be required, particulary if ZAPS were present amongst the assets.

10.2.3 Under both methods in Section 10.1, there would, however, be implications for the mismatching of assets and liabilities and concentration of investments which would need to be addressed.

10.3 *Surplus*

10.3.1 There would be no need for a different specified maximum reserving/funding basis for the purpose of limiting tax relief from that already in existence under the surplus regulations, although a basis would need to be set for valuing the reserves/assets. Indeed, the surplus regulations would need to be on an equitable basis to avoid favouring a particular financing method.

10.3.2 In the past, discretionary benefits, such as pension increases, have been financed from surpluses which may have been purposely built up in the assessed contribution rate. If specific provision is not made for such benefits, there might be a general levelling down of benefit provision under a book reserve system.

10.3.3 The book reserve method adopted could also influence attitudes to the generation of surplus. For example, if insurance premiums were assessed on the quality of the book reserves or the shareholding, surplus may be an advantage in reducing insurance premiums. On the other hand, if a minimum reserving basis is adopted and becomes the standard basis, surpluses could well cease to accrue.

10.4 *Transfer Payments*

10.4.1 There would be little effect on GN11, although special powers to delay payment of large amounts or to pay staged payments might be necessary if they were likely to threaten the finances of the company.

10.4.2 If the assets of the scheme were all in quoted company shares, an option could be available for the transfer payment to be made in company shares.

10.4.3 There might be financing problems if a minimum funding/reserving basis was adopted and GN11 required a greater payment.

10.4.4 There would be unlikely to be special problems for transfers between funded and book reserve schemes. Takeovers and mergers between the different systems might, however, cause problems if they resulted in partially funded schemes.

10.4.5 It is unlikely that an actuary would be prepared to give the certificate required under GN16 for a bulk transfer without the consent of the member between a traditionally funded and a book reserve scheme. However, this has already been covered in its wider context that trustees are unlikely to feel they can move assets from external funding to book reserve.

10.5 *SSAP24 and Company Financing*

10.5.1 The book reserve system chosen could have a significant impact on SSAP24, and thus on company financing. SSAP24 figures are currently on a 'best estimate' basis, which may not be consistent with the book reserve method adopted.

10.5.2 It is therefore likely that SSAP24 calculations would be further separated from the funding/reserving calculations, possibly even to the extent that a separate actuarial statement is included in the accounts by an actuary appointed by the company.

10.5.3 If a minimum reserving basis was prescribed, this might considerably simplify current SSAP24 reporting problems if all the figures were to be on the prescribed basis. On the other hand, if the company decides to build up reserves at a higher level, separate figures might still be necessary as for a traditionally funded scheme. The basis used would need to be disclosed.

10.5.4 If there was no prescribed basis, the actuary would need to assess the ongoing rate of return earned by the company, which would require specialised knowledge of the financial situation of the company.

10.5.5 GN17 would require appropriate amendment for any changes to SSAP24.

10.5.6 Provision for any insurance premiums would need to be made in the SSAP24 cost of the scheme.

10.5.7 FAS 87 also creates difficulties in that it contains rules for dealing with assets, specifically that an interest charge on the past service liability is normally offset by an asset return, but no such return can be attributed to assets held as book reserves, although within the actual operation of book reserve financing there is an implicit asset return on the book reserve. Therefore for FAS87 purposes, a book reserve pension plan in Germany costs more than a funded plan.

10.6 *Schemes Winding-Up*

If an insurance mechanism was adopted, the debt on the employer would be covered by insurance. Otherwise GN19 would require some reconsideration. For example, it would be unreasonable for the GN19 debt to be greater than the minimum reserve if a minimum reserve basis was adopted. There would also probably need to be some discretion as to how and when benefits were secured on a wind-up.

10.7 *Contracting-Out*

10.7.1 Provided that the system contained sufficient safeguards, there would be no special problems for schemes which were contracted-out of SERPS.

10.7.2 GN3 and the Actuarial Certificate would require some amendment depending on the system adopted.

10.8 *Professional Conduct*

10.8.1 The role of the 'monitor' would need to be carefully defined and would influence the direction of the professional advice sought. One of these duties would need to be to ensure that the reserves/shares held were adequate to meet the liabilities. He would also need to have the same duty of care to the beneficiaries of the scheme as under trust law. It is likely, though, that the 'monitor' will be viewed more as a representative of the company than the members, in comparison with trust law under which the main duty of the trustees is to the beneficiaries.

10.8.2 If the system adopted was more like the German system based on a prescribed minimum reserving basis and a support fund without the requirement for a 'monitor', there would then be a significant change in the actuary's responsibilities, as his client would then be the company.

10.8.3 He would still have a responsibility to the members, as third parties relying on the advice given, but conflicts of interest could become more, rather than less, prevalent. Scheme members could decide more frequently that they need separate actuarial advice, but without trust law to protect them they may have little power in influencing the financing of the scheme.

10.8.4 In order to improve the security of such schemes or to provide a continuous monitoring role, a requirement for there to be an 'Appointed Actuary' to the scheme, similar to that for an insurance company, might be introduced. It would also be desirable for there to be much more detailed disclosure to the members of the reserves being set aside or contributions paid and the company's business plan for financing the benefits.

10.9 *The Future of the Profession*

10.9.1 The impact on the future requirement for actuaries—both consultants and those employed by insurance companies—would depend on the system adopted and how widespread this became. If there was a substantial move to the German-type system with a prescribed reserving basis, high-level professional actuarial advice may come under pressure at the expense of more routine calculation-type work. This would have implications for the number of fully qualified actuaries required and the means of educating and training them.

10.9.2 There is also the danger that if too many statutory valuation bases are laid down, the costs will become excessive for small and medium schemes. The Goode Committee has raised in its questionnaire the possibility of a minimum compensation scheme/minimum funding standard. If established, this could lead to conflicts with any basis set for book reserve schemes if this differed.

10.9.3 There would be less need for investment strategy studies and asset/

liability modelling, although the mismatching of assets with liabilities would still be an issue which would need consideration.

10.9.4 There would, however, be new areas of work for actuarial expertise, and some of the traditional areas may expand to provide a different type of financial reporting.

10.9.5 Actuaries would be heavily involved in any insurance mechanism established, both in assessing the relevant risks and suitable premium rates.

10.9.6 Moreover, the pressure of changing legislation is already great and shows signs of increasing rather than reducing over the next few years. Legislation is already complex, and there will be a continuing role for actuaries in interpreting this and explaining the effect on the scheme financing.

10.9.7 Under a book reserve system, companies will become much more conscious of cash flows and will need to be much more aware of their implications for the financing of both the scheme and the company. There is therefore likely to be an increasing demand for cash flow analysis, so that the company has more control over both company and scheme financing. This will be the case whether the assets are in the form of reserves in the company or company shares, because a sudden need to sell a number of shares could impinge on the price of any shares held outside the company.

10.9.8 Overall, the impact on the profession will depend on the book reserve system adopted. It is in the interest of the profession to take a pro-active role to ensure that any proposed book reserve scheme is developed practically, should the government give credence to this idea.

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APPENDIX I

BENEFITS PROVIDED BY OCCUPATIONAL PENSION PLANS IN GERMANY

The levels of benefits provided by employers under supplementary plans are more varied than those familiar in the U.K. and there is no 'norm'. In part the form of the benefits will depend upon the method of provision—defined contributions being typical for insurance-based plans whilst defined benefits are usual for book reserve plans and support funds. Some employers provide a combination of benefits using more than one method of provision. In looking at the structure of the benefits, it should be remembered that Germany operated for more than two decades in an environment of stable low inflation.

Whilst final pay defined benefit formulae are common, flat rate and career-average plans are also met in practice. The amounts of benefits on earnings up to the Social Security ceiling (DM 91,200 p.a. at present, or a little less than twice national average earnings) are usually lower than in the U.K., reflecting the higher level of Social Security provision from which there is no contracting out. Higher rates of accrual are often granted on earnings above the ceiling, perhaps aimed at providing an overall gross target pension after a full career of 50%–60% of final earnings—including the Social Security pension. Direct integration with Social Security was relatively widespread in the past, but many employers have changed such plans in order to protect themselves from future reductions in Social Security benefits. There is a general trend towards lower benefit levels and a switch away from final salary to fixed benefit plans at present.

A typical final salary plan might have the following features:

Eligibility	:	All permanent full-time employees and part-timers earning more than the Social Security triviality limit (DM560 per month).
Entry	:	On joining the company after age 18. Maximum age in the range 55–60.
Normal retirement age	:	65 for men and women. [Sex inequality was common in the past and persists in some plans.]
Early retirement	:	As a statutory right when available under the Social Security system, ultimately age 62 for both sexes.
Pensionable pay	:	Usually basic; bonus and other additional elements may be included for certain occupations.
Final pensionable pay	:	May be the final month's basic or an average over a period of up to 5 years.
Qualifying age/Period	:	No benefits payable before attaining age 30 and/or completing 5 years of service. The qualifying period does, however, count for the calculation of benefits.

Pension at normal retirement age	:	Pensionable pay up to the Social Security ceiling: 0.2%–0·8% of final pensionable pay per year of pensionable service. Pensionable pay over the Social Security ceiling: accrual rate doubled or trebled.
Early retirement pension	:	Accrued pension based on completed service, may be subject to a reduction of up to 7·2% per year early although no reduction is common.
Cash at retirement	:	May be provided instead of pension or by commutation.
Ill-health pension	:	Pension based on accrued plus, in many cases, prospective service to age 55 (65 in some plans).
Spouse's pension:		
death in service	:	60% of ill-health pension.
death after retirement	:	60% of member's pension.
Children's pension	:	10% of member's pension for up to 4 children—doubled if no surviving spouse.
Lump sum death benefit	:	Not usually provided in addition to spouse's pension—may be provided instead up to a maximum of 2 × salary.
Withdrawal benefit	:	In accordance with statutory vesting requirements.
Pension increase	:	In accordance with statutory requirements.
Member's contribution	:	Not possible under book reserve plans and support funds.
Executive benefit	:	Higher levels of benefit are often provided for senior employees.

APPENDIX II

OVERVIEW OF THE DEVELOPMENT OF THE PSV FROM 1 JANUARY 1975 TO 31 DECEMBER 1992

Financial year	Member companies	Premium rate	Reserves on which premiums are based	Premium volumes	Claims	Claims volumes	Insured pensioners	Insured vested beneficiaries not yet receiving benefits	Balance of funds	Equalisation fund
	Number at 31 December	Per mille	Billions (10^9) DM	Millions DM	Number of cases (i.e. companies)	Millions DM	Number of new cases in year	Number of new cases in year	Millions DM at 31 December	Millions DM at 31 December
1975	31,045	1·5	73	110·6	249	74.7	5,060	7,290	93.2	34.4
1976	31,685	1·9	83	159·5	267	163·6	8,614	8,795	120·7	350
1977	32.102	1·9	91	170·9	246	128·2	4,745	5,808	198·6	88.3
1978	32,778	0·7	98	71.3	187	77.6	4,765	6,785	295·3	101·6
1979	32,518	1·1	108	119·0	154	127·5	5,346	8,116	265·2	114·3
1980	32,547	1·4	120	167·9	161	170·7	6,879	6,985	346·8	133·5
1981	33,895	2·0	134	268·9	246	276·9	11,780	13,228	477·0	156·1
1982	33,977	6·9	145	1,002·3	363	1,220·3	39,564	55,498	1,293·9	11.1
1983	33,746	3·7	149	550·7	322	516·9	10,689	14,992	663·4	128·3
1984	33,968	2·6	164	427·5	369	391·6	8,036	15,601	733·9	269·5
1985	34,622	1·4	180	265·3	366	379·5	7,461	9.746	812·6	276·0
1986	34,848	1·1	192	227·7	332	373·5	8,135	13,448	854·3	336·0
1987	35,725	1·8	210	477·9	307	585·7	15,891	19,873	1,022·5	358·0
1988	35,813	0·9	219	201·9	200	310·7	4,460	7,606	956·8	368·0
1989	36,051	0·6	230	142·4	173	280·4	4,943	7,872	901·7	371·6
1990	36,712	0·3	242	76.0	156	332·8	5,774	6,837	786·6	372·6
1991	37,282	0·9	257	226·9	155	394·1	6,170	6,561	820·9	374·2
1992	37,758	0·8	275	225·8	185	423·9	9,914	11,216	876·9	374·2
			Totals	4,892·6	4,438	6,228·6	168,226	226,257		

APPENDIX III

PROJECTION OF BOOK RESERVE CASH FLOWS AND ACCUMULATED RESERVES

Assuming all schemes switch to book reserve

£ billion in constant earnings

Year	1	6	11	16	21	26	31	36	41	46	51	56	61	66	71
Contributions	0·30	1·76	3·09	4·22	5·23	6·14	6·94	7·61	8·12	8·51	8·62	8·62	8·62	8·62	8·62
Benefit payments	0·00	0·04	0·10	0·22	0·43	0·81	1·45	2·49	3·96	6·03	8·62	11·04	12·93	14·28	15·14
Total reserve	0·3	6·3	19·9	40·8	68·4	102·2	141·3	183·7	226·7	267·4	301·1	324·7	339·9	348·5	352·5

ABSTRACT OF THE DISCUSSION

Mr A. I. Johnston (introducing the paper): It should not be taken for granted that the financing of pension arrangements through the establishment of a fund of real assets separate from the employer's business is the only way of providing for pension benefits. The legal and taxation frameworks in the U.K. have led to the development of funded schemes; but this might be regarded as historical accident. If we were starting with a clean sheet of paper, alternative methods of financing, as for example the book reserve system, could have operated perfectly satisfactorily in the U.K., as they do in other parts of the world. There is always a danger that the system in use—the one with which everyone is familiar—is viewed as the ideal. Such complacency should be tempered by examination of the problem as others see it, learning from that analysis and their experience, to develop and refine our existing systems.

The Book Reserve Working Party grew out of an earlier working party which was examining the impact of European legislation on U.K. pension provision. One of the problems in implementing directives at European level is coping with a variety of methods which apply throughout the E.C. for securing pension benefits. The question of migratory workers, for example, who wish to transfer their pension rights as they move between member states operating different financing arrangements, illustrates the practical difficulties which could arise at the individual level.

More generally, it might be argued that lack of common acceptance of alternative funding methods by all member states is a hindrance to the freedom of establishment of the operation of companies within the E.C. Should a German company, used to operating the book reserves system at home in Germany, not be able to operate such a system through its U.K. subsidiary without suffering tax penalties, because that system happens not to be that which is adopted in the U.K.? Could these barriers be removed?

The members of the working party feel that there is practical value in considering the establishment of book reserve systems in the U.K., and that such consideration should not merely be viewed as a theoretical exercise.

The paper considers the practical approach which might be implemented against the background of the U.K. labour market, the implications of the book reserve approach on the pension fund industry and the actuarial profession, and the possible macro-economic effects of the change of financing arrangements, where the source of capital available to finance corporate activity switches from external providers to internal retentions. In this area we acknowledge our lack of expertise. The paper raises a number of possible consequences without developing any coherent conclusions. We look forward to the work of the group being chaired by Professor Moore to yield more definitive conclusions in this area.

Mr D. A. Collinson (opening the discussion): The paper gives a wide-ranging, comprehensive and detailed overview of book reserving in general and the system of book reserving in Germany, and contains a thought-provoking proposal for how book reserving may be introduced in the U.K.

There are two different ways of looking at book reserve financing:

(1) 'Pure book reserving' is where the pension scheme is simply a promise from the employer to the employee for benefits. This could be better described as a direct commitment. It is how book reserve schemes are described in Germany, and could be likened to a pay-as-you-go arrangement.

(2) A self-invested scheme is one where contributions that would otherwise go to a funded arrangement are retained in the business.

The issues under each way of looking at a book reserve scheme are very different. Under pure book reserving, the focus is very much on the benefits that are provided, and the security to members is focused on securing the benefits. The reserve is not considered as an asset of the scheme, but merely an advanced recognition of payments in the future. Similarly, any tax relief obtained on a book reserve is simply tax relief obtained in advance of when the benefits are actually paid.

The 'self-invested' way of looking at a book reserve scheme is really a diversion of contributions from a fund to the company. The book reserve, in this sense, is an asset of the pension scheme. The focus is on the reserves rather than on the benefits. This arrangement is very similar to a funded system. The 'pure system' offers many advantages which are lost if you start looking at a book reserve as 'self-investment'.

In §6.3 the working party rejects the notion of introducing a pure book reserving system in the U.K. I am very interested in their reasons for rejecting such a 'pure book reserve' concept.

Taxation is one of the most important aspects of book reserving and, indeed, of any financing mechanisms. As the working party pointed out, in order to make book reserving attractive, you need to have tax-deductible allocations to reserves, and the tax treatment of book reserves needs to be on a level playing field with other forms of financing.

A special feature of book reserving is that it is more open to abuse and manipulation than other forms of financing as far as taxation is concerned. This is because in other forms of financing, in order to get tax relief, money actually has to change hands; money has to move from the employer to a fund. Under a book reserve scheme there is no such transfer of money, you are simply setting up a reserve in the balance sheet. Therefore companies may be much more inclined to try to manipulate tax relief under a book reserve scheme than under a funded scheme. So I agree with the sentiments in §6.2.2, that statutory control would be needed over the tax deductible allocations to reserves. There are two suggestions in the paper: to control the benefits that can be provided under a book reserve scheme, or to control the actuarial method and assumptions that should be used when calculating a tax-deductible reserve. The right way should be to control the actuarial method and assumptions, because if you leave the benefits to the freedom of choice of the employer, they actually have to pay the benefits, so they are less likely to manipulate the benefits than the calculation of the reserves.

One interesting aspect of book reserving that comes from Germany is that a pension scheme, or the introduction of a pension scheme, is seen to provide a benefit to the employer as well as to the employee. This is because, when a book reserve pension scheme is introduced, there is an immediate cash flow advantage for the employer in that he does not have to pay out any contributions and he does not have to pay out any benefits, but he does get an immediate tax saving of the amount of tax relief on the initial allocation to the book reserve, and therefore this improves the cash flow of the business.

Considering investment and capital requirements, I agree with the working party that it would be impractical to convert the existing £350 bn of assets in pension funds from external funding to book reserving. Consider the alternative of converting a book reserve system to a funding system overnight, this would involve all the German companies turning their book reserves into equity capital and then going to a large trading hall the next day, playing an enormous game of 'share swap' and walking away at the end of the day with shares in all the other companies. These shares would then be used to set up a fund. This, to most German companies and to most people, would seem a ridiculous thing to do. The same thoughts and features apply to looking at a change in the other direction.

One perceived long-term disadvantage with book reserving is that there is less need for companies to compete for investment capital, so it is not necessarily the most efficient users of capital that receive investment money; whereas, it would be if you constantly have to go to the market when you need new capital.

Another key aspect of book reserving is that of security. We need to focus on what it is that we are trying to secure. Is it the benefits themselves or is it the assets or notional assets—that is, book reserves—that are matching the present value of benefits? Under book reserving you can explicitly secure the benefits, and this is the case under insolvency insurance in Germany. This is a much simpler system and more attractive to employees; therefore I disagree with the thoughts in §§8.4–8.6 that an insured book reserve system would be less understandable and less attractive to employees than an externally funded system.

Inevitably, we have to cover the subject of insolvency insurance. One of the conclusions in §3.7 is that a disadvantage of the German system is the possibility that the insolvency insurance system would fail at the same time that the economy fails. This could be said about any system of financing pension benefits. If the economy fails, a funded system would also have many problems; for instance, if equity prices plummeted, there would be no dividend payments and fixed-interest investments would become worthless. It has to be conceded that, under a funded arrangement, there is more diversification, especially if it is overseas. So there is more protection in a failing economy.

There were four proposals for the different structures of insolvency insurance that could be operated. I would prefer the proposal for a statutory support fund. This would be similar to the Swedish system. When taking the proposal forward, it would be worthwhile to have an in-depth study of the operation of the Swedish system—and indeed, the operation of the Pension Benefits Guaranty Corporation in the U.S.A.

The proposed book reserve system in the U.K. is much more like 'self-investment' than 'pure book reserving'. What is really proposed is the creation of a new form of security for the investment of pension funds and for raising capital by industrial companies. Many of the advantages of simplification of pure book reserving are lost, and it is more of an adaptation of the current funding system rather than a radical change of approach.

However, any proposal has to be considered in the light of the U.K. economy as opposed to the German economy; and it may well be that, given the funded nature of pensions to date, and the U.K. way of thinking, this is the only way forward. I should like to see more discussion of direct commitments without the need for trust arrangements.

Mr P. M. Greenwood: There are two issues in the paper that I should like to concentrate on. These are the viability of insolvency insurance for U.K. occupational pension schemes, and the relative returns between book reserving and funded occupational provision.

One crucial question is whether, in practice, the German insolvency insurance system works and whether it can be adopted for the U.K. I leave aside the question whether such a system can cope with substantial demographic change. It will be interesting to see how the West German system copes with East Germany. My own view is that, for an insolvency insurance system to work, especially if any levy or premiums are to be approximate, there has to be a fair degree of compulsion in the use of that particular method of pension financing; that is that, in a particular country or economy, there has to be no major viable alternative method of pension provision which is exempt from the insolvency insurance system. This is true of Germany. If you look at the paper, direct insurance seems tax ineffective, the insolvency insurance system applies to support funds, and what the Germans describe as pension funds are essentially small mutual insurance companies described as being viable only for industry-wide schemes and a few very large employers due to the insurance supervision regime. Individual provision is described as tax ineffective.

At present in the U.K. we have a political party in power which has believed in individual choice and freedom in the matter of pension provision. The same tax treatment is applied to individual money purchase provision, group money purchase provision and to final salary funded schemes offered by the employer. Therefore, if you impose a 'cost' on one of the three types of provision, an employer can avoid the cost by moving to one of the other two. I claim that this is a distinct difference from the German system and more akin to the position in the U.S.A. We are all well aware of the financial problems the Pension Benefits Guaranty Corporation has had in the U.S.A. with a reducing levy raising base.

No doubt some will try to use this paper to argue for a partial adoption in the U.K. of something akin to the German system as a substitute for what I would describe as the proper secure funding of pension promises made by U.K. employers. I believe an analysis of this paper supports those, like myself, who are of the opposite conclusion.

Turning to the comparative financing costs, like many, I eagerly await the report of Professor Moore's working party on the macro-economic consequences of pension funding. We need to keep a clear distinction between the sort of internal return reported under a particular accounting convention, the rate of return that investors may, in practice, demand on various types of security for carrying different degrees of risk, and the underlying economic return achieved in general by capital employed in corporate activity (what the Economic Institute of Fiscal Studies recently called economic rents in their paper on the various forms of taxation of savings). Some economists believe that, in the long term, internal returns available to companies and the return on the equity markets should be the same. The theory is that a holder of capital can either go out and invest in the markets or separately establish a business. If that capital is financed by loan finance, the same loan rate of interest is charged by the banks irrespective of where the money is invested. Therefore, the argument goes, natural economic forces should serve to equalise the two returns. Many of us only think of the items as being substantially different due to the book value system of accounting which most U.K. companies adopt. These economic arguments can produce a factor called 'Tobin's Q', after the economist who first talked about the idea. Tobin's Q is the ratio of total capital employed in industry to the value of the stock markets. According to economic theory, this value should typically be one. In practice, the figures from the *U.K. Red Book* over the years show that it drifts either side of one.

Therefore, if economists' theories are true, whether we fund or have book reserves, it should make no difference to the cost of pension provision given the same tax regime. I accept that you might be able to make book reserves look cheaper initially if you set too weak a reserving basis. Does the comparison between the German SSAP24 cost in the paper and their book reserve liabilities illustrate this position? Surely any country which tries to gain short-term economic advantage by under reserving for its true pension liabilities will find the cost eventually comes home to roost. As the profession continues its debate on possible minimum funding standards, I hope and trust that it will examine such arguments.

If these arguments are correct and there is 'no cost' to funding, but there may be a gain from favourable U.K. tax treatment, let us take the opportunity to offer pension fund members true security.

There is a substantial danger the profession could come to the conclusion that a method of operation is cheaper just because of a possible lower initial accounting cost, whereas the underlying economic cost (which must emerge long term) is the same, given the same tax treatment.

Dr L. W. G. Tutt, F.F.A.: There are a number of places in the paper where reference is made to benefits security. There is thus the question as to whether book reserving as operated in Germany, with or without modifications, would achieve benefits security more effectively than funding with external assets, as operated in the U.K.

This leads on to the question: to what extent do people in the U.K. want benefits security? Of course there is no doubt about what they say they want, but may there be some inconsistency between what they say they want and what their behaviour may indicate they actually do want? Overall sustainability in real terms of the current levels of retirement benefits, both state and private—and it is largely immaterial as to how they are financed—clearly calls for increased effort. Yet it could be asked: where does a society which, in the main, seemingly chooses to operate so very much in low key, place benefits security in real terms in its order of priorities?

The authors suggest that the German system allows simple administration, but does British society as a whole regard simple administration as a plus point? According to the authors, if book reserving were to be introduced into the U.K., it would be regulated in such a manner as to lead to greater administrative costs, and greater burdens than the corresponding operations in Germany.

The authors suggest that the facility for operating the book reserve method would result in a perceived need for greater regulation and monitoring of pension arrangements. This could be very true; but is it only half the story? Could it be that consideration of book reserving is itself a necessary consequence of the build up of past regulations, that the introduction of book reserving would be just one more step in the ever increasing trail of regulations, and that more and more regulation could result in less and less to regulate?

I favour financing with external assets, but I appreciate that changing circumstances may suggest changing methods. If extensive requirements are to be imposed on employers, such as have been proposed elsewhere in other reports, above those already in place, perhaps there may be some need to appease what the authors describe as the disillusionment by employers with the idea of being concerned with pensions at all.

Permissive book reserving would introduce massive problems. Its practicability is dependent on a most careful gradual phasing-in approach, and yet severe problems would remain. The authors have drawn attention to many of them in a most valuable way.

Mr C. M. Stewart, C.B.: The working party's report teaches us a number of important lessons on the subject of book reserves in company accounts. The first is that, with a system of book reserves, it is absolutely essential to have the backing of insolvency insurance. The second is that the reverse is not true—if you have insolvency insurance, it is not necessary to have book reserves in company accounts—book reserves are an optional extra. Therefore, our first concern has to be with the viability of insolvency insurance. After that, we can discuss whether companies should be allowed, or required, to run down their pension funds and hold book reserves instead.

The most important statement in the paper comes at the end of §3.6.8, where the authors write that in Germany the amount of assets recovered by the PSV from insolvent companies has to date been very modest, so what is the purpose of a book reserve? It clearly provides no security whatever for the accrued pensions. It would, of course, help to keep down the company's pension contributions in much the same way as the investment income on a pension fund's assets does, but it is the insolvency insurance alone which provides security for the accrued pensions.

So it all hinges on the authors' conclusion that a system of insolvency insurance, similar to that in Germany, could be devised in this country at reasonable rates of premium. As it would be unsafe to rely on any company assets being available, the sum at risk would have to be the total value of accrued pensions not secured by assets in the pension fund, and the claim frequency would reflect the total number of company insolvencies. The working party believe that such a system would be viable because, *inter alia*, it could be operated on an experience-rated basis rather than on a strict insurance basis.

Last year, David McLeish and I put forward a much more modest scheme of insolvency insurance ('The Supervision and Control of Pension Funding in the United Kingdom', *J.I.A.* **120,** 67). The rates of premium for our scheme would have been only a fraction of those required as backing for book reserves, because we were looking at the insolvency of fully-funded pension schemes. While there would still have been the possibility of a claim with every company insolvency, the claim amount would have reflected only the amount of any deficiency in the fund, which should be zero in the majority of cases and relatively small in the remainder. As you know, that proposal was turned down and the profession has opted instead to accept the possibility of members losing out on wind up, and has set up a joint working party with the Association of Pension Lawyers to review the priorities, presumably with a view to spreading the loss over all members.

Unless the profession is able to contemplate the introduction of a system of insolvency insurance, there is no way forward. There is no alternative to continuing with the present system of fully funded pension schemes, which is not a bad system. The security of members' accrued pensions is good, and will be even better when we have new statutory requirements for the protection of scheme assets, for the prompt payment of contributions, and enforcing a minimum funding standard. The only thing missing is insolvency insurance. Without insolvency insurance, either the minimum funding standard will have to include a margin for contingencies, or members will have to face up to the likelihood of some loss of pension rights on wind up.

Later in 1994 Professor Moore's working party should be reporting on the macro-economic consequences of funding pension liabilities. Section 5 gives us some idea of the matters they will be looking at. I do not know whether they will be advocating an increase in funding levels or a decrease in funding levels for economic reasons. If we are to be able to approach constructively whatever Professor Moore and his colleagues may have to suggest, the Institute and the Faculty will, in the interim, have to give further consideration to the feasibility of having a system of insolvency insurance.

Mr F. R. Langham: Just over 24 years ago, I was one of a quartet of authors who presented a paper to the Institute entitled 'Pensions and Company Finance' (*J.I.A.* **96,** 189). Like this paper, ours was also the result of research carried out by a working party set up by the Institute.

It was not well received at the time by the majority of those who spoke at the meeting. Our research had indicated that there were no foundations to the belief that there are tax advantages in funding pension arrangements, but most speakers found it difficult to accept this, particularly as it appeared that generally, at that time, pension funds were sold on the basis of their tax advantages. We were able to demonstrate that, in the tax regime that applied at that time, the net cost to the company of providing pensions could be lower through the operation of a book reserve rather than paying contributions to an external fund. This was essentially because it was possible to obtain a tax deduction on allocations to a book reserve, and these allocations included, not only the notional contribution equal to the contribution payable to an external fund, but also the increase in the book reserves due to interest. Furthermore, if the company invested those reserves in ordinary shares, the dividends received could be franked and not subject to tax.

This paper deals primarily with non-approved schemes, which did not exist at the time we wrote our paper. It is a pity that the authors did not consider the position of approved unfunded schemes. Since we wrote our paper the system of Corporation Tax has changed considerably; but an approved, as opposed to a non-approved, unfunded scheme might still be relatively attractive from a cost point of view *vis-à-vis* an exempt approved fund. Whilst it is clear that it is not possible to obtain a tax deduction to a reserve for a non-approved unfunded scheme, a tax deduction could still be obtained for an approved unfunded scheme. I am not aware of any clauses in any Finance Act that bar this, nor have I heard of any case law that overturns the decision in the two relevant tax cases on which the basis for a tax deduction can be claimed. If the working party are continuing with their research, perhaps they can tackle the issue of approved unfunded schemes, and bring us all up to date.

I retired a few months ago, and became entitled to benefits from my employer's two approved pension schemes; an exempt fund and an unfunded book reserve scheme. My company had received a tax deduction on allocations to its provisions for the unfunded scheme, and I thought it might be illuminating, with the benefit of hindsight, to see whether or not it would have been preferable to have provided the benefits through an exempt fund. All the facts are known. I have survived. I was not an early leaver, nor had I drawn benefits early due to ill health or other reasons. My salary career was known, as was my final pensionable salary. The actual returns on the pension fund are known, and one could assume that the returns had we funded the unfunded scheme would have been the same. Company tax rates over the period of my service, or rather since the unfunded scheme was established, are also known.

However, I then came across a problem, one we encountered when we carried out our research 25 years ago, and which is discussed in the current paper. What rate of return is to be used for the cash retained by the company? What did the company do with the enhanced cash flow as a result of not paying contributions to an external fund? Did it enable the company to pay higher dividends? Was it used to acquire new companies? If so, was it the many that were successful acquisitions or the few that were not? Was it used within the business for capital investment such as new or renewed plant, or to finance more research, or used as revenue to have a higher advertising or marketing budget? I discussed this dilemma with colleagues in the financial division of my company. They were quite clear that it reduced borrowings, and consider the borrowing rate to be the appropriate one. I remain uncertain, and I think the authors of this paper also remain a little uncertain on that point.

However, I am not at all sure that my personal results would have a general application:

(1) I was informed by my financial colleagues that the company was always in a position to borrow, irrespective of whether or not we paid contributions or reserved. This cannot be the situation in all or even most companies.
(2) They assured me that the returns on the positive cash flow would have clearly exceeded those on the portfolio of the pension fund.

This brings out an important point. If a company chooses to change to an unfunded scheme, does this necessarily enhance its cash flow? I accept the point made by the opener that, if a company introduces an unfunded scheme in the first place, its cash flow is more favourable compared with a funded scheme, particularly because of the advance payment of tax, but I am talking about a company that changes. After all, lenders should take into account liabilities, such as provisions for unfunded retirement benefits, when assessing maximum borrowing limits; but do they? It would be interesting to know what happens in Germany, and perhaps the authors can throw some light on this.

The paper considers very carefully the benefit security aspects of unfunded schemes. On my retirement I was entitled to benefits from both an unfunded and a funded scheme. I could commute pension up to the usual limits from either of the schemes; but from which scheme should I maximise my lump sum and thus minimise my pension? The conditions regarding pensions and, in particular, pension increases, are identical. In the funded scheme security comes from the assets, and in the unfunded scheme the pension is contractual on the company. Nothing so concentrates the mind as the risk that one's pension might not be paid. The cost to the employer of having a funded or an unfunded book reserve scheme and the macro effect on the country as a whole become totally irrelevant.

There are other matters that frighten me—ideas for changing the priority clauses. You do not notice these until you retire and receive your pension. While you are working, and the younger you are, if your pension fund collapses or your employer collapses, you do have a chance of building up your pension. After you have retired, you have no chance. That might be the reason why we had priority clauses in the first place. In future, I shall be examining the accounts of my pension fund more closely than those of my former employer.

I doubt whether there can, or will, or even should be, any significant move to unfunded book reserve schemes in this country:

(1) I am doubtful of the Government making any tax changes that would facilitate this. The thrust in recent years has been to widen the tax base and reduce or even remove tax reliefs.
(2) As demonstrated by the authors, it would be extraordinarily difficult for employers to introduce such arrangements. If we were going to have book reserves in a big way in this country, we would not actually start from where we are. The Germans, when they introduced book reserve schemes, started from virtually a green field, because all of their schemes were wiped out in the great inflation in Germany, and also the consequences on German industry of the Second World War.
(3) There is the issue of employees' contributions. These could not be paid to an unfunded scheme. The majority of pension schemes in this country are contributory by employees.
(4) I doubt whether the switch to book reserves is beneficial—both from a micro single company point of view and from a macro national point of view.

Mr D. J. Parsons: Mr Greenwood claimed that the internal rate of return which a company makes on its assets was likely to be the same as that available on equities. I agree with this, but it is only in respect of its own equity, i.e. investing in its own shares. As we know, the returns on individual shares can be very different from the average return on a basket of investments. I have heard this justification for book reserving in the U.K. before by finance directors who believe that their companies had earnings potential significantly in excess of the average in the stock market. However, finance directors are not always 100% right in their judgement of the long-term position.

I recently reviewed the U.K. stock market constituents as at April 1993. This was with the intention of finding out how many of the companies were still trading. In 1893, there were 24 British and 63 foreign railway companies being traded on the London Stock Exchange. Perhaps some of these will rise again, phoenix-like. There were also sectors for 'Gas and Electric Lighting', 'Iron, Coal and Steel', and 'Tramways and Omnibuses'. There were a couple of dozen instantly recognisable names among the 'Banks', 'Breweries' and 'Financial' sectors, as well as a few in 'Commercial and Industrial', like the Aerated Bread Company, Brooke Bond, Pear's Soap, and Price's Patent Candles. Where are they now? They are mostly merged, conglomerated or just vanished.

My conclusion from this brief review is that the whole structure of the U.K. stock market, and of the employment market, has changed dramatically over the past 101 years. It may easily change just as dramatically over the next 101 years. Many apparently secure companies and industries may only be transient by comparison with the term of the pension promises they make. You only have to look at coalmining, shipbuilders or steelworks. The pensioners from those industries must be pleased that their benefits are funded.

Looking back at information on the Indices published in *J.I.A.* under John Brumwell's name, it is interesting to notice the remarkable turnover of the constituents of the All-Share Index. The average number of companies introduced each year into the classifications over the 10 years to 1992—and this is replacing ones which have dropped out—is 52; and that was whilst the total number in the classification reduced from 750 to 651. That is a drop-out rate of nearly 10% in each year, and that is just among the larger companies. I am aware that only a small proportion of these was due to insolvency, but many of the other drop outs, mostly from takeovers and relative falls in capitalisation, may well have been in situations where the security of any pension promises made using book reserves would have been greatly comprised. It seems that book reserve schemes are only as secure as their sponsoring companies.

Perhaps the solution is some form of risk insurance. However, if there is risk insurance to back the liabilities, this is only likely to provide to the members benefits which have the same fundamental shortcomings as other insurance company pension products. These shortcomings derive from the fact that these products are closely linked to yields on fixed-interest stocks rather than to much higher-yielding investments, like equities. Deferred and immediate annuities clearly suffer from this, as do personal pensions; you only need to consider what happens at retirement to see why:

(1) book reserve schemes can only be as secure as the market value of the assets wholly assigned to them, and
(2) risk insurance is only as good as the underlying insurance pension products.

The major difficulty we, in the pensions industry, face at the moment is in respect of the second of these. It is fundamental to many of the pensions discussions currently taking place in this and other places. We need the insurance industry to produce something which it has signally failed to provide so far—a viable equity-linked annuity.

Mr S. Guldberg (a visitor): I am a Norwegian actuary, but have been working with the Swedish pensions industry since 1942, and I have lived through the whole of its development. In the paper there is a reference to the German system as having had its roots in the Swedish system. One of the things missing in this very comprehensive paper is a historical reference to why the system was adopted.

Mr Langham mentioned that the Germans started from scratch. In Sweden we also started from scratch, despite staff pension schemes that had started in the 1930s. In 1960 we got a completely new social security system which took over most of the provision of pensions. This led to an agreement between the employers' and the white collar workers' organisations about how complementary pensions should be administered.

Sweden, although it is a big country close to the size of France, has only about 8 million people, so the conditions cannot easily be compared with those in this country. In Sweden it was decided that the part that was left over for the private pensions industry should be administered by a monopoly insurance company. In order that the employers should be able to invest part of the funds in their own businesses, it was decided that, under certain conditions, part of the funds could be lent back to the employers. In order to secure those funds, it was decided by the two parties to set up a scheme of credit insurance which would apply to every employer belonging to the Swedish confederation of employers; so it is more or less a statutory condition. In these conditions you can have a fixed rate of premium for credit insurance. That is one of the difficulties you would have here in the U.K. if you were to introduce credit insurance in a free market. Who is able to say that company A has a risk of 1 per mille and company B has a risk of 2 per mille of becoming bankrupt?

In Sweden they have a single rate of premium applied to every company that is accepted by the Society of Credit Insurance. Thus the good companies have been subsidising the bad companies, but there was no question of saying, "If you are a good company next year or in two years' time we may insure you". The premium rate was fixed in 1960–61 at only about 3 per mille. It is based upon experience rating and has been increased in some years to 4 per mille. The company which deals with the credit insurance is a mutual company set up by the confederations of employers and by the trade unions.

In Finland they have a similar system to that in Sweden. The Finns are clever mathematicians, and they thought they could do it better than in Sweden. They tried to introduce premiums which varied according to the solvency or economic factors of the company. That system had differentiation in the premium rates and the credit insurance company went bankrupt, being unable to withstand the recent strain on the Finnish economy. The state had to put in money in order that the employees should not suffer.

In §5.2.3, the macro-economic aspects of the book reserve system are apparently regarded as those of a pay-as-you-go system. I would refer to a very interesting lecture given in December 1992, at the centenary meeting of the Institut des Actuaries Français, in which Professor Edmond Malinvaux made comparisons between the book reserve system used in Germany and the *répartition* system used in France. He concluded that Germany industrial companies, by using the capital made available from the book reserve system, had been able to compete much more effectively than the French companies which paid pensions out of current earnings. He showed statistics explaining that the building up of funds in Germany had been one of the reasons why the German Mark, which had been in parity with the French Franc in the 1960s, had become much stronger, the relationship now being 3.4 FF to 1 DM.

Mr C. D. Daykin, C.B.: At the heart of the debate on book reserves is the need to provide security for the members of pension funds, and there are at least four different ways in which that can be achieved:

(1) through using insurance to provide the pension, as in our personal pensions and some group arrangements,
(2) to have a segregated fund which is separate from the employer,
(3) to have self investment with some sort of insolvency insurance protection, and
(4) to rely on solidarity between employers, as in the French *répartition* system.

These are probably not the only methods, but they are the four major methods which are in use in different European countries.

The book reserve system has been described by some as being akin to a pay-as-you-go system. You could regard it as having no prior funding, simply recognising the benefits as they arise, but putting a provision in the accounts to flag them up in advance, as the opener suggested, or you could think of it as full funding with 100% self investment. The German system is somewhere in between. The level of book reserves is not full funding, but partial funding with 100% self investment.

The greatest weakness of the Germany system, however, is the long vesting period. There have been, in the last year or two, very large numbers of insolvencies of companies in Germany. Somebody from the PSV quoted to me that in October 1993 there were about 5,000 companies. I asked what this had done to the finances of the PSV, and he replied that they had barely been affected, because hardly any of the companies that had become insolvent had any vested rights which were protected by the insolvency insurance. That surprised me a little. I wondered what the purpose was of having insolvency insurance if none of the insolvencies are covered by it. The Germans are very concerned, from a corporate point of view, not to reduce the vesting period, because it is one of the aspects which enables them to reduce inter-company mobility.

In the paper reference is made to my report to the Groupe Consultatif colloquium in Lisbon in 1991, with regard to Portugal and Spain. In both of those countries book reserving, or pay-as-you-go, was quite common, to the extent that they had corporate pensions, but in both countries the government is taking very strong measures to try to encourage the formation of separate pension funds through the tax incentives offered. There is a strong dislike by the governments of both countries of the continuation of book reserve arrangements.

Alternatives to the book reserve system include those referred to by Mr Guldberg in Finland and Sweden, which are separately funded systems, but with an extensive system of loanbacks to employers. That enables employers to have the use of the money from the point of view of cash flow, but at the same time there is some coverage of the security risk via credit insurance. The Swedish system has been the more robust, which partly reflects the particular nature of the Swedish pensions system. The premiums charged are not differentiated by credit risk, but there is an underwriting exercise so that the insolvency insurer does not have to provide the credit insurance, and it can require different levels of collateral. If insurance is not provided, then the loan back cannot go ahead, and the funds have to remain externally invested.

In Finland, the insolvency insurance was provided for many years by the Central Pensions Security Institute, which was a body managing the central financing of certain aspects of the pensions system. It is a mandatory second-tier system that provides earnings-related pensions, and the benefits are inflation protected. The inflation protection is operated on a pay-as-you-go basis through the Central Pensions Security Institute. The recession in Finland has been fairly catastrophic in the past three or four years. As a result, there were so many insolvencies that the credit insurance arrangement collapsed completely, as was mentioned by Mr Guldberg. This has led to the formation of a new credit insurer, with the share capital owned by the various different mandatory pension funds, and they are trying to move towards a tighter system of underwriting the credit risk.

There is some doubt as to whether this credit risk is an insurable risk. Professor Teivo Pentikäinen, who was the architect of the Finnish pension system in the 1950s, said recently that he had argued at that time that the credit risk was definitely not insurable, but nevertheless you could probably have a system which made it work, provided it was mandatory on all employers, because then the continuation of the system was secured by those employers that did survive, and you ended up with a pay-as-you-go credit risk insurance. The Finnish arrangement was set up with quite complex mathematical arrangements, as you might imagine, with an equalisation reserve, which the Professor never believed would be sufficient in a real recession. They did not envisage that a recession could occur which was as great as the one that occurred two or three years ago.

If there is going to be an insured arrangement to cover the risk of insolvency, it must either be a very tight mandatory system where everybody has to belong, or it must have the freedom to rate commercially. It strikes me as being extremely difficult really to rate the risk of insolvency and to charge premiums which are sufficient to cover the risk when you have a serious recession.

The Germans argue that their system was a major part of the economic recovery post-War, because it enabled companies to retain funds within their own organisations and to use them for building up their businesses. The example of France has already been mentioned. They could have done that, but they decided to pay pensioners a good pension straightaway, and so that meant there was an immediate transfer under the *répartition* system.

There is a case to which the working party might turn their attention if they want somewhere to carry out an experiment on book reserving; not the U.K., but Eastern Europe. What advice would the members of the working party give to the governments of the countries of Central Eastern Europe if asked the question: should we go down the route of the German book reserving system or the British separately funded system? It is a question I have often been asked. In many of these countries they have a feeling that the British system would help in developing capital markets; they want to establish stock markets which will operate properly with a good number of companies quoted and an active development of the market. They perceive that the British system has encouraged that within the U.K. On the other hand, they hear strong messages coming from Germans who also visit Eastern Europe, saying that their system is wonderful and that it enables companies in that sort of structural time of development, just after the collapse of the economy, to reinforce their own financial position and grow and be strong.

Some countries have already made their decisions. Hungary has recently introduced a mutual benefit fund law, which provides for separate funds controlled by employees rather than by employers. The Czech Republic is going down the route of a defined contribution system, again with separate funds, but with a possibility of employer control. Perhaps the most difficult one is Russia. It is still on the agenda as to what will happen there; some Russians are arguing for a German-type system, but who would like to operate credit risk insurance for Russia?

In my view, it would be unwise for us to look to book reserves or pay-as-you-go systems as a serious alternative to externally-funded schemes in the U.K. It is much more important that we work to reinforce the security of the externally-funded system we have. You will all be aware of the discussions that are going on following the report of the Pensions Law Review Committee. We expect that the Government will announce its response to those proposals before very long. The committee recommended minimum funding standards and a greater role for the Appointed Scheme Actuary. I think that it would help a great deal if there was also provision for a central discontinuance fund to cover the run off of schemes that need to be looked after because their employer has become insolvent.

In the report the committee suggested that 5% self-investment should be permitted. Should not that be regarded as a book reserve? Should it be covered by insolvency insurance? If not, why should it be counted towards the minimum solvency requirement?

Mr P. J. Nowell: Paragraph 7.3.4 shows the level of insolvencies in a recession in a 12-month period, which peaks at 2.6%. This is undoubtedly true, but the point is better made by Table 7.2 which looks at different industries. Alternatively, the level of insolvency is very much dependent on the size of the company and how long it has been formed. Many companies get into difficulties early on, and if they survive one or two recessions, they then tend to continue in business.

That is supported to some extent by looking at the levels of premiums that we are talking about in the German experience, of 2 or 3 per mille or less. A $2\frac{1}{2}$% levy for companies that became insolvent would be extremely heavy in terms of a cost per annum, indeed, even 1% would be. Also, how many of the smaller companies that have just started out have pension schemes?

There have been comments about the waiting period used in the German system; clearly that alone inhibits the number of claims. Therefore, if a properly underwritten scheme were viewed through the course of an economic cycle, then the cost of this insurance would be much less than appears superficially from the U.K. data. If we had a properly underwritten scheme or a properly priced scheme, the larger company, properly underwritten, would have quite a modest premium to pay, or a general insurance company which wrote the business would find that it could do so quite profitably at relatively reasonable premiums.

One prudent further step is that if you have a funded scheme, the actual cost of insuring would be extremely small. Experience over this recession shows that relatively few large companies have failed, and the pension schemes have caused very little trouble. Even for the Maxwell case the total cost is unlikely to be that great.

Mr I. J. Kenna: The case for book reserve schemes is well put in §5.2.6. There would be investment in real assets instead of bidding up the price of Stock Exchange securities to levels which will eventually prove unsustainable. The mining and railway industries are badly undercapitalised, but at present they are unable to use their bloated pension funds for self investment, although these funds were built up out of the mining and railway industries.

I am doubtful about insolvency insurance for book reserve schemes. Britain's present system of funded occupational pension schemes is not insured against insolvency. Who would wish to insure book reserve schemes?

The Pensions Joint Committee response to the DSS consultation papers on the Goode Report dated 28 January 1994, §5.1, reads as follows:

"Overriding legislation would need to be introduced to provide for the liabilities covered by the Minimum Solvency Standard to have priority over the winding up provisions of individual schemes. (In the absence of this, active members' cash equivalents could be disproportionately reduced in favour of pensioners.)"

Add this recommendation of the Pensions Joint Committee on to an uninsured book reserve scheme and what have we got? A pensioner living in a state of happy senility in Eastbourne suddenly receives, with his monthly cheque, a notice. "The firm has gone into liquidation. Your pension is cut."

The moral hazard of insuring book reserve schemes is even greater than that of insuring funded schemes. For example, China is another country where the firm pays the pensioners. Dalian Machine Tool Factory (DMTF) has fixed assets of 200 million yuan; 7,000 employees and thousands of pensioners. Last year 53 key employees left DMTF, set up a new firm, designed new products and received a large number of orders. This has endangered the survival of DMTF, assets, 7,000 employees, pensioners and all. The development of information technology is likely to lead to other similar situations. Key employees will ask why they should hold firms together. Book reserves are no stronger than the firms concerned.

Mr D. T. Everett: Paragraph 4.2.1 states that a funded unapproved top-up arrangement, known as a FURBS, can operate identically to an exempt approved scheme, except for certain conditions, which are laid out. A FURBS is completely different from an approved scheme, and you have to take your pension hat off in order to see the various problems that arise within it. It is an extremely difficult area, especially in the tax field.

In §4.2.1 it is stated that there are no Inland Revenue maximum benefits limits. Speaking as an actuary and not a tax expert, I believe that there are benefits limits of a sort, because clearly, if you are to pay something that is so large that it cannot be justified on commercial grounds (i.e. necessary to secure the services of the executive), then the Revenue will argue that an element of bounty is contained within the FURBS. You will then start to lose the tax breaks relative to the payment of salary.

In the same paragraph, the authors allude to an employee's contribution which could be paid out of taxed income. I believe that the last thing you should do with a FURBS is to let an employee contribute. The reason for this is simply because, if you do that, then there is a danger that the employee will become a settlor of the FURBS trust, and through that the income and capital gains that would otherwise be taxed at quite a low rate of 20–25% would then be taxed at the employee's marginal rate, even though he does not actually hold the funds to pay it.

Paragraph 4.2.8, states that, as a retirement benefit scheme, a FURBS would be subject to considerable Social Security legislation; in particular the preservation and the transfer requirements. I believe that it is through its definition as an occupational pension scheme, which is a DSS term, that a FURBS is subject to the preservation and transfer requirements. The authors suggest that, if you have set up a FURBS, you could pay the cash value of the preserved benefits to the employee. I suggest that this should not be done. Unless the payment was on the individuals' retirement it would not be a relevant benefit (as defined under the Taxes Act), and the various tax advantages that have been so painstakingly put together through a FURBS are likely to collapse. In particular, the Revenue is likely to come back and tax the income and capital gains of the FURBS at the employee's marginal rate (currently 40%). If the DSS are alert to the issue, they might ask for national insurance contributions. So you have to be very careful if you are intending to pay a transfer value to the employee. This also applies to unfunded arrangements, in §4.3.14, where it is suggested that you could pay out a transfer value. In this case National Insurance contributions may be payable on the benefit.

Also in §4.3.14, it is suggested that you could make use of the disclosure of information regulations to obtain an actuarial statement as to the level of funding of an unfunded scheme. Since there is no funding in an unfunded scheme, this would reduce to zero the transfer value otherwise payable. I do not believe that you can do this, because the disclosure of information regulations do not apply to unapproved schemes. There is a specific exemption for unapproved schemes which came in when the regulations were amended in 1992 (SI 1992/1531). If you nevertheless wish to create an actuarial statement as to the level of solvency, then you can invoke the disclosure regulations to reduce cash equivalents to zero.

Dr D. Blake (a visitor): I do not think that the paper deals with the problems of early leavers in any better way than current arrangements, in that it does not refer to any specific transfer arrangements for them. This is a major problem with occupational schemes as presently constituted, and book reserving does not provide an equitable solution either.

In Section 6.5, concerning securitisation, it is suggested that, in order to make book reserving more market orientated, you should either issue shares or issue something called ZAPS—zero coupon asset priority shares. It is unlikely that the markets would take up either suggestion. Issuing shares to securitise book reserves would clearly affect the pre-emption and non-dilution rights of existing shareholders. The shares would be very difficult to value in unquoted companies, and it is not clear how you could get a market price for those shares in any meaningful way. The ZAPS would clearly have to be issued at a very deep discount in order to compensate for the absence of dividends. Mr Greenwood spoke about market forces driving returns on securities to equality after adjusting for risk. That is clearly something that would happen here.

If these non-dividend paying securities are going to be purchased by the markets when investors could, as an alternative, buy the shares of the company and take dividends, then they would have to have a very low issue price. In that case, what is the advantage to the company from issuing ZAPS? Also, what happens on the maturity of these ZAPS? Is cash dispensed when they mature or do the investors get another ZAPS to replace the maturing one? In the former case, where does the cash come from? In the latter case, you have a series of paper promises with no cash ever dispensed. I do not believe that they would be very valuable in the market place. They are unlikely to be liquid and they would be regarded as high risk by investors. The market views zero coupon securities as the most high-risk securities of all, with prices being very volatile.

Neither the shares nor the ZAPS deal with the first important lesson of modern finance theory, which is risk diversification. It would be regarded as very bad investment advice to suggest that investors, or indeed pension scheme members, put their assets into a single share or into a single ZAPS. Risk diversification, both nationally and internationally, is a good way of diversifying risk without sacrificing return. Neither the shares nor the ZAPS do this. I do not believe that they provide a solution to the problem of lack of marketability in book reserve pension schemes.

Mr P. N. Thornton: The paper indicates that we could introduce some kind of book reserve system. There may be practical problems, but there is a more fundamental question: why should we bother? What is wrong with what we have?

There are two things wrong with what we have:

(1) The Maxwell case has reminded us that where there is real money around there is a real risk of theft.
(2) Employers have been too much in the grip of investment volatility. They have seen pension costs and pension contributions swing painfully high and embarrassingly low; they have been embarrassed into ratcheting up the benefits of schemes by what, effectively, are windfall surpluses for the members of schemes. Employers do not feel that they have as much control over pension costs as they would like.

A book reserve regime seems to go some way towards addressing both of these issues. Security, admittedly, is provided in a different way, but surpluses and deficiencies on some book reserve systems do not seem to arise. Presumably employers' costs are rather more stable than with an external fund of assets. That may be a false conclusion, and it is well worth some further research to establish if it is a fair conclusion.

Mr P. D. G. Tompkins (closing the discussion): This paper is especially interesting on two counts: for its informative description of the way in which the book reserve and insurance insolvency systems work in Germany; and for the ideas on how a new structure might be manufactured for similar effect in Britain.

When considering the design of pension arrangements, we must remember that we are paying today's pensions out of today's earnings. These different approaches all have that as their ultimate goal. We are considering the efficiency of doing that, and how best to provide for the security of people's future pension income.

The paper focuses on four impacts of the development of book reserve schemes:

(1) the impact on the provision of funds to companies and the effect this would have on the economy,
(2) the impact that book reserve funding would have on corporate costs and business profits,
(3) the impact on the security of benefits for employees, and
(4) the impact that the structure described would have on us in the actuarial profession.

We have not discussed this last effect, but it is well covered at the end of the paper. There are many issues, and the paper draws in a good number of aspects of our profession; from those who might be pricing insurance to those advising on the cost of benefits.

Historical accident bedevils pension mechanisms throughout the world. Mr Guldberg gave us the benefit of his experience in Sweden, where co-insurance was set up, requiring Swedish employers to mirror nationally-agreed benefit terms and to cross-subsidise without individual assessment of risk. There was very little variation of premium rates from 3 to 4 per mille over many years. Mr Guldberg and Mr Daykin drew our attention to the experience in Finland, where the credit insurance collapsed. Mr Daykin suggested a number of other countries to examine in this enormous field—not least in the establishment of Eastern Europe's capital markets.

Germany, taken for contrast in this paper, found book reserves to be an excellent model for an economy starting again from scratch after the War. It is not insignificant that both the pension structure and the economic structure had to be developed in parallel, and the table of insurance costs given in §3.6.10 shows how remarkably successfully this has been. Even at the worst the premium rate did not exceed 1% of the book reserves. Some have said that that is large, but we need to hold that in our minds as we think of the alternatives.

The comments in Section 5.2 come to the heart of the economic question—that is, whether the arguments are correct that the book reserve system provides companies with a cheaper source of capital. Is access to their own capital—and the reduced administrative cost of not having to invest externally—a more efficient way of allocating resources than our own method of external investment in other people's businesses? If the extra rate of return is more than 1%, then the insecurity measured by the cost of insolvency will be outweighed by the greater economic performance. Mr Nowell suggested that even 1% would be rather high; but his comments were welcome, drawing attention to the lower likelihood of a small employer—the kind more likely to become insolvent—having a pension scheme. Indeed, the losses of funds of the late Mr Maxwell's company schemes, already substantially recovered, amounted to less than 0·1% of pension funds in total in this country.

Our perception that benefit security has a high priority was challenged by Dr Tutt. The work over the past two years on the Maxwell schemes has raised our awareness of security, leading to the Government-sponsored Goode Committee on the operation of pension funds. Mr Langham's comments on priorities echoed Mr Stewart's concern about the current priorities of approved funded schemes. The older you are, the more crucial security is to you.

Mr Greenwood drew our attention to the significantly greater return perceived on direct investment—for example, through book reserves—and suggested that the market should equalise these returns. However, I doubt that this is true. Capital is not invested equanimously between stocks and shares and direct investment. Mr Parsons suggested that finance directors are unduly optimistic about the returns they can get on the investment of funds within the business, but if this were true the directors of large companies would invest in shares rather than factories and businesses. Also, stock market investment rarely produces new capital. Much of the cost of investment is taken up in the administration, the charges and the costs of pension funds buying shares from each other. For example, at the moment the annual investment of U.K. companies in U.K. shares is something like 2½% of gross domestic product. The amount actually being raised in capital is only about 1%, the other 1½% being used to bid up the price of stocks and shares on the markets. Mr Kenna echoed these thoughts in his comment on the need for direct investment, although he gave a cautionary tale from China.

Much further work is needed on the economic consequences, and the working party on which I serve, under Professor Moore, considering the macro-economics of pension funding, hopes to be able to gather sufficient data to examine this important aspect. It seems that developments in Eastern Europe are proceeding on the basis of how strongly we, the Germans, and others promote our own ways of doing things. You have given us many ideas for our working party, and we will try to take up some of them. Mr Langham suggested immunisation. I wonder how much work in examination of the consequences that would involve us in. We might leave that to one side until later in our project.

The discussion in Section 6 about the structure of the introduction of a book reserve system makes fascinating reading. The complexity of the securitisation idea under the acronym ZAPS was imaginative, and Dr Blake spoke about some of the practical implications of these securities. Their risk and liquidity would make their pricing and the development of an adequate secondary market doubtful. I agree that this route is unlikely to be adopted in practice. As a profession, we would probably need to follow the Germans in setting a prescribed approach to calculating the tax deduction. Unlike the opener, I believe that we would need to limit both benefits and the tax relief. There would, inevitably, be a conflict, too, between the strength of such a statutory actuarial valuation method and the premium rate which would be needed for the insolvency insurance.

The major problem undoubtedly is insurance, and Mr Greenwood has spoken of his belief that it is only successful in Germany because the tax regime there encourages book reserves as the main vehicle for pension provision. Mr Stewart saw this problem as central to the paper. He drew our attention to the rejection of the strongest compensation proposals in the development of the Goode Committee's ideas. He rightly drew our attention to the need for tight control of other aspects of the funding process.

We should particularly welcome the emphasis on making book reserve schemes an option, to compete with the other systems, including our own funded approach. The European Union has proceeded very slowly towards any harmonisation, and I doubt that harmonisation will ever be a sensible goal for pension provision in Europe. What is needed is mutual recognition of different systems, and greater freedom within each member state to copy what is done in the others. Mr Thornton was right to question our need for book reserves. I think that the development of the European Union gives us the answer.

To this end the vesting conditions throw up sharp differences between the approaches in one state and another. Mr Daykin drew attention to the value this has to German companies, both to discourage mobility and to save on the costs of pensions. German vesting requires more than 10 years with the company, compared with only two years' scheme membership in the U.K., where the deferred pension is then indexed in line with prices up to a ceiling. Without agreement on suitable standards, there may be a temptation for cross-European companies to adopt the weakest funding and vesting approaches.

Another aspect is the effect our different approach to the level of calculated liabilities has on our capital markets. The authors produce some comparisons with SSAP24 to suggest that 'realistic' liabilities are 120–140% of book reserves. What effect do these differences have on the cross-border allocations of investments?

In one respect the book reserve approach, described in Section 8, would represent a fundamental change. This is that the discretionary benefits which trustees can provide through our funded schemes would no longer apply. The authors suggest that it would be in the employer's interest to operate the scheme on a non-contributory basis, because employees would be less willing to contribute if the sums they pay go straight into their employer's business. This would make it clearer that it is the employer providing the benefits, although it might encourage a lack of association by the member with the scheme.

The Institute for Fiscal Studies has looked at the whole question of different tax provisions for funding or for reserving in different European countries, and some development of mutual recognition of fundamental structures, where tax relief is given, is needed if we are going to see more developments on a cross-European basis.

Mr Langham shared with us the benefit of his own experience. Perhaps the issue of approved rather than exempt approved schemes is one that needs further examination. His own examination of his book reserve is interesting, but I would like to have known how large and significant that was within the whole business. Could it have been replicated for all employees?

Coming at the time it does, with so many considerations of solvency following the Goode Report, I was interested to draw a parallel with the freedom that the Government has provided for unapproved pension benefits in addition to approved schemes. I was surprised that the Goode Committee said that it wanted all approvable benefits to be funded. In other words, it felt that we should stop people having a book reserve if they could fund. Such a wish stands as an antithesis to the work of this paper and does, I think, represent an unreasonable restriction on the freedom that an employer should have to provide benefits from his own resources without the benefit of tax relief.

However, we have to remember that we are talking in a climate where self-investment is seen to be a dangerous way of handling future benefits. Admittedly, 5% is allowed—although if the Goode Committee proposals are developed, they should exclude this from their solvency test.

The President (Mr L. J. Martin): The authors are to be congratulated on having brought to us a most comprehensive paper. It deals not only with the question of the financing of retirement benefits by means of book reserving, but touches also upon the macro-economic effects of different financing methods, and the possible development of unapproved pensions in the U.K., which appears to be resulting from the 'earnings cap' imposed by legislation on pensionable remuneration.

To some extent the different methods adopted by different countries to finance retirement benefits of all kinds, state, company and private arrangements, have resulted from politics and wars as much as from economic background and technical advice. In the U.K., Commonwealth countries and the U.S.A. company pension funds are the norm. In Germany book reserves are commonplace, whereas in other European countries there is a whole galaxy of different arrangements in use.

It is important that, in this country and in the rest of Europe, we should be examining all these various financing methods to ensure that we are following sensible and safe routes which work to the best advantage of the economy of each country and of individuals and of members of the pension schemes concerned.

The paper is of use today, and will be of substantial use in the years ahead as a paper for reference when, without doubt, the economic and social effects of the adoption of various methods of financing will become more and more apparent and will be increasingly compared and contrasted. A great deal of thought and work has gone into the preparation of this paper for which we are much indebted. I ask those present to join me in thanking and congratulating the authors.

Mr D. C. Mason, F.F.A. (replying): The working party studied both of the papers of which Mr Langham was part author, and which appear in the references in our paper, before we started on our work. The hostile reception which the 1970 paper received was, I felt, very much based on the same problem as we have discussed here; namely, the security to the members in the pension scheme if the book reserve approach was adopted. Having looked at the papers, we had come to the conclusion that the approved unfunded scheme had lost its attractiveness over the period since the initial research, and therefore one of the things we will do is go back and re-evaluate our conclusions in that area.

The opener asked why we had abandoned the pure book reserve approach. Other speakers have given the answer, which is that, if we really wanted a book reserve system, we would not start from where we were now. He also provided the answer partially by elaborating on the abuse of tax relief which he felt was inherently worse under the book reserve approach. The working party fully tackled this in Section 6.1 before it went on to the hybrid approach that we suggested.

Concerning the impact on pension scheme members, the opener disagreed with the conclusions of the working party in that he felt that §§8.4 and 8.6 actually led him to feel that book reserves were of more interest to the members than we did. We felt that the loss of transparency was a serious problem. Also in this area, Dr Tutt challenged us as to whether we felt that the distrust in the environment of the U.K. pension industry between scheme members and employers and trustees was as strong as we had suggested. That is our feeling, which is why we think that the German system could not be replicated here, and we think that an example like the NAPF's reaction to proposed compensation schemes is just one indication of where there might be problems.

Various important contributions have been made on Section 7, on insolvency insurance. We are particularly interested in the comment from Mr Daykin and his discussions with Professor Pentakäinnen on the Finnish system, that the credit system they were devising could not survive a recession. That echoed the views we received from the general insurance practitioners whom we consulted; namely, that this was not an insurable risk, because it was driven by general economic factors, and you could not have a spread of potential claims that you could value. For that reason I am encouraged, but also surprised, by the comment from Mr Nowell that he felt it was a very viable approach. It might be that his employer is one of the companies that would be interested in making a market for us.

WRITTEN CONTRIBUTION

The authors subsequently wrote: In response to Dr Blake's comments on ZAPS we would make four main points:

(1) As Dr Blake points out, the aim of the securitisation part of our paper was to orientate the book reserve approach to the conditions which occur within the United Kingdom. Our pensions market has developed on the back of stock market instruments, whereas the German book reserve system has developed without this. Securitisation was considered, as this might bridge the gap between the two approaches.

By issuing ordinary equity shares the employer would be limiting the total book reserve within his balance sheet. It is to be assumed that, since the shareholders own the company, that no 'manager' would issue shares without securing the backing of the existing shareholders to the action. Obviously it is here that pre-emption rights would be discussed.

(2) The shares of unquoted companies are notoriously difficult to value. It is for this reason that the working party considered that an alternative to ordinary equity had to be developed. The alternative proposal was ZAPS.

The ZAPS would be issued to the trustees to increase the security of their investment within the employer. The security of the investment is increased, because the ZAPS would grant the holder greater priority to the assets of the company if this company were wound up. (Perhaps the major financial effect here would be that the banks would rank lower than the ZAPS holder in a liquidation/receivership.)

It should be noted that the ZAPS do not have a maturity date.

(3) A secondary market in ZAPS would only be created if trustees wished to diversify their portfolios due to perceived risk. The value that would be placed on ZAPS by a third party would presumably be similar to the value placed on an option. The investor would be willing to pay that amount which he considered represented the present value of the amount that might be received on the company winding up, subject to a probability that the company was going to wind up. One class of investor who might wish to purchase such securities might be a creditor of a company who considered that the company was getting into difficulties. Dr Blake is correct in that the third party investor is taking on a high risk investment and that ZAPS prices would be quite volatile. This is the case for options.

(4) Dr Blake raised the question of risk diversification. It might be considered as bad investment advice for an individual to purchase a single security. If, however, pension schemes were allowed to operate book reserves, then the pension scheme would be doing this. Trustees in such a situation might or might not wish to diversify further. Diversification would, however, not be possible unless the trustees had some form of security which they could trade to third parties. From a third party investor's point of view, investment in ZAPS might be a counter-weight to the risk of investing in a company which is in difficulties.

The working party did not consider that they had solved the whole problem of marketability or securitisation for book reserve schemes. However, it was thought that the proposals put forward were worthy of consideration.

Regarding Mr Langham's comments that approved unfunded schemes still remain a viable approach, we would have to say that technically it would appear that they do—but only just, and this may be because their numbers are so very few (and normally covering single employees or directors) that the Inland Revenue have not felt it worthwhile devoting any attention to them. The technicality is that Section 592 of the Income and Corporation Taxes Act 1988, as amended in the Finance Act 1993, made it clear that tax relief would be given only if contributions were actually *paid* into approved schemes, but Section 592 only refers to *exempt* approved schemes. Therefore, for schemes which are simply approved, there is no legislation to prevent tax relief being given by the local Inspector of Taxes on the notional annual costs under the normal rules of Schedule D. However, it would be for the Inspector to decide whether relief should be granted on such an annual amount being notionally set aside in a book reserve, and consideration at least would be given as to whether all the tests set out in the case of Owen v Southern Railway of Peru Ltd. had been satisfied.

Finally, as regards the question on whether lenders in Germany take the differences between the book reserve and the SSAP24 assessment into account when granting credit, we have not been able to establish a clear answer. It would seem that banks are aware of the differences, and so it may have a bearing on the decision to grant credit, but very rarely are enquiries ever made to determine what the actual differences in the assessments of the liabilities are.

Although comments and questions were raised with regard to some other issues, our lack of response must be considered wholly as a consequence of time pressures, and most certainly not because we felt that response was not required or merited. Indeed, we were heartened by the reception which the paper received at the meeting and we hope that perhaps more time can be spent developing various aspects.