Hybrid pension plans: UK and international experience

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A report of research carried out by Hewitt Bacon & Woodrow on behalf of the Department for Work and Pensions
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Summary

**Introduction**
This research report is one of three projects commissioned by the Department for Work & Pensions (DWP) into hybrid or risk sharing pension plans. The main objective of the research is “to increase the knowledge of risk sharing and hybrid pension plans compared to traditional final salary and pure defined contribution plans; and to promote discussion and better understanding of these within Government and the wider pensions world”.

**Definition**
In this report we define hybrids as “private pension schemes which are neither pure Defined Benefit (DB) nor Defined Contribution (DC) arrangements, where pure DB arrangements are taken to mean final salary pension schemes”. The following types are included as hybrid plans:

- Career average and CARE (Career Average Revalued Earnings) plans.
- Sequential hybrids, where a member may e.g. join a DB scheme after a period of DC membership.
- Combination hybrids, where a member is accruing both DB and DC benefits.
- Final salary lump sum plans.
- Self-annuitising plans, where a DC plan offers an in-house annuity option (rather than an open market option).
- Underpin arrangements, where the benefit is calculated as the better of e.g. a DB or a DC benefit.
- Cash balance or retirement balance plans.
**Cash balance plans** Cash balance plans are an emerging type of hybrid plan in the UK and are rather different from many of the hybrids considered above. There is a single scale of benefits incorporating risk sharing between sponsor and member. These plans may be referred to as shared risk plans, cash balance plans or retirement balance plans. The member’s benefit is typically an entitlement to a capital sum at retirement which is converted into an annuity in a similar fashion to DC plans. However unlike DC plans, the amount in the member’s account is not directly related to the returns achieved on the underlying assets, but it may be guaranteed or smoothed or subject to some form of underwriting by the sponsor.

**Risk attribution and pensions** All pension arrangements are premised on the payment of income at a future date. The effect of unknown future events, between the date the promise is given and the date it is delivered, means that all pension promises are affected by these future events. One way of characterising different pension plans is by looking at who bears the consequences of that unknown future experience – be it good or bad. This risk allocation is illustrated in Diagram A and Table A below: both are simplified versions with full details in the body of the report.

**Diagram A: Risk Spectrum for Scheme Design**

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**Pension Risk Spectrum**

<table>
<thead>
<tr>
<th>Sponsor Takes All</th>
<th>Member Takes All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lump Sum Final Salary</td>
<td>Self Annuitzing DC</td>
</tr>
<tr>
<td>Final Salary Pensions</td>
<td>Defined Contribution</td>
</tr>
<tr>
<td>CARE Plans</td>
<td>Career Average</td>
</tr>
<tr>
<td>DB Underpins</td>
<td>DC Underpins</td>
</tr>
<tr>
<td>Sequential Hybrids</td>
<td>Combination Hybrids</td>
</tr>
<tr>
<td>Cash or Retirement Balance</td>
<td></td>
</tr>
</tbody>
</table>

Who bears the risks under the plan?
Table A: Risk Attribution in Pension Plans

<table>
<thead>
<tr>
<th>Risk Feature</th>
<th>Investment</th>
<th>Annuity Conversion</th>
<th>Salary Inflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Salary Pension</td>
<td>Sponsor</td>
<td>Sponsor</td>
<td>Sponsor</td>
</tr>
<tr>
<td>Final Salary Lump Sum</td>
<td>Sponsor</td>
<td>Member</td>
<td>Sponsor</td>
</tr>
<tr>
<td>Career Average/CARE</td>
<td>Sponsor</td>
<td>Sponsor</td>
<td>Member</td>
</tr>
<tr>
<td>Sequential Hybrid</td>
<td>Both</td>
<td>Both</td>
<td>Both</td>
</tr>
<tr>
<td>Combination Hybrid</td>
<td>Both</td>
<td>Both</td>
<td>Both</td>
</tr>
<tr>
<td>Final Salary Underpin</td>
<td>Sponsor</td>
<td>Sponsor</td>
<td>Sponsor</td>
</tr>
<tr>
<td>DC Underpin</td>
<td>Member</td>
<td>Member</td>
<td>Member</td>
</tr>
<tr>
<td>Cash Balance</td>
<td>Sponsor</td>
<td>Member</td>
<td>Member</td>
</tr>
<tr>
<td>Self annuitising DC</td>
<td>Member</td>
<td>Sponsor</td>
<td>Member</td>
</tr>
<tr>
<td>Defined Contribution</td>
<td>Member</td>
<td>Member</td>
<td>Member</td>
</tr>
</tbody>
</table>

Drivers of change for UK plans

The popularity of cash balance plans in the UK may increase as a result of dissatisfaction from employers with the polarised designs of final salary and DC plans. Final salary plans have suffered from significant cost pressures, as a result of:

- Lower interest rates and lower (or negative) investment returns.
- The impact of improved longevity.
- Tax changes.
- The conversion of discretions into guarantees and progressive improvements in benefits.

Many employers have closed their final salary schemes to new entrants and offer DC schemes instead. However a number of issues have emerged which point to potential problems ahead:

- Low contribution levels and low member take up rates.
- Vulnerability of members’ retirement plans to stock market conditions, which may hinder employers’ workforce management.
- Lack of ability or willingness of members to take suitable DC investment decisions.

Cash balance solutions

Whilst cash balance plans require a sponsor to take on greater risks than pure DC plans, UK employers may be prepared to take on this additional risk:

- The investment risk is less onerous than in a defined benefit plan. The timescale for investment is shorter, and matching investments may be available.
Employers may seek to regain discretion in funding; there may be an intended level of benefits, but the legal obligation may be for something less. The discretion may provide the ability to weather adverse market conditions.

Employers do not have to take on pension liabilities that are affected by future improvements in longevity. They may subsidise annuity conversion terms in ways that more closely suit the business needs.

A uniform cash balance scale may help reduce the HR and potential legal issues involved in operating a generous closed final salary scheme and a low-cost open DC plan for different sections of the same workforce.

Global context

In addition to the UK, we have looked in depth at four selected countries which illustrate particular themes about hybrid plans. A key learning point is that design is heavily influenced by local legislation, and if any of the following scheme design features are prevalent, they usually arise from local legislation:

- The level of flexibility in features such as contribution rates and investment options—how much individual choice is allowed?
- A minimum guaranteed investment return.
- The form of the benefit payable, i.e. lump sum or pension.
- The retirement age, and perhaps the early retirement options, particularly in countries where the State pension is significant.

US hybrids

Cash balance plans (the most common form of US hybrids) have been introduced since the 1980s, because they are perceived as being better understood and appreciated by employees (a “pot of money”) than a traditional final salary scheme. About a quarter of major US employers now offer such a design.

Swiss hybrids

Plan design in Switzerland is in practice less varied than in the UK or US. Virtually all plans are effectively hybrid plans because of legislation: DC plans are required to offer a guaranteed minimum annual investment return, and DB plans are subject to a DC “underpin” on a certain slice of salary.

The guaranteed investment return in a DB plan may be underwritten by an insurance company if the plan is insured, which means the plan is hybrid for the employee, even
though from the employer’s (accounting) perspective it can be regarded as a DC plan.

**Dutch hybrids**

50% of Dutch employees were members of final salary plans in 2003 but this declined to 10% in 2004. Employees are increasingly being given revalued career average benefits, or “combination” hybrids offering revalued career average benefits up to a salary limit and DC on salary over the limit. In many schemes “conditional indexation” of pensions takes place, under which indexation is only given if financial conditions permit.

**Belgian hybrids**

Legislation in Belgium has led to the majority of plans being hybrid plans. From 2004, all DC plans have to offer a guaranteed minimum annual investment return. Also, most DB plans now define their benefit in lump sum terms (similar to US pension equity plans), thus transferring the post-retirement mortality risk to the employees.

**The growth of other hybrids in the UK**

Some of the key drivers for the growth of cash balance plans were described earlier. Brief summaries of the factors affecting growth of other types of hybrids are as follows:

- Career average plans – where companies still want to offer defined benefit plans, but at a lower cost (for the same accrual) than final salary. May include greater elements of discretionary benefit. Likely to be found amongst the larger private sector employers and the public sector.

- Final salary cash plans - growth prospects are muted.

- Sequential hybrids - will decline if more DB plans are closed to new entrants.

- Combination hybrids - probably companies who are reluctant to abandon DB provision but who need to reduce their overall risk profile. Hence combinations of reduced accrual DB topped up by DC contributions.

- Underpin plans - the main attraction of these plans will continue to arise from the financial options surrounding contracting out of the State Second Pension (S2P).

- Self-annuitising DC plans – no major growth prospects, if concerns about increasing longevity continue.
**Legislation**

Legislation can be a driver that either stimulates or discourages the development of hybrid plans. Current issues that are of concern in the UK at the time of drafting include:

- Statutory indexing of pensions in payment.
- Employment protection and discrimination issues.
- The treatment of discretionary benefits in relation to funding and disclosure to members.

**The future?**

The growth of hybrid plans in the UK is unlikely to be as dramatic as the growth in DC plans, because of the different drivers. The move to DC was part of a global trend, driven largely by financial considerations, as sponsors sought to take control of both the volatility and the overall cost of their defined benefit plans. Sponsors may be reluctant to move back to a position of taking on corporate risk in relation to employees’ pension promises. However many of the factors that may lead to a greater prevalence of hybrid plans stem from the very uncertain outcomes inherent in DC plans and the volatility of members’ accounts (where they follow equity-orientated strategies designed to maximise their future pensions):

- Some sponsors will be reluctant to pass on the investment risk to employees and so will offer career average, cash balance or combination plans instead. This could lead to a more balanced sharing of risk between sponsor and employee.
- Concerns about the susceptibility of members’ retirement dates to market conditions, may persuade DC sponsors to take on limited amounts of pension risk.
- Government may wish to consider whether the variability of DC plans is acting as a disincentive and that individuals are being discouraged from saving sufficiently for their own retirement.
- Members themselves, and their trade unions may reject DC benefits; labour market pressures may lead to some more controlled outcomes through hybrid plans.

The growth of hybrids may come from a variety of directions, with global precedents for each of the main forces of change. The moves away from the polarised scheme designs of pure final salary and pure DC look set to continue.
1 Introduction and Definitions

**Introduction**

This research report is one of three projects commissioned by the Department for Work & Pensions (DWP) into hybrid or risk sharing pension plans. The main objective of the research is “to increase knowledge of risk sharing and hybrid pension plans compared to traditional final salary and pure defined contribution plans; and to promote discussion and better understanding of these within Government and the wider pensions world”.

The other two projects are:

- Comparing Pension Outcomes from Hybrid Schemes, Dr Deborah R Cooper of Mercer HR Consulting (2005).

- The Optimal Allocation of Pension Risks in Employment Contracts, Dr David McCarthy of Tanaka Business School (2005).

All three projects are summarised in the DWP Publication: Risk Sharing and Hybrid Pension Plans (2005).
Terms of Reference  The detailed terms of reference for this project were as follows:

- A *structured descriptive account of the various types of hybrid plans that exist in the UK and other countries, with particular reference to the risk allocation and incentive effects around these schemes.*

- *Finding out the conditions that led to the adoption of these arrangements and their overall perception by firms and workers. In practice, what are their perceived advantages and disadvantages for employers and employees?*

- *An account of the regulatory and tax environments within which such arrangements operate, and how this has affected their design.*

- *The potential implications of the above findings for the UK, and an assessment of how hybrid schemes may develop in future in the UK.*

Structure of this report  After discussions with the DWP and refinement of the initial terms of reference, this report considers the following areas:

- We start with some definitions of the various types of plans that could be categorised as hybrid plans.

- We then provide examples of each type of plan.

- Theoretical issues concerning the operation of pension plans generally, and particularly in relation to the risks carried by sponsors and members.

- Practical issues concerning the operation and development of hybrid plans.

- Further consideration of hybrid plans in the UK.

- Consideration of hybrid plans around the world, with particular reference to five chosen countries.

- Views on the factors influencing the development of hybrid plans in the UK.

The Appendices provide further information on the five selected countries, together with further detailed information and development of one technical issue.
In order to make progress with the analysis of hybrid plans, it is first necessary to define them. One of the issues in the analysis of these plans is that there is no consistent recognition or allocation of the various types of plan designs as hybrid plans. For the purposes of this report we follow the original terms of reference which described hybrids as “private pension schemes which are neither pure Defined Benefit (DB) nor Defined Contribution (DC) arrangements, where pure DB arrangements are taken to mean final salary schemes”. The only amendment we would make to this definition is to add the word “final salary pension scheme”; as discussed later, there are schemes which deliver final salary benefits but in lump sum form.

It is instructive to consider the references to hybrid schemes in (UK) legislation and other reference sources, such as accounting standards. The key references under legislation extant at the date of drafting this report are set out in Appendix A. Note that these references exclude the Pensions Act 2004 and regulations made under it.

From a review of these references it is clear that there are inconsistencies of approach and definition in relation to hybrids, with no one clear definition dominant. The references in the existing DWP legislation tend to be based around schemes which have more than one type of benefit scale. The tax legislation now incorporates a reference to the risk sharing type of hybrid discussed later. Accounting rules are concerned primarily with the extent to which shareholders are exposed to risk or uncertainty as a result of the plan design offered.

In this report we use the terms plan or scheme interchangeably and no significance should be attached to the description of any arrangement as a plan or a scheme. It should be noted in passing that in some countries – such as the US – the phrase scheme is avoided because of negative connotations – e.g. scheming or a device. Equally we refer interchangeably to the sponsor of a plan, the employer under a plan or the company offering a plan.
Exclusions

The definition we have chosen means that we exclude the following types of plan from the consideration of hybrid plans:

- All final salary pension plans - even though in the UK context it is the norm to find that final salary plans have a Defined Contribution (DC) component in the form of Additional Voluntary Contributions (AVCs).

- All pure DC plans - even if the risk benefits (i.e. benefits on death or disability) are on a defined benefit basis, as is typically the case. We do however include in our consideration of hybrids a type of DC plan called Self-Annuitising plans, as described in the next chapter.

- Pension arrangements offered by sponsors with two or more benefit scales but where any individual member is expected to be in final salary or DC for their entire career. For example a common UK pattern in recent years has been to close a final salary plan scheme to new entrants; existing members continue to accrue final salary benefits, whilst new entrants are in a DC scheme for their entire career.

Our chosen approach leads to the inclusion of a number of different types of hybrids as in the next chapter.
2 Hybrids Considered

The types of plans considered are placed very much in the context of UK pension provision at the start of the 21st century, but with reference to global issues concerning hybrid plans. Having excluded the two main types of plan which have dominated UK occupational provision to date (i.e. final salary and DC) we have included those types of designs which are both less common and which incorporate elements of different risk profiles for both members and sponsors. Specifically the following types of plans are included as hybrid plans:

- Career average plans and CARE plans
- Sequential hybrids
- Combination hybrids
- Final salary lump sum plans
- Self-annuitising DC plans
- Underpin arrangements
- Cash balance or retirement balance plans

We consider each of these briefly below.
**Career average and CARE**

Career Average plans are a type of Defined Benefit (DB) plan, offering a pension benefit on retirement. The benefit is based not on the earnings close to retirement, but on the earnings throughout the member’s entire period of membership.

There may be revaluation of the covered earnings in line with an index, such as the RPI or National Average Earnings. This revaluation may be provided on a contractual basis under the plan, or may be provided on a discretionary basis. Plans with revaluation of the earnings are now often referred to as CARE plans – Career Average Revalued Earnings plans – or Indexed Pension plans.

**Sequential hybrid**

Sequential hybrid plans are those where a member may be in two separate arrangements during his period of membership, but with distinct benefit accrual at any point in time. One example of this would be what are often referred to as “nursery schemes”. On joining a company the new member may be offered DC benefits for, say, the first 5 years of his career. After five years, if still with the company, the member is offered membership of a final salary or CARE scheme for subsequent years. There are different treatments in relation to the accrued DC benefits at this stage. The trigger for switching from DC to DB may be a period of service, or it may be a particular age e.g. 35 years.

A rather more unusual example of a sequential hybrid might arise in the post - April 2006 tax environment. Members remaining in service after their final salary benefits have crystallised (because, for example, they have reached NRA but wish to remain in service, or they have started to draw benefits whilst in service) may be offered a DC benefit for their subsequent membership.

**Combination hybrids**

Combination plans are those where benefits accrue on two scales simultaneously – for example DB for part of benefits and DC for the balance of benefits. Combination plans typically operate on one of two approaches:

- A DB benefit is provided on a tranche of earnings – up to £x pa of pay where x may equal the LEL, the UEL, the Earnings Cap etc. On earnings in excess of this pay level, DC benefits are offered.

- A small DB benefit is offered in addition to a small DC benefit, in respect of all pay. “Small” here would be measured in comparison to the level of benefits which might be offered for DB or DC in isolation.
Sequential and combination plans are illustrated in Diagram 1 below.

### Diagram 1: Sequential and Combination Hybrids

#### Sequential Hybrids
- **Defined Contribution**
- **Final Salary**

#### Combination Hybrids
- **Defined Contribution**
- **Final Salary**

**Sequential & Combination plans - comment**

Sequential hybrids have arisen in some cases as an interim option where the final decision to close a final salary scheme to new entrants has not yet been taken. Sequential hybrids are also used when an employer has a high turnover of short-term staff, where DC may be a better scheme design for these short-term employees as well as a cheaper option for the employer.

Combination hybrids are sometimes found where an employer wishes to offer an element of defined benefit, but at lower overall exposure than the traditional $\frac{1}{60}$th accrual. Hence a lower accrual final salary plan is provided together with a DC top up in addition – the design may be, for example, $\frac{1}{80}$th accrual plus a DC scale of up to 4% of pay.

**Self annuitising & lump sum final salary plans**

These two types of plan have similar characteristics in that the allocation of mortality risk differentiates them from their more “traditional” DC and final salary pension respective counterparts. In a self-annuitising plan, the sponsor takes on the annuity risk at the point of retirement by offering rates of conversion into pension within the plan, rather than requiring the member to purchase an annuity in the open market with his DC “pot”. The plan therefore
switches from DC to DB at the point of retirement. By contrast in a lump sum final salary plan, the nature switches from DB during active membership to a DC basis at retirement, when the member purchases an annuity with his (defined) lump sum.

**Final salary lump sum plans**

In this type of plan the retirement benefit is expressed as a lump sum rather than a pension – e.g. 20% of final pay for each year of membership. The benefit may then be exchanged for a pension at the prevailing annuity rate. The “hybrid” nature of this scheme arises from the fact that increasing cost of annuities does not increase the overall cost of such a scheme; what happens is that the annual retirement pension bought by the lump sum is reduced proportionally. The sponsor does not accept the post-retirement mortality risk, but does accept the pre-retirement investment risk (see later). This is the opposite configuration from the self annuitising plan, where the sponsor does take on annuity risk, at the point of retirement but does not take pre-retirement investment risk.

**Underpins**

We refer to Underpin plans as those where the benefits for a member are calculated on the basis of the better or best of two (or more) scales. So, for example, a DC plan may have an underpin calculated on a DB scale; when the DC benefit crystallises, it is compared with the promised defined benefit, and the greater amount is payable. Equally in a traditional final salary or DB plan, there may be an underpin that the benefit on early leaving is subject to a “value for money” guarantee: the value of the final salary benefit will be not be less than a DC benefit calculated on the basis of a multiple of member’s contributions accumulated with interest. More complex benefit calculations are also possible.

**Underpins – comments**

It can be quite a fine line to attempt to categorise or characterise underpin plans, in terms of their hybrid nature. For example in the above we talk of DC plans with a DB underpin, or vice versa. Which of the two benefit scales is the “dominant” one may be obvious when a scheme is introduced, but the reality may change over time, as economic and financial conditions change.

As an example some DC schemes incorporated what they felt were very “modest” DB underpins. Against a background of the 1990s – very high rates of investment return and moderate annuity rates – the incidence of these underpins biting may indeed have been few and far between. If we roll forward to early 2000’s – negative or low investment return
and dramatically increased annuity rates – the underpins may be biting to a much more material extent. The scheme may have, in effect, become a DB scheme with a DC underpin!

**Shared risk plans**

In many of the cases of hybrids considered above there are two “conventional” scales of benefits which may apply to part of a member’s benefit calculation. In other words there are conventional DB and DC components which are then assembled in different ways to provide the member’s eventual benefit.

One emerging type of hybrid plan in the UK is rather different from the other hybrids considered above, in that there is a single plan or scale of benefits incorporating risk sharing between sponsor and member. These plans may be referred to as shared risk plans, cash balance plans or retirement balance plans. There is now a reference to cash balance plans in the tax legislation, as described in Appendix A.

**Cash balance plans**

In a cash balance plan, the member’s benefit is typically an entitlement to a capital sum at retirement which is converted into an annuity in a similar fashion to DC plans. However the differentiating characteristic is that, unlike DC plans, the amount in the member’s account is not directly related to the returns achieved on the underlying assets, but it may be guaranteed or smoothed or subject to some form of underwriting by the company. There are significant variations in the types of guarantees offered, and the terms for annuity conversion, which lead to these cash balance plans looking progressively more like defined benefit plans or like defined contribution plans.

**Retirement balance**

The phrases “retirement balance” or “retirement capital” are also used to describe shared risk plans similar to cash balance plans. The differences between cash balance and retirement balance are more ones of description and nomenclature, rather than substance. As yet there is no clear delineation between these two in either legislation or in common parlance. As a philosophical point, retirement balance as a name could be more often associated with plans where there is a stronger emphasis on the eventual benefit on retirement – an account with revaluation in line with the RPI or RPI plus 3% for example. Cash balance could then be distinguished as a plan where there is a greater investment component to the credited return – for example, in the US the return is described as no less than that available on a 30 year
Treasury bond. But this would be stretching the difference in interpretation in the UK context at present. In the balance of this report we will refer to both types as cash balance plans.

Other designs

There are a number of other types of scheme design which could come under the heading of hybrid schemes, but which we do not consider in detail in the balance of this report. Two particular examples are:

- Fixed benefit plans.
- Fixed cost final salary plans.

Fixed benefit plans

Under a fixed benefit plan, the member is granted a fixed amount of annual pension for each year of membership. These schemes were common in the UK in the 1960's particularly amongst blue collar workers (see Diagram 11 later). These plans are also found in countries such as Germany - again often for blue-collar employees. The fixed sum awarded each year is increased by the employer as part of the annual pay bargaining exercise. One advantage to the employer of this approach is that each revaluation is perceived by the employees as (and indeed in reality is) a benefit increase.

Fixed cost final salary schemes

Some schemes were set up on a final salary benefit scale, but with a fixed cost for the employer. Hence the scheme might provide a 1/60th pension but have a defined cost of 15% of pay. This contrasts with the traditional structure for a final salary scheme, where the cost is an open ended variable amount, usually subject to review at triennial actuarial valuations. To reconcile the defined benefit pension with the defined contribution cost in the fixed cost final salary scheme, there has to be a variable element, reflecting the effects of experience as the scheme develops. Typically the variable or discretionary element was the level of pension increases awarded to pensions in payment. With the passage of the Pensions Act 1995, many of these discretionary increases were replaced by guaranteed increases, and the popularity of these plans has declined accordingly.

Global design issues

The plan designs considered above are not unique to the UK; variations of them are found on a global basis, in both the state operated and private sector forms of pension provision.

When reviewing the different private sector scheme designs that exist around the world, it is immediately clear that the single most important factor influencing these designs is...
local legislation. Of course, one then has to ask whether the legislation drives or is driven by the local context as far as scheme design is concerned. For example, in some cultures, the concept of “employee choice” is frowned on: if two employees have worked alongside each other doing the same job at the same pay for the same company all their lives, is it fair that their retirement pensions could be different purely because one made a less fortunate investment decision than the other? France (until recently) and Spain prohibit investment options in group DC schemes, perhaps for this reason.

**Legislation driven design**

Following on from the above, if any of the following scheme design features are prevalent, they usually arise from local legislation:

- The level of flexibility in features such as contribution rates and investment options – how much individual choice is allowed?
- A minimum guaranteed investment return (although many employers voluntarily offer a “capital guarantee” at least on employee contributions, i.e. employees will at least get back what they paid in).
- The form of the benefit payable, i.e. lump sum or pension.
- The retirement age, and perhaps the early retirement options, particularly in countries where the State pension is significant.
3 Sample Hybrid Plan Designs

| Sample designs | For each of the types of hybrid pension arrangements described in Chapter 2, a sample design is included below. For completeness, we also include samples of Final Salary and Defined Contribution schemes. In each case we focus on the principal pension benefit available to members at their normal retirement date and do not look at ancillary benefits such as those available on death and disability, or supplementary benefits for special cases such as executives. |
| Final Salary | The Classic section of the Principal Civil Service Pension Scheme (PCSPS and accessible at www.civilservice-pensions.gov.uk) is a traditional final salary type of scheme. The pension for the member is calculated on the basis of the salary in the 12 months prior to retirement (other formulae may apply where more favourable) and on the period of scheme membership. There is also a lump sum provided equal to three times the pension. In formulaic terms, this plan is referred to as an N/80ths + 3N/80ths plan. The most typical design for a final salary scheme in the UK has historically been based on a 1/60ths accrual, with the option to commute part of the pension for a lump sum - referred to as an N/60ths plan. The 2004 Survey carried by the National Association of Pension Funds (NAPF, 2004) shows that the N/60ths design (including N/80ths + 3N/80ths) applies to 64% of private sector scheme members of final salary plans. |
The Partnership section of PCSPS (as above) is a pure Defined Contribution scheme. Members have an account which is invested in a range of investment units selected by the member from those on offer from a number of Stakeholder providers.

Contributions are made to the account by the employer in accordance with a scale which varies by age, as shown in Table 1 below. In addition the employer matches any contributions paid by the member up to 3% of pay.

**Table 1: Contributions to Partnership Section of PCSPS**

<table>
<thead>
<tr>
<th>Age</th>
<th>Employer Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 21</td>
<td>3%</td>
</tr>
<tr>
<td>21 to 25</td>
<td>4.5%</td>
</tr>
<tr>
<td>26 to 30</td>
<td>6.5%</td>
</tr>
<tr>
<td>31 to 35</td>
<td>8%</td>
</tr>
<tr>
<td>36 to 40</td>
<td>10%</td>
</tr>
<tr>
<td>41 to 45</td>
<td>11.5%</td>
</tr>
<tr>
<td>Over 45</td>
<td>12.5%</td>
</tr>
</tbody>
</table>

Source: [www.civilservice-pensions.gov.uk](http://www.civilservice-pensions.gov.uk)

On retirement the balance of the member’s account is converted into a lifetime annuity on the basis of open market annuity rates.

**DC Variations**

In the UK at present there is a range of contributions payable to DC schemes:

- Some schemes are financed solely by member contributions – such as AVCs or Stakeholder plans to which the employer does not contribute.

- Contributions may be expressed as a uniform percentage of pay for all members.

- Contributions may vary according to the age of the member, the period of service, by seniority, or according to the profitability of the company.

- Commonly nowadays the employer’s contributions vary according to the level of contribution paid by the member – “matching contributions”.

**CARE - SERPS**

The original design of SERPS, the state earnings related pension scheme, was a career average plan with revaluation.
Benefits were based on the average Band Earnings for NI purposes throughout the member’s working career, with each year’s earnings being revalued in line with the increase in national average earnings. The rate of accrual varied according to the age of the member. The accrual rates and other components of SERPS have been subject to a number of adjustments throughout its life, and SERPS was reformed by the State Second Pension (S2P) in 2002.

In December 2004 the Cabinet Office published proposals for changes to the Civil Service pension arrangements (Cabinet Office, 2004). The key changes to the benefit design compared with the Classic section above are that “pensions should be based on a proportion of the pay earned in each and every year of service, rather than on a proportion of the pay earned shortly before retirement” and “The amount of pension earned for each year will increase in line with retail prices (as measured by the Retail Prices Index) regardless of whether the member is in service, has left with a deferred pension, or has already drawn their pension”.

The proposed new arrangement – sometimes referred to as an indexed pension – would therefore be a career average plan with full RPI revaluation and indexation.

Several employers in the retail sector have offered CARE plans to parts of their workforce. CARE plans are noted as applying to certain groups of employees of Tesco (IDS, 2001), Sainsburys (IDS, 2003b) and Mothercare (IDS, 2004b). The Tesco plan replaced a previous DC scheme for certain membership categories. The move from DC to CARE was described by Tesco as aiming to strike the right balance between the financial security of its employees with the needs of the company and its shareholders. In the case of both Sainsburys and Mothercare, the career average plans represent lower cost (to members) alternatives to final salary schemes, where cost (for both members and sponsors) had increased significantly. The revaluation is quoted as RPI for Sainsburys, and RPI capped at 5% in the case of Mothercare.

Several retailers are quoted (IDS, 2004a) as offering sequential hybrids. New entrants to the company join a DC plan (e.g. a Stakeholder plan) for their first five years of membership. Those members still in service after five years are invited to join the final salary plan and accrue standard final salary benefits from this date forward. They may either receive the balance of their benefits built up whilst a DC member or they...
may be offered a (partial) service credit in the final salary section. This decision may be affected by whether the sequential arrangements consist of two separate plans (e.g. Stakeholder and occupational plan) or two sections included within a single occupational scheme trust. The sequential hybrids are stated to apply in the cases of Boots, Harrods and John Menzies.

**Sequential hybrid – further example**

The C&J Clark Pension Fund (IDS, 2003) is a sequential hybrid. Employees over age 18 join Plan 18 – a DC arrangement in which members pay 3% and the employer pays 6% into the member’s account. On attaining age 35 members are eligible to join Plan 35, a conventional final salary plan offering a 1/60th benefit (albeit with a DC underpin, based on Protected Rights contracting out). If members transfer their Plan 18 balance across, they are offered added years of credit in Plan 35; the number of years of credit will be not less than three quarters of their service in Plan 18.

**Combination hybrid**

The pension arrangements for new entrants to BAE Systems (IDS, 2003a) are a combination hybrid. Whilst entrants prior to April 2003 have a traditional final salary scheme, new entrants after that date receive

- A final salary plan based on 1% (1/100th) annual accrual, plus
- A DC scheme based on a 2% of pay contribution from the employer.

**Underpins and contracting out**

The arrangements for contracting out of SERPS provide many cases of underpin designs. This is because there are two ways of contracting out of SERPS – a DB route and a DC route. But it is not a requirement that DB schemes have to use the DB contracting-out route (or vice versa for DC) and such hybrids have arisen.

Final salary schemes may contract out of SERPS on a (DC) Protected Rights basis. This means that the member’s normal final salary scheme pension is subject to a minimum calculation on a DC basis. The contributions paid by the member, together with rebates of National Insurance contributions as a result of contracting out, are notionally invested in a Protected Rights account; the proceeds of this account, with appropriate investment return, form a minimum pension on retirement.
DC schemes, in contrast, may historically have contracted out of SERPS on a GMP (Guaranteed Minimum Pension) basis. In this case the pension provided by the DC benefit, which is the primary benefit for the member, is compared against the GMP pension and the greater amount is paid.

**Comment**

Both of the contracting out approaches above were typically established as a way of optimising the financial position of the scheme sponsor. A final salary scheme using the Protected Rights method often had to make only minimal changes to their benefits to provide the protected rights but received a significant higher level of NI rebate than if they had contracted out on the more logical benefits test. Equally for many DC schemes the GMP underpin was felt unlikely to bite but the rebate of National Insurance contributions was significant, and helped to give a higher headline rate of contribution to the scheme. In the latter case, changes in financial conditions in the early part of the 2000’s have meant that the guarantees represented by the GMP are now significant and “bite” in a number of cases. This may serve as a warning of the “hidden” costs of certain types of scheme design.

**Other underpins**

Although contracting out has spawned a significant number of hybrids it is by no means the only reason that underpins exist.

- When Personal Pensions were introduced in 1988 some final salary schemes introduced DC underpins to demonstrate that they offered good (or better) value for money, compared with the alternatives.

- Scheme rationalisations often lead to benefits being granted on the better of two scales.

- Some schemes simply offer the better of a number of benefit scales to all members.

**Underpin example**

There is a pension plan operated by a major telecommunications company, which offers members the best of three scales of benefits:

- A final salary pension, based on a 1.5% accrual rate.

- A career average scale (without revaluation) based on a 2% accrual.

- A DC scale based on the investment of pension contributions of 15% of pay.
In practice all three of these formulae can – and do – apply to different members, depending on their length of service, salary progression and the level of investment returns in the market.

**Simple cash balance** The pension plan operated by House of Fraser operates on a relatively simple cash balance approach (IDS, 2002). Members have a choice of Tiers – the 10% Tier (costing members 2.5% of pay) and the 20% Tier (costing members 5% of pay). Each year the member’s account is credited with 10 or 20% of salary as appropriate. The account is revalued each year in line with the increase in the RPI capped at 5%. It is important to note that the account is not a current account, available for immediate access, but an account payable from normal retirement age. At the point of retirement the member can take up to 25% of his balance as tax free cash, with the balance converted into pension. When launching the scheme the company stated they had decided not to introduce a DC scheme, although this would have had financial benefit to the company since “most employees prefer the greater certainty of a defined benefit scheme”. House of Fraser expects to offer conversion within the scheme whereas in the Avis cash balance plan (IDS, 2004c) members are expected to purchase an annuity in the open market. The Avis plan incorporates revaluation in line with the RPI, capped at 10 per cent.


The Barclays plan is called after work. It consists of a Credit Account (a cash balance arrangement) and an Investment Account (a conventional DC arrangement). Members pay 3% for their Credit Account which accrues at the rate of 20% of basic salary. The Investment Account operates on a matching basis, with the employer matching additional contributions from the member up to an additional 3% of pay, invested in conventional DC accounts. The revaluation of the Credit Account is complicated. There is an absolute floor that the account will not reduce in value. There is a commitment that the account will be revalued in line with the RPI, capped at 5% each year. There is then a further credit of up to 2% each year, depending on the performance of a
global equities investment index. Additional increases, once awarded, become a permanent part of the member’s account. It can be seen that this cash balance aspect has complications which blur the nature of the arrangement to something between a pure DB and pure DC arrangement, in respect of the pre-retirement accumulation phase.

### Cash Balance Example

An example of how a simple cash balance plan might work from a member’s perspective is set out below.

The member earns £12,000 one year, £12,500 the next year, moves to part-time and earns £9,000 in her final year and then retires. The accrual rate is 10% and revaluation is in line with the RPI.

- **At the end of the first year** her balance is:
  
  \[
  10\% \times £12,000 = £1,200
  \]

- **At the end of the second year** inflation has been 2% and her new balance is:
  
  \[
  £1,200 \text{ plus } 2\% \text{ inflation} = £1,224 \text{ from year 1} \\
  10\% \times £12,500 = £1,250 \text{ from year 2} \\
  \text{Total balance} = £2,474
  \]

- **At the end of the final year** inflation has been 5% and her new balance is:
  
  \[
  £2,474 \text{ plus } 5\% \text{ inflation} = £2,598 \text{ from earlier years} \\
  10\% \times £9,000 = £900 \text{ from year 3} \\
  \text{Total balance} = £3,498
  \]

- **The member chooses to take one quarter of her balance** (£874) as a tax-free lump sum. This leaves £2,624 to be converted to pension.

- **The market rate for an annuity at that time** is that £20 cash buys £1 pa of pension (including a half-rate pension for her husband if she dies). Hence her pension is £2,624 ÷ 20 = £131 pa.

### Comment

The differentiating factor in the cash balance examples – compared with a straightforward DC plan - is that the revaluation of the account is specified in advance, and does not depend on market conditions. If in the example above the employer pays contributions of 10% of pay, but the assets backing the pension promise do not keep pace with the RPI, then a deficit will arise which the sponsor will need to
meet. Equally if the assets deliver more than RPI then the cost to the sponsor will be less than 10% of pay since part of the credit will, in effect, arise from future excess investment returns.

Where combinations of DC and cash balance are used, as in the case of Barclays, the true nature of the risk sharing between the parties may be more subtle than it first appears. If good asset performance results in “additional” bonus credits on the cash balance account, then we are moving to a position where the de facto benefit for the member is a DC account with an underlying guarantee from the employer (e.g. of a return equal to at least RPI). In schemes where the guarantee is set weaker (e.g. capital preservation only or only an intention to maintain value) then the arrangement starts to look more like a full DC arrangement. Tougher commitments and tougher targets (e.g. RPI + 3% pa) mean the plan has characteristics closer to a DB arrangement.
4 Theoretical Issues

Risk attribution and pensions

All pension arrangements are premised on the payment of income at a future date. The effect of unknown future events, between the date the promise is given and the date it is delivered, means that all pension promises are affected by these future events. One way of characterising different pension plans is by looking at who bears the consequences of that unknown future experience – be it good or bad. This risk allocation is illustrated in Diagram 2 below, in the form of a risk spectrum.

Diagram 2: Risk Spectrum for Scheme Design

This diagram is of a schematic or illustrative nature only – there is no “scale” that accurately measures the risk attribution. The other practical difficulty is that the designs are not necessarily fixed or static but may change over time. As such...
the boxes above should have a degree of “fuzziness” about them – witness the effect of underpins as discussed earlier. The other missing ‘dimension’ of this diagram is the extent to which the risk involved can be mitigated or eliminated by the use of insurance.

**Risk Attribution**

A theoretical discussion of risk attribution in pension plan design would require a document significantly longer than this report to fully develop the subject. Some of those issues are discussed elsewhere in the DWP commissioned research (McCarthy, 2005). Our own analysis of risk is set out below. It aims to draw a balance between the theoretical analysis – which can often be inaccessible to the layman – and the practical drivers that influence the sponsors of plans when they are considering the introduction of plans or revision of their plans, in the light of changing market conditions. Our definition of risk is largely of the financial consequences for the parties – will a variation in the actual experience result in additional costs for the employer or lower benefits for the member? The analysis below necessarily makes a number of simplifications and assumptions, both about the degree and nature of risks and the type of scheme design under consideration.

**Key risks**

Against the comments above, Table 2 below compares three key types of risk inherent in pension plan design:

- **Investment risk** - where assets are set aside to meet future pension promises, the investment returns to be achieved on these assets cannot be accurately predicted or guaranteed in advance. The impact of the actual investment returns achieved may fall to the account of the sponsor or the member.

- **Annuity conversion risk** - in some cases the benefits may be expressed in terms of an amount of pension. In other cases benefits will be expressed in capital terms and the capital on retirement has to be converted into a lifetime income. Changes in the expected longevity of the pensioner will impact either in terms of increased cost for the sponsor or a lower amount of annuity purchase for the member. As discussed further below, annuity conversion risk has two key components namely an inflation/interest rate risk and a longevity risk.

- **Salary risk** - benefits may be defined in relation to the level of earnings close to retirement so that the pension bears a specified relationship to the standard of living prior to retirement. In other cases, pension benefits are defined
independently of final salary and so the member cannot be assured that his pension at retirement will bear any pre-determined relation to his final standard of living as an employee.

Table 2: Risk Attribution in Pension Plans

<table>
<thead>
<tr>
<th>Risk Feature</th>
<th>Investment</th>
<th>Annuity Conversion</th>
<th>Salary Inflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Salary Pension</td>
<td>Sponsor</td>
<td>Sponsor</td>
<td>Sponsor</td>
</tr>
<tr>
<td>Final Salary Lump Sum</td>
<td>Sponsor</td>
<td>Member</td>
<td>Sponsor</td>
</tr>
<tr>
<td>Career Average/CARE</td>
<td>Sponsor</td>
<td>Sponsor</td>
<td>Member(1)</td>
</tr>
<tr>
<td>Sequential Hybrid</td>
<td>Both(3)</td>
<td>Both(3)</td>
<td>Both(3)</td>
</tr>
<tr>
<td>Combination Hybrid</td>
<td>Both(4)</td>
<td>Both(4)</td>
<td>Both(4)</td>
</tr>
<tr>
<td>Final Salary Underpin</td>
<td>Sponsor(5)</td>
<td>Sponsor</td>
<td>Sponsor(5)</td>
</tr>
<tr>
<td>DC Underpin</td>
<td>Member(6)</td>
<td>Member(6)</td>
<td>Member</td>
</tr>
<tr>
<td>Cash Balance</td>
<td>Sponsor(7)</td>
<td>Member(8)</td>
<td>Member</td>
</tr>
<tr>
<td>Self annuitising DC</td>
<td>Member</td>
<td>Sponsor(2)</td>
<td>Member</td>
</tr>
<tr>
<td>Defined Contribution</td>
<td>Member</td>
<td>Member</td>
<td>Member</td>
</tr>
</tbody>
</table>

Source: Hewitt

Notes

(1) Impacted by the level of revaluation provided, which may lead to greater sharing of risk.
(2) Sponsor risk reduced if conversion rates reflect market changes.
(3) Risk attribution follows the pattern of benefit accrual – e.g. if DC first then Final Salary.
(4) Extent of risk attribution depends on the relative level of the DB and DC benefits.
(5) In a typical FS underpin, the member may benefit from good investment returns (i.e. gains the upside).
(6) These risks may fall to the sponsor, depending on the construction of the underpin and the actual conditions experienced. More downside risk remains with the employer.
(7) Our definition of cash balance assumes that the employer is underwriting investment returns, in some fashion. The degree of revaluation offered affects the risk taken by the sponsor.
(8) Depends on the process for generation of the retirement income – e.g. open market purchase or some form of in-house conversion or the extent to which conversion rates are guaranteed in advance.

Comment

It can be seen from Table 2 that final salary and DC schemes represent the opposite extremes of the risk spectrum of scheme design. Under a final salary scheme the sponsor carries all of the (key) risks – and conversely gains most of the benefits (subject to “benefit leakage” as below). Risk avoidance has been a key driver for sponsors in implementing new DC schemes, but the downside is that employees carry all of the risks.
If we consider two of the key risks that have driven UK scheme design in the recent past – investment risk and annuity conversion risk – we can see how cash balance plans are often (e.g. Mody, 2004) positioned as offering risk sharing between the parties. Typically the sponsor takes on the pre-retirement investment risk, but the annuity conversion terms are not guaranteed. In terms of our third key risk, there may be no direct linkage to the member’s pre-retirement salary, but the level of revaluation of the member’s balance (e.g. RPI+1% pa) may offer an indirect linkage.

**Investment risk**

As noted earlier, the analysis in Table 2 is rather simplistic and sweeping. It could, for example, be argued that the sponsor of a final salary scheme need not take any investment risk, but could invest (at least in relation to accrued benefits) in matching assets (or assets which match the liabilities as closely as possible). Equally in DC plans, members can choose – in theory – to run whatever level of risk they deem appropriate. Whilst these arguments undoubtedly have merit, Table 2 attempts to capture the (layman’s) perception of investment risk from the sponsor’s perspective.

**Salary risk**

Table 2 captures the view of salary risk, from the perspective of whether the plan provides benefits relative to the member’s standard of living close to retirement. The sponsor’s perspective looks at whether pay rises feed through to higher pension costs. There are numerous simplifications in Table 2 – for example an early leaver from a final salary scheme will receive a deferred pension with (broadly) RPI linkage rather than final salary linkage. It could be argued that the sponsor has control over his own wage bill and so can control the level of salary exposure in these schemes. Most employers would feel that labour market pressures significantly reduce the force of this argument, although it is often noted that there is a greater element of salary risk now carried by employees generally. For salary related benefits neither the member nor the sponsor knows the eventual salary of the member – sponsors can pool this risk across plan membership, but still bear the aggregate wage risk. For any individual, a design that relates retirement income to earnings close to retirement may produce a more predictable level of income – but not necessarily a higher level of income (if real earnings decline for example).
Longevity

The analysis in Table 2 focuses on the rate of conversion of capital to income at the point of retirement. This is only one element of the full exposure to the effects of improved longevity. Plans which provide pension income are exposed not just to longevity improvements for current pensioners, but also to unplanned improvements to existing members. The Pensions Commission (2004) subdivides longevity risk into three sub-components:

- Specific longevity risk, post retirement – the life expectancy of e.g. an individual 65 year old compared to a group of 65 year olds. This risk is usually removed by either the sponsor in a DB pension plan or by an insurer (by annuity purchase under a DC plan).

- Average cohort longevity risk, post retirement – the issue of how long a “typical” 65 year old now will live.

- Long-term average longevity risks pre-retirement – can we predict what life expectancy will be for a 65 year old in 20 years time?

Schemes can react in different ways to these components of longevity risk – by for example not committing in advance to conversion rates in self-annuitising schemes.

There are other risks inherent in conversion rates – notably post retirement investment return risk. In the commercial marketplace there are also costs, profit margins and reserving requirements to consider. Members also face inflation risks if they purchase non-indexed annuities.

Other Risks

Although we have focussed on the three principal risks in Table 2 above, there are many other risks faced in pension plans which need to be considered in relation to either the sponsor or the member. Examples of other risks to be considered are:

- Taxation risk
- Legislation risk
- Tenure risk
- Death & disability risks
- Redundancy risk

We consider each of them briefly.
Taxation risk

Aspects of taxation for pension plans may change. For example, the 1986 Finance Act required pension funds to identify whether, under certain actuarial assumptions, they had a surplus of 5% or more, and to take action to remove the surplus within five years, or else lose some part of their tax-exempt status. As further examples, in Finance Act 1993 there was a cut in both the dividend tax credit and Advance Corporation Tax, with both reduced from 25% to 20% by 1994, and in 1997 the dividend tax credit was withdrawn. Finally, for illustration, the new simplified regime, which comes into force in April 2006, may reduce the cost of administering pension plans. Where these tax changes affect the cost of DB pension promises, it falls to the sponsor to make other adjustments as necessary. In a DC plan, the effect is to alter the size of the “pot” on retirement for the member, who therefore carries the risk.

Actuarial funding techniques for DB schemes often anticipate the effect of future investment returns and anticipated changes in funding, and so any tax change should have a greater immediate impact than in the case of DC schemes. In the latter case, members would need to recognise that a lower prospective return for instance will have an impact on their retirement planning and so should adjust accordingly – e.g. anticipate lower benefits, pay more, or expect to retire later. In reality few individuals take any early action in this fashion and the impact of the tax change takes a long time to be felt.

Legislation risk

The legislation governing pension plans may change. In recent years in the UK the legislation has prevented “bad” practices and converted certain types of discretions into guarantees. Whilst this has undoubted advantages for members it does have implications for plan sponsors. Thus it was deemed unacceptable that early leavers from pension schemes should be treated less favourably than those who stayed to retirement. This led to progressive tranches of legislation which improved the benefits for early leavers, but which increased the cost of a defined benefit plan. For many years, typical market practice was that members paid a fixed contribution rate (e.g. 5% of pay) so that the financial impact of the changes was borne by the sponsor. Once again the thrust of the legislation may be one that has widespread support but the implications for sponsors of DB and DC plans can be very different. The impact of progressive tranches of improvements has added to the cost of DB promises.
**Legislation risk – pension increases**

One legislative change has been to move from discretionary pension increases to guaranteed increases. There requirement to provide pension increases added to the cost of defined benefit plans. The cost was greatest where there had been no previous practice or intention to provide these increases (although the employer could have chosen to reduce the scale of benefits). Under DC plans, a requirement to purchase a pension with LPI increases (Limited Price Indexation) simply restricted the options available to the member. (In passing we note that this latter requirement has now been dropped).

At first sight converting a discretionary pension increase into a guaranteed increase at the same level as the sponsor would have intended giving in any event, does not appear to be a cost. However, the employer is taking on more economic risk and this additional risk does have a real cost. For example, when adverse conditions place a strain on finances, it may be possible for the sponsor to “pass” a discretionary increase, but a guaranteed increase must be delivered.

There have been moves recently to alleviate some of these costs, for instance, through changes in the LPI cap for pension increases. The cap is to be reduced from 5% to 2.5% for defined benefit accruals after April 2005, and compulsory indexation is to be removed altogether for defined contribution plans.

**Tenure risk**

For an individual the risk that they may not stay with an employer until retirement from a pension scheme is a very real one. The NAPF (NAPF, 2001) quote a figure that the “average” employee can expect 7 or 8 job changes during a career, many of which occur in the early part. The question is therefore whether a member “loses out” in pension terms on a job change (there is always a possibility, in theory, of a subsequent windfall gain but this only occurs as a result of a discretionary benefit augmentation rather than a feature of scheme design). In relation to accrued benefits under a final salary scheme the linkage switches from salary to statutory revaluation (broadly RPI linkage); this can often lead to a significant loss of expectation of benefit. Equivalently the benefits – for the same period of service – can have a significantly different value for:

a) a member who leaves subsequent to the service and receives statutory revaluation, and

b) a member who remains in service, where the accrued pension reflects subsequent increases in salary.
Which of these produces the bigger eventual pension depends on how fast pay rises compared with statutory revaluation. For a member with pay rises ahead of price inflation, a series of jobs/employees with similar final salary pension plans will result in a lower pension than his counterpart who is with the same employer throughout. One of the cross-subsidies inherent in this plan design is from “leavers” to “stayers”.

In general, in a DC scheme the accrued benefit for a member is not affected by whether that member subsequently leaves service. The member still retains the value of his account, and that account remains invested until his eventual retirement. The range of investment options available to members would not typically differ between active members and deferred members; there may also be differences in charges levied.

Given their relative newness it is not possible to determine a “typical” practice for cash balance plans to date. In most of the cases that Hewitt are aware of, the revaluation for deferred members is identical to that for active members; this includes both the guaranteed elements of any revaluation and the discretionary elements of revaluation. It could be argued that this is no less than would be expected under the preservation legislation (see later). There is therefore no “loss” on job change.

A member of a pension plan may not remain in the plan until retirement as a result of death or being forced to retire because of disability. Most modern pension plans make some allowance for these contingencies, although the mechanism varies. Historically most final salary schemes incorporated a scale of benefits payable in the event of disability, and made provision for a spouse’s pension and lump sum benefits in the event of death in service. The funding of final salary schemes meant that the cost of providing these benefits could be spread over the full size of the scheme and incorporated into an overall funding rate.

In a DC scheme, by contrast, the assets accumulated would rarely be sufficient to provide the capital needed to deliver a spouse’s pension, or a realistic level of benefit in the event of disability. The most common approach for these schemes has been to supplement the pension with separate life cover and/or disability cover. The majority of the new cash balance plans have followed this route and offer risk benefits through supplementary cover. Where the cash balance plan is part of an overall trust document that includes e.g. a closed final...
salary scheme, the more conventional “final salary” style of risk benefits may be offered.

**Redundancy risk**

A member may be forced to leave the plan before his anticipated date of retirement as a result of redundancy, either on an individual basis or as part of a large scale exercise. In a defined benefit plan the cost of any enhancements on redundancy can be spread over future years. By contrast, in a DC scheme any enhancement to the benefit needs to be paid for at the point it is awarded. The use of surplus in FS pension plans to meet the cost of redundancy benefits was a feature of the UK pensions environment throughout the 1980s and 90s. As yet there is little experience as to how – if at all – benefits in a cash balance plan would be enhanced on redundancy, for individuals or groups. The defined benefit nature of these plans should mean that there exists the opportunity for enhancements, with the cost spread over a number of years.

**An alternative perspective**

Another way of considering scheme design and risk perspectives is to consider the various allocations and revaluations of a member’s benefit. Table 3 below illustrates this feature for the main types of design: we have excluded variations on these basic types such as sequential and combination hybrids and underpins.

### Table 3: Scheme Design Considerations

<table>
<thead>
<tr>
<th>Scheme Type</th>
<th>Pension or Lump Sum</th>
<th>Allocation</th>
<th>Revaluation of Account In Service</th>
<th>In Deferment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Salary</td>
<td>Pension</td>
<td>% of pay</td>
<td>Pay</td>
<td>RPI (1)</td>
</tr>
<tr>
<td>Career Average/CARE</td>
<td>Pension</td>
<td>% of pay</td>
<td>E.g. RPI (2)</td>
<td>E.g. RPI (2)</td>
</tr>
<tr>
<td>DC</td>
<td>Lump Sum</td>
<td>Flexible</td>
<td>Asset return</td>
<td>Asset return</td>
</tr>
<tr>
<td>Cash Balance</td>
<td>Lump Sum</td>
<td>Flexible</td>
<td>Flexible (3)</td>
<td>Flexible (3)</td>
</tr>
</tbody>
</table>

Source: Hewitt

**Notes**

(1) This is an approximation under current conditions. Statutory revaluation of deferred pensions is at the lower of the increase in the RPI or 5% per annum, over the entire period of revaluation from leaving to retirement.

(2) Revaluation may be nil, in a simple career average (flat benefit) plan or RPI in a fully protected CARE plan. Intermediate levels (e.g. LPI) may also be found.

(3) The revaluation methods may follow those of career average plans, or they may incorporate greater discretionary revaluation elements.
Pension and allocation

By way of explanation, in Table 3 above, both final salary plans and career average plans make a promise of a pension on retirement, whereas DC plans and cash balance plans focus on a member’s account in lump sum format. The allocation each year under a final salary plan is typically a uniform percentage of pay for each member, equal to say one \( \frac{1}{60} \)th of salary for that year. In a DC plan the allocation may take a similar approach - a flat 5% of salary for example - but other allocations may be used. Thus DC contributions are sometimes related to the age of the member, the salary or seniority of the member, the period of service of the member, or the amount that the member contributes. A feature of modern UK DC plans is that there is not a single scale of contributions, but a range from which members can choose. Cash balance plans have typically followed the more flexible allocation schedules found in DC plans.

Revaluation of accounts

The revaluation of the member’s account - from the time that it is awarded to the time it comes into payment - varies between the different types of scheme. For a member of a final salary scheme who stays in service through to retirement, each year’s pension allocation is revalued in line with his final salary. Should the member leave service then, as noted above, the revaluation switches from being in line with salary to being in line with statutory revaluation - effectively in line with the RPI in current conditions.

In a DC scheme in contrast the revaluation each year depends on the asset return achieved on the investments made. This is unaffected when the member switches from being an active member to a deferred member; discretionary bonus allocations many differ in some cases.

In a cash balance plan the revaluation can be flexible. It may be by reference to a specified index such as the RPI or some other mechanism decided by the employer. In general the same revaluation method would be used for both active members and deferred members. The key issue is that this revaluation is something other than one that can be obtained from investment in a specific asset category – in other words it is not, typically, an investible risk for an individual member. Some form of employer guarantee is required, thereby giving rise to the defined benefit nature of these plans.
5 Advantages and Disadvantages

Pros and Cons

In this section, we consider the attractions of each of the different scheme designs, from the point of view of various stakeholders. We need to include the “classic” schemes – i.e. final salary and DC – in order to appreciate the potential for growth in hybrid schemes in the UK at present. We firstly consider the various types of scheme from the sponsor perspective, and in a UK context where benefits are typically prefunded. We then consider members’ perspectives, some other players in the market, and finally look at the issue of whether some of the accepted wisdom on advantages and disadvantages bears full scrutiny.

Sponsor perspective

- **Final Salary**

  - A specified level of benefit allows the sponsor and member to plan for retirement with greater certainty.

  - Pre-funding of the benefit allows the spreading of cost over future periods of time, especially in the case of augmentations. (e.g. on redundancy or downsizing)

  - Excess funding can lead to surpluses and contribution holidays. Equally deficits require additional contributions

  - The employer can, within limits, adjust his contributions to meet his corporate requirements and cash flows.

  - The converse of this point is that the lack of certainty about the cost of past final salary obligations (e.g. as a result of unknown levels of future pay rises or investment returns) can lead to very volatile, unplanned contribution increases for the employer, especially in very mature schemes.
There can be “benefit leakage”. If a significant surplus builds up there can be pressure from members and unions to use (part of) the surplus to augment benefits. This has sometimes been at significant cost to sponsors.

The benefit design offers greater protection for “high flyers” who receive pay rises significantly higher than average. The sponsor may decide that these employees are valuable to the organisation and meet the extra cost of their benefits.

Under current market conditions in the UK, a final salary scheme could be considered to offer the sponsor market advantage, in terms of recruitment and retention.

Career average plans are also defined benefit plans and so have many of the characteristics of final salary plans above. Key differences, from final salary plans, might be as follows:

- Removal of the final salary linkage makes these plans lower cost (e.g. than a final salary scheme with the same accrual rate) and hence may represent an opportunity to offer a more affordable, yet still, defined benefit, plan.

- The distribution of resources is more balanced in these plans with no obvious bias in favour of high flyers.

- The opportunity to offer intended, rather than contractual, revaluation (in a CARE plan) may give a significant degree of funding flexibility lacking in more tightly defined final salary plans (but this then makes for more uncertainty for members).

- The sponsor is not exposed to investment risk, nor to the risk of improving longevity of pensioners.

- The capital nature of the benefit may lead to greater appreciation by members (but see below).

- If benefits turn out to be less than expected, as a result of poor investment returns or otherwise, members may seek to defer their retirement. This could be in conflict with the sponsor’s retirement objectives.

- Members may have a poor understanding of investments and so may take sub optimal decisions. This may result in lower pensions than anticipated unless the sponsor takes a leading role in education and communication. Responsible sponsors will invest in upgrading the quality of investment knowledge of their members.
• Monitoring of investment options and performance may take on a greater significance, since results feed through directly to members’ eventual pensions. Concerns in this area may affect whether sponsors are prepared to take on a greater role (e.g. via trustees in an occupational DC scheme) or prefer the more “hands off” approach of a Stakeholder arrangement.

• Administration of individual accounts, with multiple investment options and switching potential, is more complex than defined benefit plans – and so should be more expensive (The different types of administration players in the DB and DC market places may reduce this effect). Even where the sponsor does not directly meet the cost of administration, they feel the consequences of poor administration, in terms of member dissatisfaction.

• The volatility of outcomes (and annual account values) is reduced (compared with DC). This may have advantages for members (less downside risk, less likelihood of loss of capital value) and sponsors (greater appreciation and less uncertainty in the outcomes that influence retirement age).

• The sponsor can take a view of willingness to accept mortality risk, on either a permanent design basis or from time to time as circumstances warrant. They can do this by varying the extent and terms on which they offer annuity conversion through the plan.

• Still has the attraction of an “account based” approach to saving, which may lead to greater appreciation from members (where accounts cannot reduce). Administration however should be less costly (since investments are not allocated directly to members).

• There is an opportunity to introduce greater discretionary elements in the pre-retirement revaluation, thereby offering significant potential funding and investment freedom.

• May be perceived as complex by members and so employer will not receive full appreciation.

• Treatment of early leavers and early retirements may lead to mistrust and loss of confidence.
The other hybrid plans described in Chapter 2 (sequential and combination plans, underpin arrangements, final salary lump sum and self annuitising plans) are variation or combinations of the major designs above. As such the attractions will represent the best – or the worst – of both of the underlying components.

Pros and Cons – Member perspective

The extent to which plans are perceived as advantageous or otherwise by members can be significantly affected by the profile of that individual member. Thus members of different sexes, with different earnings, with different earnings patterns, and with different career profiles may find that different plans are better suited to their needs. This analysis is developed at length in a related DWP research project (Cooper, 2005). The traditional final salary scheme for example is particularly well-suited to (males) who work for their entire career with a single employer and who receive regular increases in their pay. This type of optimum pay profile for a final salary member is illustrated in Diagram 3 below.

Diagram 3: Final salary profile

Source: Hewitt
Variable careers  In contrast, members with more variable career profiles (especially females) may find that a DC scheme is better suited. The amount contributed each year depends only on the circumstances for that year and is unaffected by the earnings in previous years. The member’s account continues to build up with investment returns regardless of whether there are gaps in that career or subsequent jumps or reductions in salary. This is illustrated in Diagram 4 below.

Diagram 4: Defined contribution profile

Source: Hewitt

Impact on Members The conventional wisdom was therefore that final salary better suited long-serving members, whilst DC arrangements suited more mobile employees. Indeed it has often been commented (e.g. Pensions Commission, 2004) that the relatively poor treatment of early leavers in final salary schemes was one of the factors that led to the introduction of personal pensions in the 1980s. Under current conditions, even where members may be better suited to DC arrangements, they may still perceive that final salary is a superior type of plan, and not relate this to their own characteristics.
**Benefit design and level**

The comparison between final salary and DC plans above clearly omits one key issue – the overall level of benefits provided. In terms of its utility to any member this is clearly a key feature – even if DC is “worse” for a long-term career member than final salary, then a good quality (high contribution) DC scheme may still deliver a better output than a low quality (low accrual) final salary scheme. The issue we are addressing here in terms of which is “best” for the member, is a question of the distribution of resources inherent in the plan design. Which categories of members does the design favour?

**Favoured members**

Table 4 below considers this issue of resource allocation and which members are “favoured” under different plan designs. As before there are a number of rather sweeping generalisations made in this analysis and we start from the designs typically found in the UK at the present time.

**Table 4: “Winners and Losers” from Scheme Design**

<table>
<thead>
<tr>
<th>Category</th>
<th>Final Salary</th>
<th>Career Average</th>
<th>Cash Balance</th>
<th>DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stayers – i.e. long-term career staff</td>
<td>++</td>
<td>•</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Leavers – these with broken careers</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td>Younger members</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Older members</td>
<td>++</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Married members</td>
<td>++</td>
<td>++</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Single members</td>
<td>-</td>
<td>-</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Highflyers – higher pay increases</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Moderate - or reducing pay increase</td>
<td>-</td>
<td>+</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>Healthier staff – higher longevity</td>
<td>++</td>
<td>++</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Less healthy staff – lower longevity</td>
<td>-</td>
<td>-</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Risk takers</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>++</td>
</tr>
<tr>
<td>Risk avoiders</td>
<td>++</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Hewitt

Note: + denotes favoured, - denotes favoured against, • denotes neutral

**Explanation**

By way of explanation for the ratings in Table 4 above:

- Career average, DC and cash balance plans typically treat accrued benefits similarly for leavers and stayers alike, so there is no “bias” towards leavers.

- UK final salary and career average plans typically (but not universally) include a spouse’s pension (on death after retirement) within the benefit design. Under DC and cash
balance plans the member may be able to choose whether or not to purchase a contingent spouse’s benefit – single members can therefore direct that all of their account is spent on their own benefits.

- The final salary scheme will, by its very nature, direct more resources toward those with the greater pay rises.

- At the point of retirement, healthy staff will find their DC “pot” buys proportionately less pension. Their less healthy counterparts may be able to take advantage of market segmentation such as impaired lives annuities to generate a higher pension (although clearly in both cases the value will, on the market basis, be identical).

- Risk averse members may invest their DC funds in a conservative manner, thereby prejudicing their ability to capture some of the higher anticipated returns available to risk takers.

Flexible retirement

The observation that final salary schemes may be less advantageous for those with interrupted careers has parallels if one considers the introduction of flexible or phased retirement (which is expected to become more prevalent after the Inland Revenue simplification changes come into effect from April 2006). It will be administratively more complex to deal with a member of a final salary scheme drawing part of their benefits whilst still in service. In contrast career average plans, DC plans and cash balance plans more readily accommodate the member taking part of the benefit on a phased basis. This was cited as one of the advantages of the proposed new CARE/Indexed Pension design for Civil Servants (Cabinet Office, 2004).

Example

Suppose a member has attained age 60 and wishes to move (with the consent of his employer) to a position where he works 3 days a week but supplements his wages by drawing 40% of his pension until age 65 when he fully retires.

- For a career average member, 40% of the accrued pension can be paid immediately; the residual 60% for service to age 60 continues to get future revaluation to 65; in addition the member accrues further benefits between 60 and 65 based on his reduced earnings.

- For the DC and cash balance member exactly the same process applies. Part of the account balance at 60 can be converted to income, with the remainder continuing to be invested or awarded revaluation credits as appropriate. New accruals after 60 are added to the pot/account.
For the final salary member life is more complex. It is not difficult to work out 40% of the benefit at 60, based on service and salary to that date. But what happens to the remaining 60%? Is it linked to the (full time equivalent) of the salary at 65? Or is it treated as a leaving scheme benefit and given statutory revaluation? Does the member get to choose? Is the benefit for service between 60 and 65 all based on part-time pay at 65? Or is the totality of the benefit worked on service to 65 (adjusted downwards pro rata between 60 and 65) and full-time pay at 65, with the actual pension payable from 60 (with or without increases?) treated as a deduction or debit from the total?

**Pros and Cons – Other Stakeholders**

When sponsors of pension arrangements are reviewing or introducing plans they may want to retain the maximum degree of flexibility or freedom for themselves, in order to retain competitive advantage. If one accepts this hypothesis, then it could be argued that there are two consequential areas where DB and DC differ:

- Sponsors may feel that governments prefer defined benefit arrangements. Dealing with individual members’ pensions savings under DC arrangements is a higher risk political activity than taking actions which impact corporate sponsors (we note this is not a government point of view, but rather a potential concern for sponsors).

- Similarly sponsors may see that trade unions prefer collective arrangements rather than individual arrangements, since they can exercise greater power in these areas. In the UK in recent years much of trade union activity has been aimed at defending final salary arrangements and ensuring that employers do not substitute these for what they consider to be inferior DC plans.

**Reality and perception – capital values**

One of the issues to bear in mind in consideration of hybrid plans is the impact of looking at things in capital value terms. This can lead to overconfidence on the part of members that their retirement savings are adequate. In current UK terms, a pension for a male aged 65, with RPI increases and a 50% benefit to a surviving spouse, might cost £20 for each £1 pa of pension. How would a member feel to be told:

a) he has a cash balance account of £200,000 on retirement

b) he has a pension of £200 per week?
The two may be identical but one carries a much greater feeling of wealth.

The use of capital values in cash balance plans is therefore likely to lead to greater appreciation by members of the benefit provided by the sponsor. Focusing on capital values makes sense against the UK pension taxation changes from April 2006, which now express tax relief in the form of lifetime capital values.
# 6 Practical Issues with Hybrids and Risk-Sharing Plans

| Risk attribution in practice | This section considers the risks and opportunities that sponsors face in operating pension plans (and hybrid plans in particular) and how they can mitigate them. Sponsors may seek to reduce or mitigate them through a combination of investment strategy, design aspects, guarantees or discretions, or via communication to members. 

We first consider the drivers of change in the UK in the recent past, which serve to illustrate a number of these risks, and the reactions of sponsors. These issues give us an indication as to the potential growth in the hybrid or risk sharing marketplace. |
|---|---|
| Drivers of change final salary | The reasons for the decline in final-salary schemes in the UK in the recent past, are well documented (e.g. Pensions Commission, 2004) and can be summarised as below. What started as a desire on the part of sponsors to control the volatility of pension costs quickly turned into a desire to reduce pension costs, as those costs escalated. The cost of a part of the remuneration package of employees had escalated dramatically and employers sought to respond. The key factors increasing the cost were: 

- Lower interest rates and lower (or negative) investment returns. 
- The impact of improved longevity. 
- Tax changes (as described earlier). 
- The conversion of discretions into guarantees and progressive improvements in benefits. |
Interest rates and investment returns  The financing of a future pension promise - a defined benefit promise - can come either from investment returns or from contributions. To the extent that the UK moved to a lower interest rate environment then the cost of providing defined benefit pensions increased. This is illustrated in Diagram 5 below which compares the yield on long-term government bonds, with the cost (under the UK accounting standard FRS17) of one year’s accrual under a typical 1/60th pension plan. The “mirror” effect is clear, with costs escalating as interest rates decline.

Diagram 5: Interest Rates and Pension Cost

![Diagram 5](image)

Source: Hewitt

Comment  The impact of lower interest rates was exacerbated by the fact that equity markets declined substantially at the start of the 2000’s. UK pension plans have historically been significantly invested in equities in order reduce their longer term expected cost. This policy proved very beneficial during the 1980s and 90s and led to the significant surpluses in pension schemes at that time. Savage drops in equity markets however switched to a position of deficits requiring significant extra contributions.
Mortality changes  Table 5 below sets out typical assumptions for a life expectancy as used in actuarial reviews of final salary pension schemes. The figures relate to a male aged 65. The impact of increased longevity relates not just to the accruing benefits of current members but also to benefits promised to previous generations of employees, who are now deferred members or pensioners under the plan. For pension schemes which have become particularly mature this is a major issue.

Table 5: Expectation of Life at Age 65

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectation of Life</td>
<td>13.9</td>
<td>14.0</td>
<td>15.5</td>
<td>16.0</td>
<td>18.0</td>
<td>20.5</td>
<td>22.0</td>
</tr>
</tbody>
</table>

Source: Hewitt

Future mortality  The Pensions Commission (2004) points out that one of the key issues in pension planning is not just the impact of past improvements in mortality, but the difficulty in projecting how fast future mortality will improve. By way of example the chart below shows the observed pattern of improvement, with alternative projections of future improvements. The financial impact for plan sponsors of the alternative future patterns is significant; the uncertainty of outcomes is a key current reason why sponsors are looking not to take on this risk (through the use of DC and cash balance plans).

Diagram 6: Uncertainty of Future Mortality

Source: Pensions Commission, 2004
As mentioned in chapter 5, many schemes converted their discretionary benefits, specifically pension increases, into guaranteed benefits during the 1980s, often on the back of large disclosed valuation surpluses. The financial consequences of this conversion became all too apparent in the 2000s when financial conditions became more adverse. The process of conversion of discretions is illustrated in Diagram 7 below, which considers the benefits payable to a male early leaver from a final salary scheme with 35 years to retirement. At the start of the period, the benefit payable would have been a refund of the member’s contributions but progressive legislation firstly awarded a deferred pension and then added both revaluation and indexation in payment of that pension.

**Diagram 7: Cost of Leavers’ Benefits**

![Diagram showing the cost of providing a deferred pension of £1 pa from age 65 for a male currently aged 30 over a period from 1982 to 2002. The diagram includes three lines: red for after compulsory revaluation, purple for allowing for mortality improvements, and blue for based on mortality table applicable in 1980.]

Source: Hewitt

**Comment**

Whilst sponsors may prefer greater discretionary elements in their pension promises, it is not immediately apparent that this is in the interest of members. What value should they assign to these discretionary benefits? Why should they not be converted into contractual benefits? This tension between discretion and contractual benefits is a key theme in the development of risk sharing (e.g. cash balance) plans, and we return to it later.
DC problems

The issues above led many employers to close their final salary schemes to new entrants (or in more extreme cases to future accruals for current members) and to offer defined contribution schemes instead. In the relatively recent period since the introduction of these DC schemes, a number of issues have emerged which point to potential problems ahead. Part of the issue is that the outcomes of DC plans – in terms of the range of potential pensions - are very uncertain, particularly where members’ accounts are invested in equities, as they typically are. This uncertainty of outcomes can lead to confusion and uncertainty for members and may contribute to a reluctance to save. This will be of concern not just to employers – who will not receive full appreciation of the benefit they are offering – but also to members, trade unions and government.

Low contributions

In general, contributions to DC schemes are significantly lower than the corresponding contributions to final salary schemes. This is illustrated for example in the findings of the latest ACA survey (ACA, 2004) as set out in Diagram 8 below. Low contributions can arise from the basic scheme design or from a failure of members to maximise the opportunities available to them. Many DC schemes offer “matching” contribution arrangements but not all members take advantage of the maximum match available. Equally not all members choose to join defined contribution schemes that their employer offers, particularly if the result is lower take home pay.

Diagram 8: Contributions to DB and DC schemes amongst smaller firms

Source: ACA 2004
Comment

Many employers would defend the low level of contributions to the DC schemes they sponsor, relative to the level of contributions they are paying to their DB (typically closed final salary) schemes. When the DB scheme was set up the cost was “modest”; unexpected events (e.g. low interest rates and significant improvements in mortality) have served to inflate the cost substantially. The level of contributions to DC schemes has been pitched back at the “modest” level. In our view there is some merit in this argument - that we are seeing a rebalancing of pension costs, rather than a reduction in pension costs. The difficulty lies in deciding what constitutes “modest” and “realistic” levels of pension costs. Employers may also be seeking to balance the escalation in the cost of their DB plans by reduced DC contributions, thereby holding their total pension spend more or less constant. It should also be borne in mind in the analysis in Diagram 8, that proportionally more DC schemes are contracted in to S2P and so the overall (occupational & state) disparity in benefits and contribution levels will be less than it first appears.

Retirement age

An emerging issue with DC schemes is the impact that market movements can have on the date of a member’s retirement: Diagram 9 below illustrates this point. It shows the level of economic activity of older workers in the US workforce, plotted against the level of the US stock market. The study (Escheruth & Gemus, 2002) showed that for the first time during an economic downturn, participation levels had increased amongst older workers. Historically the tendency has always been for these older workers to be laid off first during a downturn. The authors attribute this phenomenon to the increasing popularity of DC plans (401(k) plans) in the US market.
The greater participation of older workers in the labour market may be seen as a positive move by policy makers, by some firms and by the individuals themselves. Indeed there are strong arguments (Pensions Commission, 2004) that this extra participation is the only realistic solution to the “demographic time bomb” issue of an ageing and increasingly long-lived population. However the “problem” that the diagram and study above refer to, is that from the sponsor’s perspective the individual’s decision to retire will be less under the “control” of the sponsor, and more under the influence of external events – the level of the stock market. This loss of control may be felt more as age discrimination legislation comes into effect in the UK later in 2006.

The volatility of DC outcomes, and the tendency of members not to retire when markets are low, is starting to be of concern to UK employers with DC arrangements. Diagram 10 below shows the range of ages at which a member of a DC plan (entering at age 25 and paying contributions of 10 per cent of pay) might expect to accrue a pension of 50 per cent of pay. Clearly the age depends on the investment strategy followed, but it can be seen that there is a huge range of potential outcomes for the age of retirement where
members follow predominantly equity orientated strategies the most common approach in the UK at present. (The darker shading in the boxes represent more likely outcomes; the light/dark boundary shows the 10th and 90th percentiles of the distribution of outcomes).

Diagram 10: Age to attain DC pension of 50% of final salary

Source: Hewitt

**Cash balance plans** In the light of the problems above, a number of commentators (e.g. Mody, 2004) believe that the so-called “middle ground” or shared risk solutions will increasingly form part of the UK pension environment. These plans can address some of the failings of both final salary and DC plans identified above and serve to mitigate the risks for employer and employee alike.

In the following paragraphs we consider how cash balance plans can serve to mitigate some of the sponsor risks above, and then consider a number of issues from the member perspective.

**Sponsor risk mitigation - investment** The cash balance plan investment risk for the sponsor is materially lower than for a final salary scheme for two principal reasons:
The investment objective is typically a lower, and largely investible, risk. There are no financial instruments that exactly match a final salary liability. However if the revaluation in a cash balance plan is equal to, say, the RPI then it is possible to buy government-backed index-linked securities that deliver this return with certainty. (A sponsor may still choose to mismatch, with a view to capturing superior returns and reducing the cost of the benefits.)

The timescale for investment is shorter than in a final salary scheme, since it relates solely to the period up to the date of retirement. In a final salary, or CARE plan, the investment risk continues into retirement where pensions are provided from the scheme.

Sponsor risk mitigation – discretions

A number of cash balance plans have reflected the problems arising from guaranteed benefits and have structured their benefit obligations differently going forward. Communications to members might emphasise the intended benefits, but the strict legal obligation (under the trust deed and rules) may be for something less. Hence there may be no strict guarantees of revaluation but an intention to provide them. The terms under which the discretion may be exercised not to award a benefit determine the extent of protection which the sponsor receives – but equally they are a source of concern for members since they introduce greater uncertainty in the planning for their retirement. The sponsor needs to ensure that the true position is fully disclosed to members. A concern however for employers may be that in trying to be helpful to members – e.g. giving an indication of the scope and incidence of future discretionary awards – the employer may be setting an expectation which may become difficult to meet.

Sponsor risk mitigation – annuity conversion

Cash balance plans may simply require members to purchase an annuity in the open market. In these cases there is no residual annuity conversion risk for the employer. However some employers would expect to provide the annuities through the scheme, particularly if there is a large mature final salary scheme with a substantial pensioner payroll in existence. In these cases the rates of conversion may be related to market rates, or they may be deliberately set to be more advantageous. Some sponsors may attempt to follow market annuity rates (in respect of e.g. mortality and investment returns) but look to strip out the expense
margins, profit loading and cost of capital reserves that the commercial market incorporates. It could be argued that this is simply a benefit augmentation and so should be viewed accordingly. However the risk aspects are very different between the in-house and external purchase routes.

**Annuity conversion**

Conversion rates may not be fixed indefinitely as part of the scheme design (in passing we note that if rates were fixed this would be equivalent to an offering the Guaranteed Annuity Rates that were the cause of problems for the Equitable Life). Rates may vary from time to time. The conversion rates may reflect the business needs of the sponsor over time - enhanced rates may be available when the sponsor is seeking to reduce his workforce, for example. Sponsors might also choose to selectively augment conversion rates in other circumstances – for example older members or for bridging pensions (where they perceive the mortality exposure is lower). The approaches above to self-annuitisation retain significant flexibility for the sponsor in dealing with the effect of increasing longevity without giving a long-term binding commitment.

**Sponsor risk mitigation**

Cash balance plans are defined benefit plans with a given benefit available from a “normal” or scheme determined pension age. If benefits are paid prior to this date, therewould normally be an element of discounting to reflect the early payment. This arises in both early retirement and transfers to other schemes. The issue which arises is that the amount available for transfer would not necessarily be the face value of the member’s account. The transfer value would represent the discounted value of the amount available at normal retirement - less than the face value of the account. Failure to disclose and communicate this point to members may lead to significant dissatisfaction with this type of arrangement.

**Transfer value example**

Consider a member aged 40 who is in a cash balance plan with a normal pension age of 60. The member has an account balance of £100,000 and the account is subject to annual revaluation in line with the RPI.

The amount available for transfer is calculated by discounting the projected account balance back from age 60 to age 40. Given that the account is revalued in line with the RPI, the effective rate of discount can be taken as the “real” (i.e. inflation adjusted) yield on government debt. If this rate is, say, 2% p.a., then the transfer value is equal to the face value of the account discounted by 2% for 20 years i.e. 100,000 / ((1.02)^20) = £67,297
In practice the discount rate may be greater than the 2% p.a. figure, leading to a greater disparity between the face value and the transfer value.

Comment

The disparity between the face value of the account and the transfer value is clearly a potential source of confusion and concern, and may give rise to complaints of “mis-selling” or misleading members. It should be noted that the discount rate – the 2% per annum in the above example – is not rigidly prescribed by legislation but is currently left to actuarial judgement, as in other DB calculations. However the discounting described above also explains one of the attractions of cash balance plans, in that they can “cost” less than the face value of an account. Providing a cash balance account of, say, 20% of salary each year may cost significantly less than 20% of salary – say between 10% and 15% perhaps, depending on the age profile of the membership. The “reduction” in cost represents the effect of the investment return achieved, over and above the amount credited to the member’s account.

Member’s perspective - understanding

The transfer value example above illustrates one of the key dangers of cash balance plans – misunderstanding by members. The very fact of presenting the information in an account format opens up the scope for misunderstanding. If I have a balance in my account – shown on my regular benefit statements – then why can I not draw that full balance when I leave or transfer? Sponsors will have to work hard to focus on the account as being available only at normal pension age. There is an issue here around the level and quality of information that would need to be provided to members.

Comment

If the discounting approach above were deemed unacceptable – e.g. by legislators or society at large – it is interesting to consider the consequences of insisting that the “face value” of the account should be available (for example on transfer) at any age. At one level this would increase the cost of the plan – since benefits for leavers would be higher than would otherwise be the case. This would represent a redistribution towards younger members and leavers. But if members became aware of the opportunity to “capture” the full face value, would they, for example, exercise their statutory right to opt out of the scheme to “lock into” the higher face value? Large numbers of members selecting against the plan in this way could destabilise the plan and reduce its attractiveness to the sponsor. Equally some sponsors will decide that this
potential “reputation” issue is not worth taking on board and will offer the full face value of an account on transfer at any age.

It is fair to assume that members would prefer more certainty about the benefits they will receive – from a pension plan rather than less. We can see this reflected – in part at least – in the general market perception that defined benefit plans are “superior” to DC plans (although we should not ignore the disparity in contribution levels referred to earlier). Cash balance plans occupy some middle ground in perception terms – better than DC but not as good as a “proper” DB plan. Where cash balance plans – or CARE plans for example – incorporate discretionary elements, this introduces a greater degree of uncertainty for members.

It may be possible to address this uncertainty by a greater emphasis on full, transparent disclosure. Hence it could be a requirement to specify which parts of the benefit are contractual or guaranteed, and which parts are at the discretion of the sponsor and/or trustees and/or insurer. However it is fair to assume that employers will not want to focus unduly on what may be considered “negative” aspects of their benefit promises and intentions, although the Pensions Regulator may be unhappy if any “bad news” is relegated to the fine print.

Whilst part of this issue of discretions could be dealt with greater disclosure, the issue goes beyond this. How will the sponsor exercise the discretion he has retained? To what extent will he want to specify in advance the application of that discretion in a variety of (unknown future) circumstances? Less discretion (or a commitment in advance to exercise discretions in favour of members) may be seen as attractive to members, but could reduce the attraction to sponsors. There is a difficult balancing act to be carried out by regulators and legislators. The irony is that over prescription here could lead to sponsors being less likely to establish these plans and offering DC plans instead – and those DC plans offer less certainty of outcomes for members.

Whilst there is little market evidence in relation to cash balance plans, the Watson Wyatt 2004 Plan Design survey does have a section on revaluation of each year’s pension under career average plans. They found that price indexation
subject to a cap (i.e. LPI increases) was the most common form of revaluation as follows:

- 8% of schemes offer LPI plus regular discretionary revaluation.
- 46% of schemes offer LPI plus occasional discretionary revaluation.
- 31% of schemes offer LPI only.
- 15% of schemes offer RPI only.

Member's perspective - investment

To what extent will the “guaranteed” investment returns provided under cash balance plans be appreciated by members? This will be heavily influenced by the prevailing market conditions. For example, consider two DC members, each invested in units tracking the UK equity market during one of the following three year periods

a) to 31.12.99; equity return 20.4% pa, RPI 2.7% pa.

b) to 31.12.02: equity return -14.2% pa, RPI 2.2% pa.

The second member may well see the merit of a cash balance plan design; the first member is likely to feel cheated if he were in a cash balance plan instead. This suggests that some sort of compromise – perhaps like the Barclays Bank design earlier – with combinations of pure DC and some element of guaranteed benefits from the employer - could strike a more reasonable balance of risk and return for members.

The Drivers of Hybrids

Many of the themes in Chapter 4 apply on a global basis. The pressures on defined benefit plans have been felt particularly strongly in the UK and US. In the US one of the trends in recent years has been the introduction of their own form of cash balance plan. The overall design is similar to UK cash balance plans outlined earlier, but the rates of revaluation are often different; they are typically related to yields on long-dated government bonds. For the sponsors of these plans, the ability to provide a defined benefit related to bonds, but investing in equities which are expected to give a higher return, has been a useful way of reducing long-term costs (at least until the market downturns in recent years). Cash balance plans in the US have definitely been seen as a replacement for more conventional DB plans at least until the recent high-profile issue of whether US cash balance plans breach their age discrimination legislation.
Global barriers to development

It is important to distinguish between the imposition of a hybrid design by local legislation on the one hand, and the choice by employers to adopt hybrid designs in the context of flexible legislation on the other. In some countries such as Switzerland (see Appendix C), all plans are effectively hybrids because of the constraints of local legislation, and the prevalence of hybrids is in many cases restricted to the type imposed by local laws.

Some of the other barriers to the wider global development of “chosen” hybrids that we have perceived are:

- The reluctance of employers to “rock the boat” in terms of pension scheme design, or to become involved in pension provision more than they have to.

- The perceived complexity and difficulty of communication of some hybrid designs.

- The absence of third parties such as insurance companies willing (on a cost-effective basis) to offer guarantees that employers themselves are reluctant to offer (e.g. investment guarantees).

- Members being suspicious of new designs and reluctant to embrace employee choice.

Funding requirements

Under legislation in the US, cash balance plans are treated in a similar fashion to other DB plans for the purposes of the funding legislation. The position in the UK is not entirely clear since there have not been many of these arrangements to date, but most commentators would suggest that the funding requirements should follow those of DB plans, where guaranteed benefits are offered. However to the extent that part of the benefits are discretionary in nature, rather than guaranteed, the funding obligations for cash balance plans may be lower than those of defined benefit plans. There is a key question for regulators in deciding how much of the discretionary benefits should be taken into account in setting minimum funding standards. For example if a CARE scheme is targeting RPI revaluation, but the contractual revaluation is nil (i.e. no loss of nominal value) should the funding be based on the benefit with or without RPI revaluation? Does the answer vary according to the winding-up terms of the scheme, the degree to which the RPI revaluation has been promoted to members and so forth?
Administration issues

In conceptual terms the administration of a cash balance plan may be easier than both final salary schemes and DC schemes. Compared with a final salary scheme there is no need to keep records of pensions in payment, where benefits are secured in the open market. In contrast to a DC scheme, there is no need to keep detailed records of the unit purchases for members.

In reality, there is little hard evidence in the market to show how third-party administrators price the administration of these cash balance plans. In the case of other hybrids, such as underpin plans, the pricing typically follows that of the predominant benefit, with a loading to reflect the existence of the underpin.

Interaction with state benefits

The most common pattern in the UK has been for final salary schemes to be contracted out of the second tier of state benefits, but for DC plans to be contracted in to state benefits. For example the ACA 2004 survey shows 73% of DB schemes are contracted out, but only 9% of DC schemes (ACA, 2004).

The terms for contracting out of state benefits were changed significantly in 1999 and many of the new DC schemes set up since that date concluded that there was little financial advantage for either the sponsor or the member in contracting out. Evidence to date in respect of cash balance plans is limited but would support the view that most of these arrangements will be contracted in. For those sponsors that did want to consider the contracting-out route it seems likely that the Protected Rights option would be adopted, rather than the Reference Scheme test.

Market practice – Contracting Out

The Watson Wyatt 2004 Survey of plan design showed that:

- 90% of final salary schemes were contracted out, primarily on the Reference Scheme test basis.
- 16% of DC schemes were contracted out, mainly using the Protected Rights test.

There was no clear pattern in relation to career average plans at present. 31% were not contracted out, 50% were contracted out on the Reference Scheme basis and 19% on the Protected Rights basis.
The 2004 NAPF Survey shows a breakdown of private sector schemes, analysed by their contracting-out status. Of the defined benefit schemes that are contracted out, 88% use the Reference Scheme Test. Practice amongst the defined contribution schemes is more varied with:

- 35% of schemes using the Reference Scheme test.
- 54% of schemes using the Protected Rights test.
- 12% of schemes were Contracted Out Mixed Benefit Schemes (COMBS).

**Contracting Out**

Hybrid plans do seem to occupy a middle ground position, in terms of the approach adopted to contracting out. The NAPF 2004 survey includes a question on the proportion of members contracted out, analysed by scheme types. The results are set out in Diagram 11 below.

**Diagram 11: Contracting out analysed by scheme type**

The figures need to be interpreted with some caution since it is not apparent that an employer will have details of whether a member of a GPP or Stakeholder plan has elected to contract out on an individual basis. Also the nature of the hybrid plans in the analysis is largely determined by the individual respondents to the NAPF survey.
Perception issues

Members’ perceptions of hybrid plans will vary significantly and often according to the historic context of the introduction of the plan. Thus if the hybrid plan were a cash balance plan replacing a final salary scheme, there would often be a perception that this was an inferior benefit. Equally if the plan were offered instead of a DC plan, members may well appreciate the guaranteed benefits that the sponsor is underwriting. This would be especially pertinent under current conditions where DC members have seen substantial reductions in the values of their accounts. It remains to be seen whether sponsors feel that the “image” of DC has been tarnished (or that some of the issues described earlier are sufficiently significant) and that adopting hybrid or risk-sharing solutions offers them some competitive advantage. We return to this theme later.

Retirement planning

Problems may arise in respect of the conversion of a cash balance account into a lifetime income. Members rarely appreciate the cost of purchasing an annuity and a significant communication from the employer may be needed to put what can appear to be a large account value into a realistic pension income.

In general we expect the understanding of cash balance plans on this feature to be on a par with that of DC plans - and this is very low in the UK at present.

Preservation and revaluation

Many of the types of hybrid schemes described in Chapter 2 have managed to adapt to the preservation legislation, albeit at a cost of additional administration complexity. Underpin schemes are generally required to apply preservation rules to both aspects of their benefits scales, with the member getting the greater of the two revalued benefits. Given that there could be a significant period between the date of leaving and the date of retirement this can add to administration costs (and require the maintenance of records) over many years.

There are a number of potentially confusing issues relating to CARE plans and cash balance plans. Further background and technical backing is set out in Appendix G.

Preservation – CARE and cash balance

Preservation legislation is designed to ensure that (certain categories of) “leavers” receive benefits comparable with, and no less favourable than, “stayers”. It is often thought that defined benefit plans – CARE plans for example – would be required to offer statutory revaluation increases (e.g. RPI capped at 5% p.a. over the period of deferral). This need not
be the case and plans can adopt the underlying principles of the legislation, by awarding similar increases to both deferred and active members. So where, for example, a CARE plan or cash balance plan provides discretionary revaluation increases, provided those increases are applied equally to active and deferred members, preservation is satisfied. Appendix G sets this out in greater detail.

Transferability

The issue with transferability of benefits is not usually whether or not it can happen, but rather a question of how much will be transferred. In traditional final salary schemes, members have struggled to understand why transferring the value of 10 years’ pension in one final salary scheme into an identical scheme operated by their new employer only buys them six or so years of credit. (This is because the amount transferred is based on a leaving service benefit rather than a projected final salary benefit). Similar issues can arise in relation to hybrid schemes, where we have already flagged up the disparity between the amount available for transfer and the face value of a cash balance account. Establishing “fair” terms for transfers paid into CARE or cash balance plans where there is a large discretionary element to the benefit may be problematic and employers/Trustees may prefer to avoid this issue (by refusing transfers or putting the amounts into ear-marked DC pots). The Barclays plan (see Chapter 3) does not accept transfers into its cash balance section.

Commercial Issues - UK

At present in the UK, local insurance markets do not offer cash balance plans. The development of these plans has been concentrated in the larger self administered schemes advised by the employee benefit consultants. The smaller end of the market is now predominantly a DC environment, as Diagram 12 below shows, and there are few signs that many of the sponsors of these plans have the appetite to take on the risks that would be implied by moving to cash balance plans. Should insurers develop access to cash balance type funds on a unitised basis (that could be slotted into a DC structure) it is possible that we could see interest from the lower end of the market.

In many cases the types of commercial product that may be needed are some form of capital guarantee but with equity exposure to deliver some “upside”. This could make a unitised With-Profits concept the solution although the well publicised problems with this investment vehicle will deter providers, or could result in new incarnations of the concept being offered. Insurers will be keen to ensure that any potential market growth for hybrid products is not stifled by
over-regulation or by a poor perception amongst members and sponsors.

Diagram 12: Open Pension arrangements of smaller firms

<table>
<thead>
<tr>
<th>Arrangement</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defined benefit</td>
<td>10%</td>
</tr>
<tr>
<td>Occupational DC</td>
<td>22%</td>
</tr>
<tr>
<td>Group personal pension</td>
<td>44%</td>
</tr>
<tr>
<td>Stakeholder scheme</td>
<td>37%</td>
</tr>
<tr>
<td>Other</td>
<td>8%</td>
</tr>
</tbody>
</table>

Note: Totals add to more than 100% since some firms have more than one open arrangement

Source: ACA 2004

Commercial issues - overseas

In other countries (in our experience) insurance companies tend to offer minimum investment returns only to the extent required by legislation; the current low-interest-rate investment environment makes offering any guaranteed return difficult. However, capital guarantees (i.e. a guarantee that the overall investment return will not be negative) are widespread, as the concept that “values can go down as well as up” is not widely understood or accepted by the general public in many countries, particularly in Continental Europe.

Generally, the products offered by insurance companies tend to be relatively simple in design, with complexity and innovation focused on the investment return credited. Insurance companies everywhere will cover the mortality risk (of course, until relatively recently that was their principal function) although they are paying increasing attention to this factor and are increasingly allowing for future projected mortality improvements. The first actuarial mortality table explicitly to do so (the TPG93 table) was adopted in France in the early 1990s.
7 Hybrids in the UK

**Published surveys**

There is a wide body of information about UK pension schemes, but in relation to this research they suffer from some major disadvantages:

- There is little pulling together of disparate material. The NAPF survey is a very good representation of the pension arrangements of larger employers. The ABI carry much information on the insured market. Combining these sources can be difficult.

- There is no consistency of definition from year to year; pension scheme designs change and evolve, so that the questions asked in surveys and the information collected can vary significantly.

- Surveys carry a significant “lag” in providing information on current trends. Examples of this would be the NAPF surveys, which lagged the trend to DC by several years.

**Changing designs**

As an example of the second bullet above, the Government Actuary’s Department carry out regular surveys of occupational schemes. Consider Diagram 13 below, which shows extracts of their published results over the past 40 years. At the start of the period, “salary range” (a type of career average plan) and fixed amount schemes were common; this design failed to survive the outbreak of inflation in the mid 1970s. DC schemes as such were not recognised or recorded separately until very recently.
The GAD analysis (by number of schemes and number of members) for 1963 is quite illuminating, in that it reveals quite a wide variety of scheme types, as illustrated in Table 6 below.

### Table 6: 1963 Private Sector Design

<table>
<thead>
<tr>
<th>Scheme Type</th>
<th>% of Schemes</th>
<th>% of members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependant on salary range from time to time (Career Average)</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Fixed proportion of salary</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Fraction of salary for each year of service (Final Salary)</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>Fixed amount</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Fixed amount per year of service</td>
<td>9</td>
<td>26</td>
</tr>
<tr>
<td>As secured by contribution (Defined Contribution)</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Other bases</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>No pension provided</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Government Actuary’s Department survey
**Scheme design changes**

The changes in scheme design over time can be seen from the analysis in Table 7 below, which looks, in summary form, at the results of successive GAD surveys. The analysis relates to the number of members covered by each scheme type. It can be seen that in recent years, design has settled into predominantly final salary or DC, whereas 40 years ago there was a much greater diversity of design. The key features have been:

- The dominance of final salary plans in the 70’s onwards, as the general quality of pension benefits improved and other designs failed to cope with periods of high inflation.
- The emergence of DC since the 1990’s, firstly in response to changing workforce profiles but then as a result of the financial pressures discussed earlier.

### Table 7: Private Sector Scheme Design

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<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary Range/Career average</td>
<td>29</td>
<td>15</td>
<td>12</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Final Salary</td>
<td>23</td>
<td>55</td>
<td>62</td>
<td>79</td>
<td>92</td>
<td>90</td>
<td>91</td>
<td>86</td>
<td>78</td>
<td>80</td>
</tr>
<tr>
<td>Fixed amount per year of service</td>
<td>26</td>
<td>20</td>
<td>17</td>
<td>12</td>
<td>3</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Defined Contribution</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>Other (1)</td>
<td>16</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>5 (7)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>No pension</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Government Actuary’s Department surveys

**Notes:**

1. Includes fixed proportion of salary, fixed amount of pension.
2. Defined contribution not separately identified from “other”.
3. Defined Contribution not separately identified but comment that most of “other” is DC.
4. Minimal number of CARE and ‘no pension’ schemes.
5. Includes hybrid schemes (underpin schemes) categorised as final salary or DC according to the definition of the “main” benefit.
6. All defined benefit schemes (but largest proportion is final salary).
7. This now relates to hybrid schemes, described as either underpin schemes or combination hybrids (small final salary plus DC).

**NAPF Surveys**

The surveys carried out by the National Association of Pension Funds give a good picture (albeit with a time lag) of pension provision amongst larger employers. Diagram 14 below shows the analysis of private sector schemes from the 2004 survey. It separates out all of the schemes operated from those that are open to new members.
Final salary schemes remain largely the province of larger employers. The NAPF survey shows the types of schemes offered, analysed by the number of members (i.e. actives, deferred and pensioners). The results are summarised in Diagram 15 below.

**Diagram 14: Types of pension arrangements for larger private sector employers**

- Final salary
- Career average
- Hybrid
- Occupational DC
- Group personal pension
- Stakeholder

Source: NAPF Survey 2004

**Diagram 15: Types of plans by size of membership**

Source: NAPF Survey 2004
Hybrids

Bearing in mind the comments earlier about difficulties of interpretation, Diagram 16 below plots the development of hybrid schemes over the course of recent NAPF surveys. Full numerical results are set out in Table 8.

Diagram 16: Types of pension arrangements for larger private sector employers

![Diagram 16](image)

Table 8: UK Private Sector Pension Schemes from NAPF Surveys

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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Salary</td>
<td>99%</td>
<td>89%</td>
<td>87%</td>
<td>80%</td>
<td>79%</td>
<td>74%</td>
<td>73%</td>
<td>69%</td>
<td>59%</td>
<td>51%</td>
</tr>
<tr>
<td>Defined Contribution(1)</td>
<td>1%</td>
<td>6%</td>
<td>7%</td>
<td>12%</td>
<td>12%</td>
<td>22%</td>
<td>23%</td>
<td>25%</td>
<td>33%</td>
<td>40%</td>
</tr>
<tr>
<td>Hybrid(2)</td>
<td>Nil</td>
<td>5%</td>
<td>6%</td>
<td>8%</td>
<td>9%</td>
<td>4%</td>
<td>4%</td>
<td>6%</td>
<td>8%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Source: NAPF Annual Surveys

Notes

(1) Includes Career Average and other DB.

(2) Includes Group Personal Pension and Stakeholder.

CBI Survey

In April 2004 the CBI published a survey “A View from the Top” looking at business leaders’ views on pension provision, from over 200 companies employing in aggregate over 1 million staff. Apart from considering the design of current systems and the reaction to funding pressures in those schemes, they sought views on future pension provision.
Whilst the majority view was that future provision was likely to be DC, employers cited “an increasing interest in hybrid pension schemes and flexible retirement savings products”. Hybrid schemes were provided only in 3% of cases to current employees, but in 5% of cases employers expected to switch to CARE or cash balance within the next year. Interest was expected to grow as Diagram 17 below illustrates. This shows the type of pension provision available to existing members (including closed schemes) the plans open to new entrants, and the type of provision expected to be provided in ten years’ time. The CBI definition of a hybrid scheme in the table above was “a scheme incorporating both DC and DB elements” - which would typically be a combination hybrid in our terminology.

Diagram 17: Pension provision – today and in ten years time

Source: CBI Survey

**Watson Wyatt Survey**

Consultants Watson Wyatt have been carrying out surveys of plan design since the mid 1990’s. Their 2004 survey covers 213 organisations from a variety of industry sectors, including 36 FTSE 100 companies. Diagram 18 below shows the main designs of open plans revealed by their survey.
Diagram 18: Design of Open Pension Plans

Their survey notes that the proportion of open DC plans now exceeds the proportion of open final salary plan but also records “a significant growth in the proportion of risk-sharing designs (career average and cash balance plans).”

Pensions after final salary

The IDS publication “Pensions after final salary 2003/4” (IDS, 2003) gives a good snapshot of UK pension design at the present time. It contains profiles of the arrangements of 37 employers, who operate between them some 75 separate schemes, sections or arrangements. Most of these have closed their final salary schemes to new entrants. The vast majority of the open arrangements were DC schemes - either occupational or GPP/Stakeholder - with a relatively small percentage being alternative designs such as CARE or cash balance. The overall analysis of the pensions arrangements offered is as follows:

- 30 open DC
- 4 final salary underpins
- 1 closed DC
- 1 DC underpin
- 25 closed final salary
- 4 open career average
- 6 restricted entry final salary
- 1 open cash balance
- 3 open final salary

The final salary underpins are all schemes which have contracted out on the Protected Rights basis. The DC underpin is a scheme which is contracted out on the Reference Scheme test. There are also in depth profiles of a number of organisations, including Barclays (cash balance), BAE systems (combination hybrid), First Group, Sainsburys, Scottish and Newcastle and UBS (all with career average components in their arrangements).

**Industry Summary**

One of the industry reference sources is Pension Funds and their Advisers (Rowse, 2003). It contains an electronic listing of over 2000 UK pension plans. They ask employers to describe their plans as either final salary (or defined benefit), career average, DC (including GPP and stakeholder) and hybrid (not specified which type) or cash balance. Overall they list 160 hybrid and 2 cash balance plans – a penetration rate of some 8%. The overall analysis of schemes is as follows:

- Final salary 69%
- Career average 1%
- DC 23%
- Hybrid/cash balance 8%

The data does not consistently differentiate between open or closed plans.
8 Hybrids around the World

**Introduction**

This section of the report considers some of the global context for hybrid schemes. We have looked in depth at five selected countries which illustrate particular themes about hybrid plans. We have also considered a wider range of other countries where hybrid plans form a material part of the pensions landscape, and which offer insight into either general or specific points.

The key learning points from each of the five major countries are set out below: the full country profiles are included in Appendices. Note that in these profiles, we have summarised the local environment and local practice. In this context it should be noted that there is much in common to many countries, such as taxation where the “EET” or Exempt-Exempt-Taxed approach, referring to taxation of contributions, investment returns, and pensions) is followed in almost all countries, with some exceptions (e.g. UK taxation of equity dividends, UK tax-free lump on retirement, etc). The European Commission is encouraging those EU countries who adopt alternative approaches (notably Germany) to move to EET.

**Key points - UK**

Most occupational plans used to be DB final salary pension schemes. During the 1990s “pure DC” designs started to be introduced, and from the late 1990s an accelerating trend of closing DB schemes and introducing DC schemes for new entrants has been observed.

However, the experience of these “pure DC” schemes has not always been favourable. The long bear market of the early 2000s led to fund values that were lower than expected and served to highlight the level of risk borne by employees in such schemes. Some employers have reacted to this by developing hybrid plans, generally in the form of career
average or cash balance plans, in order to share the risks to some extent between employer and employee. This trend has been observed since the early 2000s but still only covers a small minority of employers.

<table>
<thead>
<tr>
<th>Key points - US</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash balance plans have been introduced since the 1980s, because they are perceived as being better understood and appreciated by employees (a “pot of money”) than a traditional final salary scheme. About a quarter of major US employers now offer such a design.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key points - Switzerland</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan design in Switzerland is in practice less varied than in the UK or US. Virtually all plans are effectively hybrid plans because of legislation: DC plans are required to offer a guaranteed minimum annual investment return, and DB plans are subject to a DC “underpin” on a certain slice of salary. It is interesting to note that the guaranteed investment return in a DC plan may be underwritten by an insurance company if the plan is insured. In this case, the plan design from the employee’s perspective is clearly hybrid, even though from the employer’s perspective (and for accounting purposes) it can be regarded as a defined contribution plan.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Key points - Netherlands</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>There has been a dramatic move away from the traditional Dutch plan design - a final salary pension plan providing 70% of salary less the State pension offset after 40 years’ service at age 65. This followed some discussion within the pensions industry, as well as some proposals to tighten Dutch “Inland Revenue limits” by limiting tax-deductible DB plan contributions to plans offering career average benefits. The move started with the industry-wide plans and has been extending rapidly among single-employer plans. 50% of Dutch employees were members of final salary plans in 2003 but this declined to 10% in 2004. Employees are increasingly being given revalued career average benefits, or “combination” hybrids offering revalued career average benefits up to a salary limit and DC on salary over the limit.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key points - Belgium</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Again, legislation has led to the majority of plans being hybrid plans according to our definitions. From 2004, all DC plans have to offer a guaranteed minimum annual investment return. Also, most DB plans now define their benefit in lump sum terms (cf. US “pension equity” plans), thus transferring the post-retirement mortality risk to the employees.</td>
<td></td>
</tr>
</tbody>
</table>
Our review of other countries has concluded that in virtually all cases, the hybrid plans that do exist are as a result of constraining legislation, similar to Belgium and Switzerland above.

For example, tax relief in Germany is much more generous for defined benefit plans, so companies wishing to move to DC often introduce a cash balance design. This is because a cash balance design is generally regarded as being the “furthest they can go” on the track to DC while remaining defined benefit as required for tax purposes (tax deductions are only allowed on allocations to book reserves, the most common method of providing pensions in Germany, if the plan is defined benefit, i.e. if the retirement benefit formula is defined in advance in the rules of the plan).

Anecdotally, in our experience, the US and the UK are the most advanced in terms of development of hybrid plans, and their employers are perhaps the most willing to invest the time and effort to consider complex pension designs and communicate them to their employees.
# The Growth of Hybrids

In considering the prospects for the growth of hybrid plans we need to distinguish between the different types of hybrids, since the rationale behind the initial plan design will be a key factor in determining the growth prospects.

## Corporate Drivers

Many of the factors that have led to the growth of hybrids in the UK to date have been identified earlier. This chapter pulls together some of the themes, analysed by the type of hybrid scheme and gives some of our opinions on the growth prospects. We look at these issues primarily from the perspective of the corporate sponsors, but then later consider the impact of other actors such as, members, government and the insurance industry.

<table>
<thead>
<tr>
<th>Career average plans</th>
<th>Will often be adopted by employers looking for pension solutions that are still defined benefit, yet cheaper than final salary (through a lower salary risk) although this may be offset by changing the accrual rate.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Greater elements of discretionary revaluation may appeal (e.g. in service and in deferment).</td>
</tr>
<tr>
<td></td>
<td>Offers a more equitable distribution of pension cost than a final salary scheme.</td>
</tr>
<tr>
<td></td>
<td>The development of these schemes will be largely amongst the larger private sector employers who still have final salary plans.</td>
</tr>
<tr>
<td></td>
<td>It is unlikely that many employers with DC plans will be persuaded to switch to career average plans.</td>
</tr>
</tbody>
</table>
The Growth of Hybrids

Final Salary Cash Plans
- Have not really “arrived” in the UK as yet. Growth prospects are muted.
- May develop as a way of having final salary benefits (which e.g. target high flyers and better paid members) but which do not take on long-term mortality risk.
- May arrive from “abroad” e.g. if Australian or US companies (where these designs are more common) attempt to use them in the UK.

Sequential hybrids
- It looks increasingly less likely that individuals will be able to “migrate” from the DC plan to joining the DB plan after an agreed waiting period. DB plans are more likely to close to all members.

Combination hybrids
- The key growth here will probably come from those companies who are reluctant to abandon defined benefit provision but who need to reduce their overall risk profile – and hence will offer combinations of reduced accrual DB topped up by DC contributions.
- Whether this type of arrangement is sustainable longer term, or whether it will simply represent a transitional stage to pure DC remains to be seen.
- There will continue to be many “capped” executives even after the changes to Inland Revenue taxation in April 2006. To the extent that pension provision above the Earnings Cap is delivered as cash, this could (at a stretch!) be considered a combination hybrid.

Underpin plans
- The main attraction of these plans will continue to arise from the financial options surrounding contracting out of S2P.
- The financial terms for Protected Rights contracting out (e.g. for a typical \( \frac{1}{60} \) final salary scheme) are more advantageous if the average age of the scheme membership is higher. The ageing of closed DB plans will therefore make Protected Rights contracting out progressively more attractive. At some stage the extra costs of administration and communication will be outweighed by the financial advantage of higher NI rebates.
We do not see major drivers for offering other plans which are structured as e.g. the better of DB and DC plans. Whilst there have been such offers, they have largely been in financial service companies and then often as part of a transition from DB to DC.

### Cash balance plans – from DB

- In our view the greatest growth potential for these plans will come from employers with current DB (e.g. final salary) plans who are reluctant to pass on all investment risk to members, and/or who become increasingly concerned about the effect of (unknown future) longevity improvements.

- In some cases the conversion of past benefit entitlements to cash balance may represent a further attempt to de-risk corporate pensions (e.g. where a final salary plan has already closed to new entrants or to future accruals). Such conversions will require the consent of members, although in “distress” cases this could simply represent a least bad option (e.g. the alternative might be no future benefits at all).

- It should be noted that many of the influencers of corporate pensions development may have vested interests in promoting the growth of hybrid plans. These plans probably present greater commercial opportunities and a stronger rationale for the use of actuaries. Trade organisations such as the NAPF may feel they have more influence in relation to defined benefit and cash balance plans rather than pure DC plans.

- There are increasing concerns that it could be argued as discriminatory (in the light of impending age discrimination legislation) or objectionable (from an HR perspective) to operate a closed (high cost) final salary plan and an open (low cost) DC plan. A common approach via a hybrid plan is one potential solution.

### Cash balance plans – from DC

- We have already witnessed some isolated examples of companies who have replaced a DC plan with a cash balance plan – e.g. Barclays Bank. The extent to which others will follow this trend is unclear.

- The issue is likely to centre on the extent to which some of the DC downsides noted earlier are believed to be material. Will issues such as the sheer variability of DC outcomes...
(with its impact on the employees’ age of retirement), inadequate contributions or poor take up rates persuade employers to switch to hybrid plans? In some cases the answer will be yes, but in many cases employers will prefer to stick with their DC plans but tackle these issues in other ways – such as enhanced communication/education.

- Many employers have suffered significantly from the disruption of their business as a result of pension deficits and their consequences. Having made a move to DC as their longer-term benefit provision, they may be reluctant to move “back” to DB or hybrid plans.

- A counter to this would be if the competition for talent toughens in future years, e.g. as a result of demographic changes. In these circumstances, employers with DB plans can expect to promote these plans as part of their marketing to prospective employees. Cash balance plans should, presumably, occupy some sort of middle ground – more attractive than DC, but not as attractive as final salary.

**Insurance products**

Another unknown is the extent to which the insurance/asset management community will come forward with new products or approaches that take out volatility in DC plans. To the extent that these solutions require explicit financial support from the employer, they will generate new hybrid plans. More likely, the products will be structured such that they do not represent an open ended commitment from the employer and that the cost of any “smoothing” is borne by members (e.g. as in the case of with profit funds).

**Legislation**

It should be clear from Chapter 8 on the international experience that, in our view, one of the biggest factors that influences the development of hybrid plans is local legislation. Legislation can be a driver that either stimulates or discourages the development of hybrid plans. So for example in several of the European cases, the government’s insistence on minimum rates of return has automatically created a hybrid environment. In the US cash balance plans did not, in contrast, arise out of legislation changes – they arose largely to address poor perception amongst members of their existing (DB) plans. However the future for these cash balance plans is now subject to significant uncertainty as a result of legislative developments – the age discrimination claim in the IBM case. The fact that this issue came to light some 10 years after the plans started to become popular is a major concern for US corporations who have introduced these plans.
In a UK context we consider below a number of issues where legislation may impact the development of hybrid plans. We do not discuss the purpose behind the legislation, nor discuss how the legislation should be framed, but rather focus on some of the practical difficulties facing hybrids. It should also be noted that whilst these issues are very much “live” at the time of drafting, potential ambiguities or anomalies may have been resolved by the date of publication.

**Benefit design – LPI increases**

LPI increases are increases to pensions in payment at the level of the lower of the increase in the RPI or 5% p.a. (the figure of 5% is being reduced to 2.5% for benefits earned after April 2005). LPI increases are mandatory on final salary and (e.g.) career average pensions. The Pensions Act 2004 states that LPI increases would not be required on occupational DC pensions (they are not a requirement on personal pensions). In a DC environment, imposing an LPI requirement has the effect of reducing the range of annuities the individual can purchase – it does not increase the cost to the sponsor.

How do hybrids sit in relation to this legislation? In a DC scheme with a DB underpin, is the underpin benefit subject to LPI but not the excess? Is a cash balance plan subject to LPI?

As above, by the date of publication, these questions may have been answered. But the issue is that this piece of legislation has very different (and polarised) consequences for DB and DC plans; it can be very difficult to work out what principles should be followed in applying the legislation to hybrid plans.

**Discrimination**

The IBM cash balance case is another classic illustration of the difficulty of interpreting legislation for hybrid plans. Age discrimination legislation is designed to ensure consistency of treatment of younger and older employees. In pension terms we can insist on either:

(i) equality of input, or

ii) equality of output.

The time effect of money means that you cannot have both simultaneously. In the case of IBM they achieved equality of input – similar credits to the cash balance plan for members regardless of age. But this will automatically lead to different outputs in terms of the amount of pension members receive – and the age discrimination case was held to be a test of output for this type of plan.
Once again this is a case of polarised outcomes of the legislation – how will the full spectrum of hybrid plans cope with these conflicting objectives?

One of the themes that has been flagged up in relation to new plan designs is that employers are often seeking greater elements of flexibility or discretion, in terms of any benefits promised. The recent past has taught them that guaranteed benefits can be prohibitively expensive (if indeed they exist at all).

Hence we have seen discretionary elements in career average plans and in cash balance plans, in relation to revaluation and the terms of conversion of accounts into annuities.

Employers may want flexibility – but members would like certainty, to be able to plan for their retirement. How can these tensions be resolved – in relation to, for example, annual benefit statements? To what extent should discretionary practices be assumed to continue? Should any statements, projections or booklets make explicit reference to benefits which are guaranteed and separate out those which are subject to discretion? Can illustrations based on continuation of future discretions be given to members, provided this separation is also maintained?

There is a similar issue in relation to discretions as far as statutory funding requirements are concerned. Should any funding requirements apply only in relation to the guaranteed benefit, and any (future) discretionary increases be ignored? Or should funding reflect the anticipated level of benefits? Or should there be tougher funding requirements applied to the guaranteed benefit, with weaker requirements based on the anticipated benefit? Should there be a supplementary test to see the extent to which future discretions can be supported, and only this level of discretion included in members’ benefit statements for example?

The framing of the answers to these, and other allied, questions will influence the development of hybrids. In some cases they will be “secondary level” issues – in other words something that an employer who wishes to adopt a hybrid plan will accept as part of the cost of that type of plan. In other cases they may represent more fundamental problems that deter employers from offering these plans altogether – such as the US cash balance discrimination issues. IBM has
closed its cash balance plan and is instead offering a pure DC plan for members. It would also be useful to consider how legislation can be framed so as to avoid “regulatory shopping” – employers adopting hybrid designs to circumvent some of the more restrictive aspects of final salary or DC regulation.

The future?

The growth of hybrid plans in the UK is unlikely to be as dramatic as the growth in DC plans, because of the different drivers. The move to DC was part of a global trend, driven largely by financial considerations, as sponsors sought to take control of both the volatility and the overall cost of their defined benefit plans. Sponsors may be reluctant to move back to a position of taking on corporate risk in relation to employees’ pension promises. However many of the factors that may lead to a greater prevalence of hybrid plans stem from the very uncertain outcomes inherent in DC plans and the volatility of members’ accounts (where they follow equity-orientated strategies designed to maximise their future pensions):

- Some sponsors will be reluctant to pass on the investment risk to employees and so will offer career average, cash balance or combination plans instead. This could lead to a more balanced sharing of risk between sponsor and employee.

- Discrimination concerns and the susceptibility of members’ retirement dates to market conditions, may persuade DC sponsors to take on limited amounts of pension risk.

- Government may wish to consider whether the variability of DC plans is acting as a disincentive and that individuals are being discouraged from saving sufficiently for their own retirement.

- Members themselves, and their trade unions may reject DC benefits; labour market pressures may lead to some more controlled outcomes through hybrid plans.

The growth of hybrids may come from a variety of directions, with global precedents for each of the main forces of change. The moves away from the polarised scheme designs of pure final salary and pure DC look set to continue.
Appendix A: Statutory References

Context
The legislation governing pensions in the UK contains a number of references to hybrid benefits or schemes as summarised below. We also include references to taxation legislation and accounting concepts. Note that this summary ignores references, changes or regulations made under the Pensions Act 2004 since at the time of drafting many of the regulations to be made under that Act were yet to be released.

Preservation
For revaluation purposes, preservation legislation considers hybrids from the perspective of benefits calculated on two or more bases as follows (The Occupational Pension Schemes (Revaluation) Regulations 1991 as amended by SI 1994/1062 §4 (2))

In this regulation, “hybrid benefit” means a benefit the rate or amount of which is calculated by reference to the greatest, or smallest, of two or more of the following—

(a) an average salary benefit,
(b) a flat rate benefit,
(c) a money purchase benefit, and
(d) some other benefit to which section 84 of the Act applies.

Types (a) and (b) are specifically defined in section 84 of the Pension Schemes Act 1993, while type (c) is generally defined in section 181 of that Act.
Transfer values

The Transfer legislation (*The Occupational Pension Schemes (Transfer Values) Regulations 1996* §19(1) ) starts from a premise that hybrid schemes are a combination of salary related benefits and defined contribution (DC) benefits as follows:

In this regulation “hybrid scheme” means a scheme which is a salary related scheme but under which some of the benefits which may be provided are money purchase benefits.

“Salary related” scheme is defined for this purpose in section 93 of the Pension Schemes Act 1993, essentially as a scheme other than a money purchase one.

Pensions Act

The Pensions Act 1995 refers to hybrid schemes as those where both forms of contracting out (e.g. Reference Scheme final salary benefits and Protected Rights DC benefits) are found in one scheme (*The Pensions Act 1995, Part III, § 149 (1)*)

Hybrid occupational pension schemes

149 (1) In spite of anything in sections 9 and 12 of the Pension Schemes Act 1993… the Secretary of State may by regulations provide, where the pensions provided by an occupational pension scheme include both-

(a) such pensions that, if the scheme provided only those pensions, it would satisfy section 9(2) of that Act, and

(b) such other pensions that, if the scheme provided only those other pensions, it would satisfy section 9(3) of that Act, for Part III of that Act to have effect as if the scheme were two separate schemes providing, respectively, the pensions referred to in paragraphs (a) and (b).

These hybrid schemes are widely referred to as COMBS.

Winding up

*The Occupational Pension Schemes (Winding Up) Regulations 1996* § 13 deal with schemes which have both money purchase benefits and other benefits (e.g. final salary). It also references underpin benefits.

(1) In relation to any scheme-

(a) which is not a money purchase scheme, but

(b) where some of the benefits that may be provided are relevant money purchase benefits, section 73 applies ….

(2) In paragraph (1) “relevant money purchase benefits” means money purchase benefits other than-

(a) benefits derived from the payment by any member of voluntary contributions, or

(b) underpin benefits.

(3) In this regulation “underpin benefits” means money purchase benefits which under the provisions of the scheme will only be provided in respect of a member if their value exceeds the value of other benefits in respect of him under the scheme which are not money purchase benefits.
**Contracting out**


(1) This regulation applies where a scheme provides for the rate of a pension for the earner, or the earner’s widow or widower, to be the greater of-

(a) a rate that is calculated by reference to the earner’s earnings, and

(b) a rate that is not calculated by reference to the earner’s earnings.

**Tax legislation**

The new UK tax legislation (Finance Act 2004, §152 (8)) deals with a scenario where benefits may be calculated on one or more different varieties as follows:

(8) For the purposes of this Part an arrangement is a “hybrid arrangement” at any time if, at that time, all of the benefits that may be provided to or in respect of the member under the arrangement are, depending on the circumstances, to be of one of any two or three of the following varieties—

(a) cash balance benefits,

(b) other money purchase benefits, and

(c) defined benefits.

The new definition of cash balance plans is set out in the Finance Act 2004, §152 (5) as follows:

“cash balance benefits” means benefits the rate or amount of which is calculated by reference to an amount available for the provision of benefits to or in respect of the member calculated otherwise than wholly by reference to payments made under the arrangement by the member or by any other person in respect of the member (or transfers or other credits).

**Accounting**

SSAP24 contains a reference to hybrid schemes as follows:

“A few schemes are hybrid in nature combining features of defined contribution and defined benefit schemes. In such instances the rules or trust deed should be carefully studied and the operation of the scheme in practice, or its proposed method of operation, taken into account when determining the appropriate accounting treatment. The accounting treatment adopted should be in accordance with the underlying substance of the scheme.” ([SSAP §39](#))
Appendix B: Hybrid Summary - UK

Introduction

In this and in the following appendices, we have set out Hewitt’s assessment of the hybrid pension plan environment in a selection of countries, under the following headings:

- **Context**: the local State and occupational pension plan environment generally

- **Overview of taxation and regulatory environment**: a “broad-brush” comparative summary of some key comparative features. Note that this does not include detail such as earnings caps, tax rates, special exceptions, etc.

- **Local Practice**: comments on the variety of occupational pension plans including hybrid plans.

- **Choice**: the extent to which, in our experience and where they have a choice, employers and employees choose hybrid designs.

- **Perception**: comments on how we believe hybrids are perceived by key stakeholders, including employees, employers, providers/insurance companies, the State, etc.

- **Design**: an outline of the design of a typical hybrid plan, and comments on alternatives that are also seen.
Context

The UK has a long established and well developed system of funded occupational pensions. State benefits are low by European (and developed global) standards, although fairly generous for those who are lower paid, and the expenditure on State pensions is one of the lowest in the EU as a percentage of GDP. Second tier provision consists of either occupational sponsored pensions or individual personal pensions – the latter may be combined into Group Personal Pensions for purchasing purposes, and distribution is then via the employer. Second tier provision covers approximately two-thirds of full-time employees (source: NTC 2004, p39).

Overview of Taxation Environment

Note: This is a brief summary. Reliefs may be subject to limits and ceilings. Exceptions may apply.

<table>
<thead>
<tr>
<th>Employer taxation of employer contributions</th>
<th>Employee income taxation/relief of employer contributions</th>
<th>Employee income taxation/relief of employee contributions</th>
<th>Taxation of pension plan investment income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relief from corporation tax given on contributions to approved schemes.</td>
<td>Employee not taxed on the value of employer contributions to approved schemes.</td>
<td>Relief from income tax given on employee contributions paid to approved schemes.</td>
<td>Favourable tax treatment for approved schemes.</td>
</tr>
</tbody>
</table>

Overview of Legal/Regulatory Environment

Note: This is a brief summary. Exceptions may apply.

<table>
<thead>
<tr>
<th>Age/sex discrimination restrictions</th>
<th>Preservation (vesting of benefits)</th>
<th>Revaluation (increases to pensions or deferred pensions)</th>
<th>Minimum funding of pension plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictions in line with ECJ rulings and Directive. (Annuities and commutation factors may vary by sex as actuarially justified.)</td>
<td>Compulsory vesting after two years of participation (expected to change in 2006).</td>
<td>Deferred pensions must be revalued in line with inflation. Pensions in payment accrued after 1997 must be revalued in line with inflation subject to a cap of 5% p.a. (2.5% p.a. from 2005)</td>
<td>Former minimum funding requirement being replaced by “scheme-specific” funding requirement to be agreed between employer and trustees.</td>
</tr>
</tbody>
</table>
There are some 300 public sector occupational schemes with 9 million members and 100,000 private sector schemes with 16 million members (source: NTC 2004, p38) (These numbers include deferred members and pensioners). Public sector schemes have historically conformed to a single final salary design, although there are proposals and consultations underway at present which might lead to a CARE basis becoming more widespread.

Company sponsored plans were for many years heavily focussed on final salary style provision at the top end of the market (i.e. for larger employers). In particular during the 1980s these plans ran up significant surpluses on the back of strong stock market returns, and a large part of the surpluses were applied to provide easy terms for early retirement on the restructuring of UK industry.

Amongst smaller employers, Defined Contribution (DC) provision was much more commonplace, helped by the effective withdrawal of insurance companies from this area (due to high compliance costs and their enthusiasm for personal pension products). In the late 1990s a resurgence of interest in DC schemes amongst larger employers took place, initially driven by HR considerations of more mobile workforces, but also by concerns about the escalation of costs of final salary plans, and the open ended nature of the benefits offered.

Costs had increased as a result of a lower interest rate environment, improved mortality amongst pension scheme members and partial withdrawal of tax privileges on pension fund dividend income. This was massively accentuated in the early 2000s by the collapse in stock markets, since UK plans were heavily exposed to equity investment (up to 70/80% of assets).

A survey in 2003 (NAPF, 2003) showed that only 1 in 5 employers offered new entrants access to DB plans, with the majority offering cheaper DC alternative to these new hires. The UK approach has largely been to leave existing active members of closed final salary schemes accruing benefits under the scheme for service after the date of closure, rather than converting them to a new benefit scale. However very often the closure is accompanied by an increase in member contributions or a reduction in benefits for future accruals, typically on the terms for early retirement.
**Local Practice**

- **hybrids**

From the early 2000s onwards, both career average and cash balance plans started to emerge, typically amongst larger employers. In some cases this reflected a concern amongst employers that traditional DC plans were not meeting their needs. More common it represented reluctance on the part of more paternalistic employers to place all of the risks on their members, whilst reducing their own risk exposure and the cost of pension provision.

**Choice**

Employers have not as yet adopted hybrid plans widely in the UK. The latest NAPF survey (2004) – amongst larger private sector employers – shows the following types of schemes:

- 51% final salary
- 40% DC
- 9% hybrid

Hybrid schemes have most commonly been offered as the only scheme for selected new entrants. There has been little evidence to date of existing final salary members being converted on a compulsory basis to hybrid designs or of members being offered any choice between e.g. DC or hybrid schemes. As the growth of these schemes continues – as it looks sets to – we may see greater elements of member choice between different scheme types.

**Perception**

- Employees: hybrids are seen as more attractive than the DC alternative, although many of the designs have yet to be tested under adverse conditions and member understanding may be low.

- Employers: hybrids are often perceived as addressing some of the weaknesses of DC schemes, particularly the correlation of member retirement with stock market conditions.

- Providers/Insurers: have not been active to date in this market, which has been primarily the larger self administered schemes.

- State: Cash balance has only recently entered into the state’s thinking as these plans are very new. The proposed tax changes from 2006 make the operation of these schemes easier.

- Others: Trades unions have given some grudging support to hybrid plans, seeing them as superior to DC, but would prefer to defend existing final salary schemes.
Design—typical cash balance hybrid

A basic risk-sharing hybrid design (cash balance or retirement balance) might look like this:

- Individual account, awarded pension “credits” each year.
- Member contributions say 5% of pay. Employer credits 15% of pay.
- Each year the member’s account is increased by a guaranteed rate of increase. The account may be increased each year in line with say RPI.
- At retirement the account is used to purchase an annuity, in the open market, or provided through the scheme. The member would have choice on the shape and type of annuity offered.

Additional benefit plans would provide cover in respect of death in service and retirement on account of incapacity.

Design—variations

Variations around the design above would include:

- The methods of crediting the account: credits may vary by age, status or according to the level of contributions paid by the member.
- The target used for revaluation of the account. This may be a simple guarantee of no loss of capital, may be an RPI or higher target e.g. RPI + 3% p.a. or may be a variable item dependent on the investment performance of the assets backing the plan.
- The extent to which the annual adjustment to the account is guaranteed, or is set as a target only (and so may be withdrawn in adverse circumstances, or applied in favourable conditions).
Appendix C: Hybrid Summary - US

Context

The US has a long-established and well developed system of funded private sector pensions. Social Security benefits are fairly generous for those who are lower paid or have worked only on an irregular basis. Nearly two-thirds of major employers offer defined benefit pensions, almost always at no direct cost to the employee. Many others have deferred profit sharing plans or defined contribution pensions. Over 95% of large employers also provide savings plans in which they match some percentage of employee contributions (source: Hewitt, 2004).

Among companies of all sizes, 28% have defined benefit pensions and 91% have savings plans (source: US Chamber of Commerce).

Overview of Taxation Environment

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<th>Taxation of pension plan investment income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relief from corporation tax given on contributions to qualified plans.</td>
<td>Employer contributions are not taxable income to the employee.</td>
<td>None. (In practice this means that DB plans are non-contributory, and “contributions” to DC savings plans are actually paid by salary sacrifice.)</td>
<td>Pension plan investment income is not taxable.</td>
</tr>
</tbody>
</table>
Overview of Legal/Regulatory Environment

Note: This is a brief summary. Exceptions may apply.

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<th>Minimum funding of pension plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>No discrimination based on age or sex is permitted.</td>
<td>Plan must either vest 100% after 5 years or 20% per year from years 3-7. “Matched” savings plans require more generous vesting.</td>
<td>This is not required and is rarely found.</td>
<td>Minimum funding standards exist and are very complex.</td>
</tr>
</tbody>
</table>

**Local Practice**

**– private sector**

Company sponsored plans, particularly those provided by larger employers, have for many years been heavily focused on final salary (generally five-year average) style designs.

Among smaller employers, defined contribution plans have always been much more common, as those employers did not want to deal with the costs of pension administration and the uncertainty of funding.

**Local Practice**

**– cash balance in the 1980s**

In the 1980s, cash balance plans began to appear among employers who had previously offered final salary designs. The motivation for these plans was greater employee appreciation. It was felt that employees did not understand or care about final pay formulas, but did appreciate the concept of accounts expressed in dollars, particularly as the amounts involved (because expressed as capital values instead of annual pensions) were larger, and this was also during a period of significant and prolonged stock market returns.

Of course, this objective of greater employee appreciation of benefits expressed as individual capital accounts could also have been achieved by switching to a defined contribution design, which would also have further reduced the risk borne by the employer. And many of the employers referred to above would indeed have preferred to terminate their pensions and establish defined contribution plans. However few actually did, perhaps because by converting from a final pay pension to a cash balance plan, employers could fund the new formula from the plan surpluses which generally existed until 2000, whereas to transfer funds to a defined contribution plan is much more difficult.)
Since 2000, defined benefit plan terminations have been hindered by the necessity to contribute sufficient funds to cover shortfalls which are now typical.

**Local Practice**

**– plan changes**

Costs have increased as a result of a lower interest rate environment, improved mortality among pension plan participants, and poor investment returns. This has prompted some employers to reduce formula accruals in their final pay formulas, but gave further impetus to cash balance plans. Because of the appreciation of the concept of accounts, employers could set the level of the contribution to an account relatively low and still improve employee satisfaction compared to final pay plans. Also, interest is generally credited at below market rates, giving a further cost savings.

**Local Practice**

**– hybrids**

The spread of hybrid plans in the US varies significantly by size of company. Only 1% of employers with fewer than 100 employees offer hybrid plans, compared to 29% of employers with over 5,000 employees (source: US Chamber of Commerce). This is likely to be for the same reason that defined contribution plans are more common among smaller employers, i.e. in order for them to avoid the costs of pension administration (proportionately higher for smaller plans) and the uncertainty of funding a final salary or cash balance plan.

**Local Practice**

**– the IBM case**

During the past year the movement to cash balance plans has slowed because of legal uncertainty. Some court decisions have suggested that cash balance plans might be inherently discriminatory against older employees. Some companies put their plans to convert on hold pending resolution of conflicting court opinions.

In one case, the IBM cash balances scheme was held to violate a very specific provision of the Employee Retirement Income Security Act (ERISA). It was not held to violate general age discrimination rules.

The reason the judge found IBM’s cash balance scheme to be discriminatory is that it violated a section of ERISA which declares that a defined benefit pension scheme will fail to satisfy the ERISA benefit accrual requirements if, under the scheme, “the rate of an employee’s benefit accrual is reduced ... because of the attainment of any age”. This is precisely what happens in cash balance schemes, because the rate of benefit accrual (expressed in terms of percentage of salary at retirement) decreases as age increases. In other words, the older you get, the less your cash balance credit buys you; the
pension as a percentage of salary at retirement that a 30-year-old earns during a year of service is less than the corresponding pension percentage earned by a 50-year-old. The judge did not comment on the fact that the same is of course true for defined contribution schemes.

The IBM decision is considered controversial. Different interpretations of ERISA are possible; IBM has announced its intention to appeal the decision, and it is not clear whether the IBM reasoning will ultimately prevail. It is true that a given cash balance credit for a young employee will provide a larger benefit than it would for a similarly situated older employee. But, again, the same could be said about contributions to defined contribution schemes.

What has effectively happened in the US is that a cash balance plan has fallen foul of a provision that was enacted before cash balance plans had ever been devised.

Another type of hybrid plan has appeared, called pension equity. The only difference from a traditional final pay plan is that the accrual is stated as a lump sum (thus passing the post-retirement mortality risk from employer to employee).

US law requires that the benefit from a qualified pension plan (including traditional final salary, cash balance, pension equity, etc) must be made available as an annuity. The option to take the benefit in lump sum form may also be offered; in practice, if the lump sum option is offered, most pension plan members choose this option.

A pension equity plan reflects this and actually expresses the benefit in lump sum form, although an annuity option is always offered as required by the legislation. An accrual might be stated as 10% of final average pay per year of service paid as a lump sum. If the annuity conversion is 20 to 1, this is in principle no different from a traditional final salary plan with an accrual of 0.5%.

The latest Hewitt SpecSelect summary (Source: Hewitt, 2004) – among larger private sector employers – shows the following types of plans:

- 40% traditional pension
- 34% only DC
- 26% hybrid (22% cash balance and 4% pension equity)
Employee choice does exist between various types of plans, but is rare.

Perception

- Employees: hybrids are seen as more attractive than the DB alternative, but generally less attractive than DC plans, as employees often feel they can do better if they can manage their own investments.

- Employers: hybrids are often perceived as addressing some of the weaknesses of DB plans, particularly the lack of appreciation of the latter.

- State: the Congress and the Courts are still uncertain about discrimination against older participants. These issues are not fully resolved.

Design – typical hybrid

A basic hybrid design (cash balance) might look like this:

- Individual account (on paper only) given pension “credits” each year.

- No employee contributions.

- Employer credits of 5% of pay or 3% to 10% by age, service or on a formula based on the sum of age and service.

- Each year the participant’s account is increased by a guaranteed rate of increase, often the 30 year Treasury rate. The revaluation is applied equally to active and deferred members. The account is not automatically adjusted for price inflation, and there are no discretionary elements.

- Many plans offer a lump sum option on leaving service. In these cases, as well as plan to plan transfers, the face value of the account balance is paid out in full (without discounting).

- At retirement the account must be offered from the trust as an annuity. Generally a lump sum option is also available and this is usually the option chosen by the member.

- The account balance is almost always paid in full on death in service or retirement on account of incapacity.

- For the purposes of the PBGC, these plans are treated no differently from other defined benefit plans.
### Summary of Risks Borne by Key Stakeholders

<table>
<thead>
<tr>
<th>Type of risk</th>
<th>Employee</th>
<th>Employer</th>
<th>Provider/Insurer</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment</td>
<td>No direct risk in a cash balance plan. If guaranteed rate falls, less interest will be credited.</td>
<td>Employer bears full risk.</td>
<td>Not typically insured.</td>
<td>No involvement</td>
</tr>
<tr>
<td>Mortality</td>
<td>In practice, employees bear most or all of the post-retirement mortality risk.</td>
<td>The plan carries the post-retirement mortality risk if fixed conversion terms are offered, although these may be changed.</td>
<td>Not typically insured</td>
<td>No involvement</td>
</tr>
<tr>
<td>Salary increases (i.e. effect of increases in salary on retirement pension as % of salary)</td>
<td>To the extent employee receives large pay increases, benefit from a cash balance will be a smaller percent of pay.</td>
<td>Little risk.</td>
<td>Not typically insured.</td>
<td>No involvement</td>
</tr>
</tbody>
</table>
Appendix D: Hybrid Summary - Switzerland

Context

Switzerland has a long established and well developed system of funded occupational pensions. State benefits are relatively low by European standards and provide a maximum benefit of about £11,000 pa (2004) for individuals with average pay exceeding about £33,000 pa (2004).

All employers must provide an occupational pension plan either as a self administered, insured or collective pension plan. A minimum level of occupational pension provision is mandatory under the “BVG/LPP” occupational old-age, survivors’ and invalidity benefit legislation (Bundesgesetz über die berufliche Alters-, Hinterlassenen- und Invalidenvorsorge / Loi sur la prévoyance professionnelle vieillesse, survivants et invalidité) and is expressed as a benefit with defined age-related contributions, accumulated at a minimum investment return (currently 2.25% pa, increasing to 2.5% in January 2005) and converted at retirement age on guaranteed pension conversion terms.

Employers often provide more generous benefits than this minimum level.
Overview of taxation environment

Note: This is a brief summary. Reliefs may be subject to limits and ceilings. Exceptions may apply.

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<tr>
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<th>Taxation of pension plan investment income</th>
</tr>
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<tbody>
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<td>Relief from corporation tax given on contributions to approved schemes.</td>
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<td>Relief from income tax given on employee contributions to approved schemes.</td>
<td>No taxation.</td>
</tr>
</tbody>
</table>

Overview of legal/regulatory environment

Note: This is a brief summary. Exceptions may apply.

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<tr>
<th>Age/sex discrimination restrictions</th>
<th>Preservation (vesting of benefits)</th>
<th>Revaluation (increases to pensions or deferred pensions)</th>
<th>Minimum funding of pension plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age discrimination possible; sex discrimination not possible, except in relation to retirement age (men 65, women 64).</td>
<td>Immediate vesting.</td>
<td>None required, other than pension increases to BVG minimum death and disability benefits.</td>
<td>No explicit minimum funding requirement.</td>
</tr>
</tbody>
</table>

Local practice - private sector

Most Swiss private sector employees are covered under – hybrid plans.

Since the introduction of the BVG mandatory occupational plan legislation in 1985, there has been a gradual and increasing trend to “DC” plans in Switzerland.

Larger employers in the private sector still provide defined benefit plans. These plans typically provide a retirement benefit of 60%-70% of pensionable pay after 35-40 years’ service. More than 50% of these defined benefit plans are combined with a DC plan which usually covers variable pay, and may also cover pay above a ceiling applied to the DB plan pensionable pay.

Smaller employers usually provide pension benefits through group insurance contracts, and most of these are DC. Overall, approximately 85% of the private sector is covered by DC plans.
In terms of the number of plans, 60% are self administered, and 40% of the total membership of these are covered by DC self-administered plans.

Usually, DC plans offer increasing age-related contribution rates and almost all provide a common investment return to all members based on a smoothed investment policy. Variety is introduced through different age-related contributions, different risk benefits, different levels of employer/employee cost sharing and different retirement ages options. Supplementary pension plans, also DC in design, are often provided to higher earners to cover pay above a certain limit.

In the public sector, a higher proportion of plans still tend to be defined benefit in structure, although these are also changing. A recent survey (source: Hewitt 2002) found that about 38% of public sector employees are covered under DC plans. The civil service pension plan is considering a change to DC in the near future.

Importantly, Swiss “DC” plans are really hybrid plans due to the impact of Swiss legislation. In particular:

- BVG minimum benefits must increase at an amount annually determined by the Government (2.25% for 2004, and 2.5% for 2005), and are subject to a minimum pension conversion rate.

- Minimum account balances may not reduce once interest has been credited.

- Minimum account balances are converted to pension on guaranteed terms (i.e. to determine the minimum guaranteed pension) and paid by each pension plan, so the post retirement investment and mortality risk is retained by the pension plan.

- All transferred-in benefits must increase with the BVG minimum rate.

- Death and disability benefits are usually defined benefit, expressed as a percentage of insured pay.

An implication of these guarantees is that employers are currently required to account for the cost of these plans as if they were defined benefit plans under international accounting standards (IFRS and US GAAP).
Local practice

- plan changes

It is uncommon to close plans to new entrants. Typically, all existing employees are transferred into the new plan. Therefore, the pace of change of employees to DC and hence hybrid plans is relatively high in Switzerland.

Choice

In Switzerland, almost all new plans are now in theory “DC”, but in practice are hybrid for the reasons set out above.

Existing DB plan sponsors are increasingly reviewing their plan structure, and it is common practice now to restrict the DB benefit to basic pay up to a defined ceiling, and to introduce a DC plan for variable pay or pay exceeding that ceiling, as mentioned above.

DC plans have become popular because of the lower corporate risk and less volatile costs, and because benefits are easier for employees to understand and value. In particular, the trend has been encouraged since the minimum legal requirements are in any case expressed in DC form (albeit with an investment guarantee), and because employees do not bear all retirement risks individually.

Perception

- Employees: DC plans are perceived as a safe retirement vehicles. As there is an option to withdraw funds before retirement for house purchase, DC plans are perceived as being more transparent.

- Employers: DC plans are perceived to be less volatile and less risky than DB plans. Employers do not expect future deficits to arise in hybrid plans, and do not expect to have to cover any additional costs.

- Providers/Insurers: offer almost exclusively DC hybrid plans as most smaller employers typically offer minimum benefits. Insurance companies have found it problematic to meet the minimum guaranteed BVG investment return in the context of the low interest rate environment that has persisted in Switzerland, and have lobbied hard to have this reduced.

- State: hybrid plans in the form of the design described, i.e. DC with a minimum investment guarantee, have a clear part of Government policy for a long time.

- Others: Trade unions are not usually involved in plan changes given the guarantees and stability inherent in the Swiss DC plan design.
A basic hybrid design might look like this:

- Individual DC accounts.
- All members receive the same investment return each year. This is never negative but can be zero.
- Pensionable pay is pay exceeding the maximum social security pension (about £11,000 pa). It is often capped at £33,000 pa.
- Member contributions are age-related, say 3.5% of insured pay from age 25, increasing to 9% of pay before retirement.
- There is typically no option for members to choose different levels of contributions.
- Employer contributions are 100% or 150% of employee contributions.
- At retirement, the account is converted to pension through the plan. A lump sum option is sometimes offered. There is no open market option.
- On joining the employer, it is often possible to top benefits up, if transferred-in benefits are less than individual plan-determined maximum age-related benefits.
- Additional benefits are provided from within the plan to provide cover in respect of death in service and disability, in defined benefit form.

Variations around this design would include:

- The level of employee/employer contributions, the split of costs for retirement and risk benefits, the level of risk benefits, and the amount of benefit offered as a lump sum option.
- The upper ceiling for contributions, and the contribution structure on pay over the ceiling in the base plan.
### Summary of Risks Borne by Key Stakeholders

<table>
<thead>
<tr>
<th>Type of risk</th>
<th>Employee</th>
<th>Employer</th>
<th>Provider/Insurer</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment</td>
<td>Pre-retirement investment risk, but limited through capital guarantee and BVG minimum interest guarantee.</td>
<td>It is unclear whether employer has legal obligation to cover poor investment performance (other than the providing the minimum BVG benefits). It is generally believed that the employer has some form of constructive obligation.</td>
<td>For group foundations, the insurer bears the risk of investment returns not meeting minimum requirements.</td>
<td>Setting the BVG minimum interest rate involves trading the risk of lower retirement benefits against the ability of pension funds and insurers to meet the guarantee.</td>
</tr>
<tr>
<td>Mortality</td>
<td>The pension fund carries the risk of annuitisation through offering fixed conversion terms. However, these do change over the longer term.</td>
<td>There may be some guarantees on annuity conversion, which may be long-term or short-term in nature.</td>
<td>The insurer bears the risk of post-retirement mortality changes, once the annuity has been bought at retirement, and that the minimum BVG conversion terms are too favourable.</td>
<td>No involvement.</td>
</tr>
<tr>
<td>Salary increases (i.e. effect of increases in salary on retirement pension as % of salary)</td>
<td>No risk in Swiss DC plans. Cost can be partially met by employees in DB plans.</td>
<td>No risk in Swiss DC plans. Cost is usually met mainly or in full by employer in DB plan.</td>
<td>No involvement.</td>
<td>No involvement.</td>
</tr>
</tbody>
</table>
Appendix E: Hybrid Summary - Netherlands

**Context**

Occupational pensions in the Netherlands are arranged in three different ways:

- Industry wide pension funds, covering approximately 4 million employees
- Self administered company pension plans, covering approximately 0.8 million employees
- Insured pension plans, covering approximately 0.5 million employees. In general these pension plans provide more modest benefits than the self-administered plans and more often DC.

In total, there are over 5 million active members of Dutch pension funds (note that many employees are members of more than one type of fund).

In the last decade the government has partly withdrawn itself from social security by privatising the provision of many of the social security benefits. This was primarily driven by cost control, but in some cases has led to modifications to the corporate pension plan environment.

An example is the modification in the disability law. The number of long term disabled employees has been steadily increasing and is now almost 1 million, and in order to stop it increasing further, the Government and the trade unions have reached an agreement that partially disabled employees will no longer receive pensions under the social security disability law (source: Hewitt/Heijnis en Koelman, 2003 p5-6).
Overview of Taxation Environment

Note: This is a brief summary. Reliefs may be subject to limits and ceilings. Exceptions may apply.

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<td>Employer contributions are not taxable on employee income.</td>
<td>Relief from income tax given on employee contributions to approved schemes.</td>
<td>Not taxable.</td>
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</tbody>
</table>

Overview of Legal/Regulatory Environment

Note: This is a brief summary. Exceptions may apply.

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<tr>
<th>Age/sex discrimination restrictions</th>
<th>Preservation (vesting of benefits)</th>
<th>Revaluation (increases to pensions or deferred pensions)</th>
<th>Minimum funding of pension plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal treatment of men and women with regard to sex-neutral exchange factors and equal treatment on the basis of age.</td>
<td>Full vesting after one year of participation in pension plan.</td>
<td>Occasionally, if the financial position of the pension fund permits.</td>
<td>Financing must at least be spread uniformly over a period of years. The Pension and Insurance Chamber (PVK) has recently tightened the rules regarding the funding of pension plans.</td>
</tr>
</tbody>
</table>

Local practice – private sector

Company sponsored plans were for many years primarily defined benefit in design, and final pay plans were the most popular. Over the last five years, there has been a strong increase in the number of Indexed Career Average Plans (ICAP plans) and DC plans. The latter design meets the desire of employers to provide cheaper plans (for the same accrual rate) and less risky (to them) pension plans.

Smaller companies often have pension plans based on career average or final salary until age 55 or 60. Because of the general wish for more flexible pension schemes, as well as the phasing out of Voluntary Early Retirement Plans (vrijwillig vervroegd uittreding, or VUT, separate from the main pension plan) there is a rise in the number of Savings and Profit Sharing plans.
Local practice  
– plan changes

As elsewhere, occupational pension costs have increased as a result of a lower interest rate environment, improved mortality amongst pension scheme members and partial withdrawal of tax privileges. This was massively accentuated in the early 2000s by the collapse in stock markets. Because of the upward pressure on the required contribution, an increasing number of companies are considering restructuring their pension plans. The main issues are to increase the proportion of employees covered by pension plans, increase cost control and modernise pension benefits (source: Hewitt Heijnis en Koelman, 2003, p7).

In 2003, 50% of all employees were accruing a final pay pension. By 2004 this proportion had reduced to around 10%. The number of active participants accruing final pay pensions has decreased by approximately 40% in 2004. There is a strong recent development of Indexed Career Average Plans (ICAP plans) driven by some large industry wide pension funds who have changed from final pay into ICAP plans. Because of this development, employees are now exposed to the risk of “conditional indexation”; in 90% of the ICAP plans the indexation during active service (i.e. revaluation of accrued rights) is not guaranteed but is conditional, depending on the financial position of the fund.

There is an expectation of a strong shift in the next few years to pension scheme designs where employees bear all the risk, i.e. pure DC. This has been reported in a leading Dutch financial newspaper (source: Het Financieele Dagblad, 2004).

Local practice  
– hybrids

Hybrid plans started to emerge from the early 2000s onwards. In some cases, this was due to a concern amongst employers that traditional DC plans were not meeting their needs.

In the Netherlands there are 129 “combination” (NB see Note on Terminology below) hybrid plans with approximately 0.5 million active participants (source: Pension and Insurance Board, 2004).

Choice

Employers have not as yet adopted hybrid pension schemes widely in the Netherlands, although in the last few years some employers have introduced “combination” hybrid plans. In general these are plans combining elements of a DB (final pay or career average) and a DC plan design.
A survey of members of pension plans by the Insurance Chamber (source: Pensioenmonitor, 2004) showed the following percentages of pension plan members were accruing the following designs of benefit:

- 2%  pure final pay.
- 11%  final average pay.
- 75%  indexed career average pay (ICAP).
- 3%  defined contribution.
- 9%  “combination” hybrid.

There has been little evidence to date of existing final pay members being transferred on a compulsory basis to hybrid designs, or of members being offered any choice between DC or hybrid schemes.

**Note on terminology**

The term “combination” used widely in the Netherlands actually refers to two types of hybrid:

- A basic final pay pension plan and an additional DC plan, covering all pay for all members.
- A final pay plan covering pensionable pay up to a ceiling, with a DC design in respect of pay above the ceiling.

Both of these correspond to our definition of a combination hybrid. As the growth of these schemes continues, in our opinion we may see greater elements of member choice between different types of schemes.

**Perception**

- Employees: hybrids are seen as more attractive than the DC alternative, as they are keen not to bear all the associated risks. However, member understanding of hybrid plans is low.
- Employers: hybrids are often perceived as addressing some of the weaknesses of DC schemes. In a DC plan, favourable rate of returns on plan assets are to the advantage of employees, whereas in a DB plan (final pay or ICAP) this could lead to lower employer contributions.
- Providers/Insurers: have not been very active to date in offering hybrid plans.
- State: Hybrid plans (other than ICAP plan) have only recently been considered by the State. There appears to be no clear policy yet as to whether such schemes are to be encouraged or supported by legislation.
Others: The tax authorities want to classify all pension plans into two categories (i.e. DC or DB) and appear to have difficulty in classifying the hybrid plans.

Design—typical hybrid

A basic hybrid design might look like this:

- The basic pension plan is an Indexed Career Average plan (ICAP plan) limited to a pay ceiling, with a DC plan to cover earnings in excess of the ceiling.

- For the ICAP plan, employer and employee contributions are expressed as a percentage of pensionable pay.

- Member contributions frequently represent one-third of the total pension cost and employer contributions cover the remaining two-thirds.

- At retirement, the DC account is used to “buy” an additional pension. The member would have a choice on the shape and type of pension offered.

Additional benefit plans would provide risk cover in respect of death in service and retirement on account of incapacity.

Design—variations

Variations around this design would include:

- The methods of crediting the account: defined contributions usually vary by age or according to the level of contributions paid by the member.

- Each year the member’s account may be increased by a guaranteed rate of return – say 3%, 4% or 0%.
## Summary of Risks Borne by Key Stakeholders

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<tr>
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<th>Employer</th>
<th>Provider/Insurer</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment</td>
<td>There is pre-retirement investment risk to some extent.</td>
<td>Typically some form of guarantee is offered pre-retirement, underwritten by the employer.</td>
<td>May guarantee minimum rate of return under some conditions.</td>
<td>No involvement.</td>
</tr>
<tr>
<td>Mortality</td>
<td>Typically the employee carries the risk of annuitisation of his account at retirement, i.e. has to buy an annuity at market rates at the time.</td>
<td>There may be some guarantees on annuity conversion, which may be long-term or short-term in nature.</td>
<td>The insurer bears the risk of post-retirement mortality changes, once the annuity has been bought at retirement.</td>
<td>No involvement.</td>
</tr>
<tr>
<td>Salary increases (i.e. effect of increases in salary on retirement pension as % of salary)</td>
<td>Increase of the pension costs.</td>
<td>In some cases the salary is limited in a hybrid plan whereas in the final pay plan salary increases are in favour of the employee.</td>
<td>No involvement.</td>
<td>No involvement.</td>
</tr>
</tbody>
</table>
Appendix F: Hybrid Summary - Belgium

**Context**

Belgium has a well developed system of funded occupational pensions. State benefits are reasonable by European (and developed global) standards, focused on the lower paid. Occupational pension plans are either self-administered or financed through an insurance contract.

The majority of new plans are defined contribution, and a number of companies with existing defined benefit plans are considering switching to a defined contribution design.

**New Pensions Law**

The Vandenbroucke Pension Law of 2004 introduced a number of important provisions, including:

- Introduction of a minimum guaranteed investment return of 3.25% pa on employer contributions to defined contribution pension plans; there was already a 3.75% pa guarantee on employee contributions. Note that the guarantee applies over the whole duration of the employee’s service (i.e. the actual account balance at retirement is compared to what the balance would have been if total employer contributions have earned 3.25% over the period to retirement in aggregate) and not each year, so a short period of low returns may not trigger the guarantee if followed and/or preceded by a compensating period or periods of higher returns.

- Restrictions on age-related contributions to defined contribution plans (benefits depending on age are considered discriminatory, but by exception an increase in contributions of 4% per year of age is permitted).
• Severe restrictions on future individual pension promises. Individual promises can only be made if they are occasional and non-systematic, if a group plan for all employees already exists, and the promise is issued at least 3 years before retirement and is externally financed.

Favourable tax treatment of pension payments (comparable to the current regulations on lump sum payments, to try and discourage the current practice of taking the whole benefit in lump sum form).

Overview of Taxation Environment

Note: This is a brief summary. Reliefs may be subject to limits and ceilings. Exceptions may apply.

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<tr>
<td>Relief from corporation tax given on contributions to approved schemes.</td>
<td>Employer contributions to approved schemes are not taxable income to the employee.</td>
<td>Income tax credit provided on employee contributions paid to approved schemes.</td>
<td>Favourable tax treatment for approved schemes.</td>
</tr>
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Overview of Legal/Regulatory Environment

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<th>Minimum funding of pension plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictions in line with European Court of Justice rulings and the 2003 EU Non-Discrimination Directive.</td>
<td>Compulsory vesting after one year of participation.</td>
<td>Not required.</td>
<td>Annual assessment; minimum funding requirement based on a 6% discount rate.</td>
</tr>
</tbody>
</table>

Local practice – public sector

Public sector schemes largely conform to a single standard final salary design, and we have seen only the very early tentative stages of moving towards greater design flexibility.

Local practice – private sector

Company-sponsored plans were for many years heavily focused on final salary style provision. In order to be approved, they must be financed either through a self administered pension fund or through a group insurance arrangement.
During the past decade, due to a combination of reasons such as the widespread adoption of US GAAP and (from 2005) IFRS accounting standards, increasing longevity, and decreasing interest rates, many companies started changing their plan provisions.

The vast majority of plans that still provide a defined benefit express the benefit as a lump sum on retirement. These plans now are immune from increases in the cost of providing annuity payments, i.e. the mortality risk post-retirement has shifted from employer to employee.

Local practice
– plan changes

The majority of new plans established in recent years are defined contribution plans.

Whilst many companies with defined benefit plans looked at moving towards defined contribution, few succeeded making the move without extensive “grandfathering” (i.e. partly or fully protecting the benefit promises already made to existing employees). Some companies just closed the “old” defined benefit plan to new entrants and opened a new defined contribution plan for new hires.

Local practice
– hybrids

Since 2004, all defined contribution plans in Belgium have to provide minimum investment guarantees on all contributions, and so can be considered as hybrid plans. The investment guarantees are set by the authorities and can be reviewed.

Note that it is the employer that carries the liability of the guarantee, not the insurer (or the pension fund as a separate entity).

Choice

Very few detailed market surveys exist.

Because of the investment guarantees, all DC plans are now effectively hybrid plans.

If we consider lump sum defined benefit plans as a form of hybrid (because the post-retirement mortality risk is passed to the employee), we can also observe that most DB plans are also hybrid plans.

Overall, we estimate that on these definitions over 80 percent of plans can be classified as hybrid plans.
**Perception**

- Employees: the DC hybrids are seen as more attractive than the pure DC alternative. The DB hybrids (i.e. lump sum plans) are seen as being of the same value as the old classical DB pension plan, broadly because the latter type of plans generally offer a 100% lump sum commutation option, and when give the choice members always opt for a lump sum payment for tax reasons.

- Employers: Initial employer reaction has been negative because the change in law converted overnight the pure DC plans into hybrid DC plans, with a minimum investment guarantee.

- Providers/Insurers: the insurers to a large extent pushed the old DB plans into hybrid DB plans, to avoid complaints from their clients at steadily increasing benefit plan costs.

- State: the Vandenbroucke law (which converted all pure DC plans into hybrid DC plans) was seen by the State as a way of reducing the risks carried by employees.

- Others: trade unions were enthusiastic supporters of the introduction of investment guarantees.

**Design— typical**

A basic hybrid DC design might look like this:

- Member contributions of 1% of pay up to the social security ceiling plus 5% of pay in excess of the ceiling.

- Employer contributions are double the employee contributions.

- Each year, the member’s account is increased by the actual investment returns.

- When an employee leaves the value of the account is compared with the minimum value using the guaranteed rates as required by the new law.

- At retirement the account can be used to purchase an annuity. The member would have a choice of the shape and type of annuity offered.

Additional benefit plans would provide cover in respect of death in service and retirement on account of incapacity.
Design– variations  Variations around this design could include the methods of crediting the account, or making employer contributions dependent on age, status or according to the level of member contributions.

Summary of Risks Borne by Key Stakeholders

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<tr>
<th>Type of risk</th>
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<th>Provider/Insurer</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment</td>
<td>DC: There may be some aspects of pre-retirement investment risk. DB: None.</td>
<td>DC: Employer carries the risk of the investment guarantee. DB: Investment guarantee fully borne by employer.</td>
<td>Not typically involved.</td>
<td>No involvement.</td>
</tr>
<tr>
<td>Mortality</td>
<td>Typically the employee carries the post-retirement mortality risk, as benefits are paid as, or commuted into, lump sums at retirement. He may transfer this risk to an insurance company by buying an annuity.</td>
<td>None.</td>
<td>If an annuity is bought, the insurer bears the post-retirement mortality risk.</td>
<td>No involvement.</td>
</tr>
</tbody>
</table>

Appendix F - Hybrid Summary - Belgium
Appendix G: Revaluation of UK Pensions

References

The legislation quoted below is taken from the Pension Schemes Act 1993, which governs preservation and revaluation of UK occupational schemes (and referred to here as the Act). The extracts are designed to illustrate the potential confusion in relation to the choice and application of revaluation legislation for hybrid schemes.

Revaluation

Revaluation legislation deals with the adjustment of an early leaver’s benefit, from the date of leaving to the date the benefit comes into payment (e.g. at normal pension age).

For final salary schemes, the origins of this legislation are that it was deemed inequitable that early leavers should “lose out” by being granted no benefits, or fixed deferred pensions, whose purchasing power was eroded during the revaluation period by the effect of inflation. Hence the revaluation legislation requires increases to the deferred pensions, essentially in line with the RPI, but capped at 5% a year, from the date of leaving to normal pension age. We refer to this as Statutory Revaluation.

The basic principle is simple – the detailed application can be confusing.

Methods of revaluation

Schedule 3 of the Act describes four methods of revaluation:

- The final salary method
- The average salary method
- The flat rate method
- The money purchase method
The final salary method is that described above—i.e. Statutory Revaluation (we omit several layers of complexity concerning the interaction of this revaluation with the contracting out legislation, and issues arising from early payment of benefits, commutation, surrender, various tranches of benefits subject to different revaluation etc).

### Other methods

The gist of the other revaluation methods is that deferred members should be treated consistently with active members. Thus we have the following:

- **The average salary method** is to revalue the member’s salaries as respects the pre-pension period in any way in which they would have been revalued during that period if he had remained in the same pensionable service.

- **The flat rate method** is to revalue the benefits which have accrued to the member as respects the pre-pension period in any way in which they would have been revalued during that period if he had remained in the same pensionable service.

.....*the money purchase method is to apply the investment yield and any bonuses ...towards providing any pension ... which is payable under the scheme to him ...in the manner in which they would have been applied if his pensionable service had not terminated.*

### CARE plans

It may be thought that CARE plans would be required to apply Statutory Revaluation under the final salary method. This is not so. A number of these schemes follow the average salary method instead.

What this means is that any revaluation of members’ benefits is applied equally to both active member and deferred members. The requirement to apply Statutory Revaluation is avoided, giving greater investment and funding flexibility for the sponsor (at a “price” of less certainty for the member).
Choice of method  

How is it decided which method of revaluation is to apply? Section 84 of the Act says:

(1) Subject to subsections (2) and (3), any pension payable under the scheme in question to the member is to be revalued by the final salary method.

(2) If-

(a) any such benefit is an average salary benefit or flat rate benefit; and

(b) it appears to the trustees of the scheme that it is appropriate to revalue the benefit by the average salary method or, as the case may be, the flat rate method,

then the benefit shall be revalued using that method.

(3) If any benefit is a money purchase benefit the benefit shall be revalued using the money purchase method.

So the basic method is the final salary method, unless the benefit is money purchase (in which case the money purchase method is used) or the benefit is average salary or flat rate and the trustees decide these methods of revaluation are “appropriate”.

Benefits  

So how do we know what type of benefit we are dealing with? The definitions of most interest are contained in Sections 84 and 181:

• “money purchase benefits” means benefits the rate or amount of which is calculated by reference to payments made by the member or by any other person in respect of the member and which are not average salary benefits;

• “average salary benefit” means benefit the rate or amount of which is calculated by reference to the average salary of a member over the period of service on which the benefit is based.

Application  

Consider these two types of benefit:

• A pension of 1% of average pay, with each year’s pay being revalued in line with the RPI.

• A cash balance plan of 20% of pay, with each year’s credit being revalued in line with the RPI. Balances are converted into pensions at a guaranteed rate of £20 balance buys £1 pa of pension.
These two plans provide identical pensions. How would they be categorised for revaluation purposes? What method of revaluation would be applied in either case? How should trustees decide – based on the intentions of the employer, the wording of scheme booklets or the trust deed and rules?

How would the answer differ if the revaluation each year were subject to the discretion of the employer, the trustees or the scheme actuary?

In practice, most schemes would simply give the same increases to deferred pensioner as to active members. However, given the wording of section 84 of the Act, this need not necessarily be the case.
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