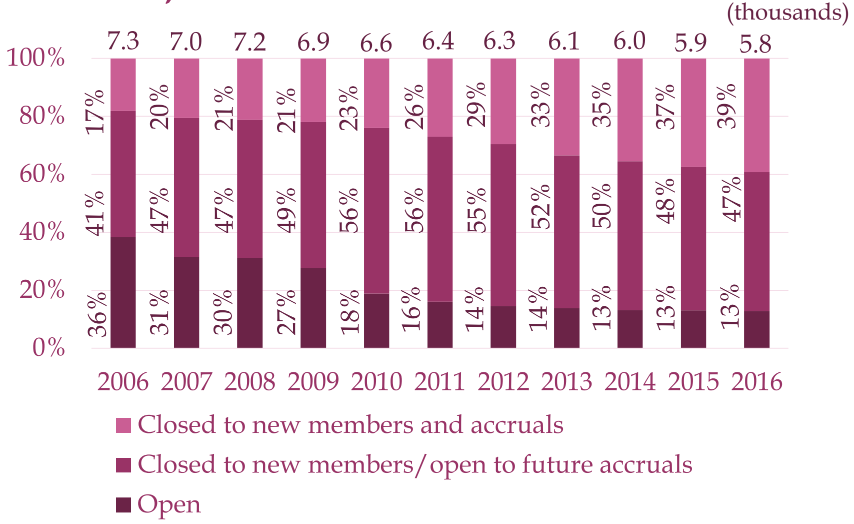
Introduction

The subject of Defined Benefit (DB) pensions has become a regular feature in mainstream media during 2016. With the collapse or restructuring of a number of large sponsoring employers, including BHS, Bernard Matthews and Tata Steel, the pension benefits expected by a large numbers of employees have come under scrutiny. Commentators have also raised concerns about the impact that DB commitments are having on the sustainability of some UK employers, corporate investment and on shareholder dividends.

Chart 1: The number of DB schemes, particularly open schemes, has declined



The first in a series of briefing notes on the subject of DB pensions in the private sector, this note explores:

- A brief history of DB pension provision in the private sector in the UK;
- The complex set of factors behind the decline in DB provision;
- The challenges facing sponsors, trustees, government, regulators and members;
- The options available to sponsors, trustees, government and regulators to help schemes facing challenges.

Fifty years of decline

The decline of DB schemes is not a new phenomenon. From the early 1970s onwards, both the number of active members and the proportion of the workforce in DB schemes has been falling. Membership in private sector DB schemes peaked in 1967 with around 8 million active members. By 1991, active membership had declined to 5.6 million.[1]

Today, the number of private sector DB schemes has also shrunk. Many small, and some larger schemes, have been wound up, and around 900 schemes have been transferred to the PPF. Fewer than 6,000 DB schemes remain (5,764), with around 1.75 million active members in total. Of the schemes that remain, 47% are closed to new members but open to future accruals, and 39% are closed to both new members and future accruals (Chart 1).[2]

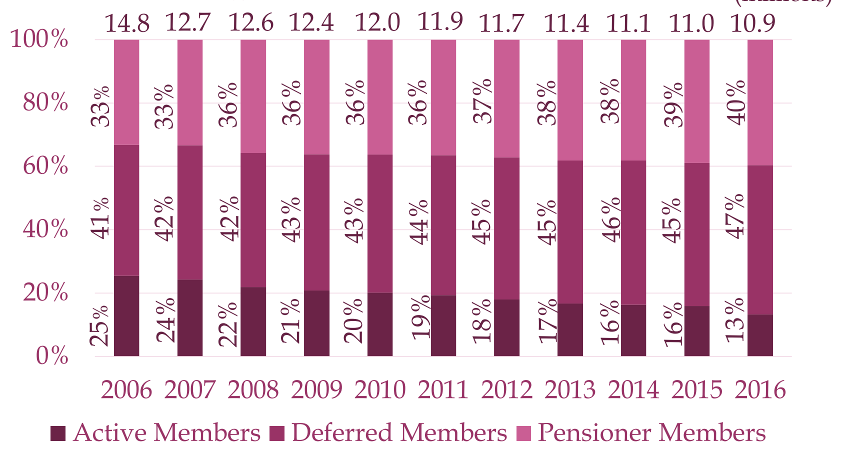
However, DB remains important to millions of UK workers and pensioners, with 1.7 million active members of DB schemes, 4.3 million members currently in receipt of DB pensions from private sector schemes and 4.9 million expecting a future pension from schemes of which they are no longer an active member. Chart 2 shows how the distribution of DB members has changed during the decade 20016-2016.[3]

Uncertain deficits

For the last decade, in aggregate the funding position of DB schemes has largely been one of deficit, with funding falling as low as 80% of liabilities measured using the PPF's S179 approach in 2009.[4] As of the end of September 2016, the combined deficit of PPF eligible schemes was £419.7 billion on a S179 basis.[5]

Deficits remain widespread. Deficit recovery contributions (DRCs) and relatively good asset returns have been more than offset by the impact on liabilities of lower assumptions for future investment returns. Over the last decade employers have paid around £120bn in special contri-

Chart 2: The number of active members in DB schemes has declined relative to the number of deferred and pensioner members



butions, most of which were DB scheme deficit recovery contributions (DRCs).[6]

But there are some signs of deficits reducing. Recent data from The Pensions Regulator (tPR) suggests that aggregate deficits declined in 2016 and the overall ratio improved to 97% of liabilities (on an S179 basis). Of the remaining private sector DB schemes, two-thirds were in deficit in April 2016. However, a more detailed investigation suggests that only 50% of private sector schemes had a funding ratio below 90% at that time, compared to two-thirds in 2015 and 77% in 2009, suggesting that deficit recovery plans may be helping some schemes. Almost one quarter of schemes were showing surpluses of more than 10% of liabilities at April 2016.[7] However, as recent data indicates, these results can change suddenly as interest rates and investment returns move (Chart 3).

A perfect storm—policy, social and economic change and longevity

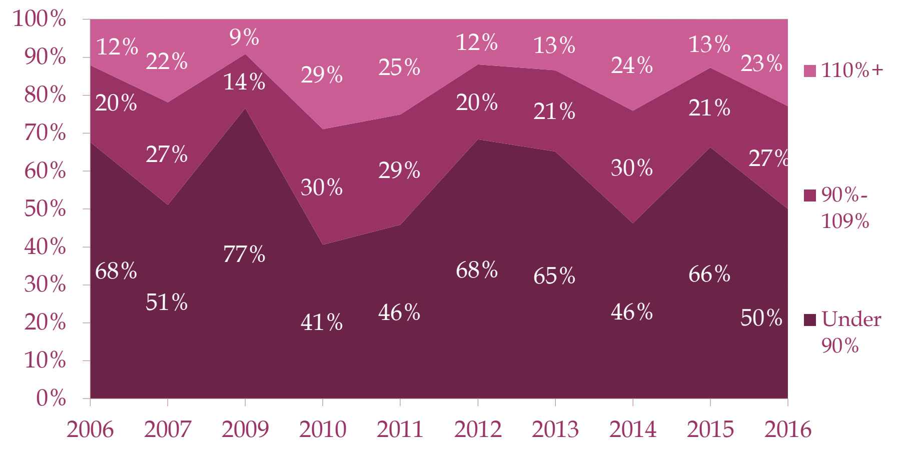
The decline in the provision of DB benefits is due to a complex web of policy, economic and social and regulatory changes that have changed the pension landscape over the past thirty years.

Accounting, tax and regulatory changes have contributed significantly to the rising cost of DB schemes:

- During the boom years of DB provision, employees' entitlement to promised benefits was discretionary, meaning that, depending on its rules, a scheme could be wound-up without the sponsor necessarily having to secure all member benefits with an insurer, even if the sponsor was solvent. It is now mandatory that benefits are delivered so long as the sponsor is solvent, including increases from the capped inflation measure introduced in the 1990s.
- The Social Security Acts 1973

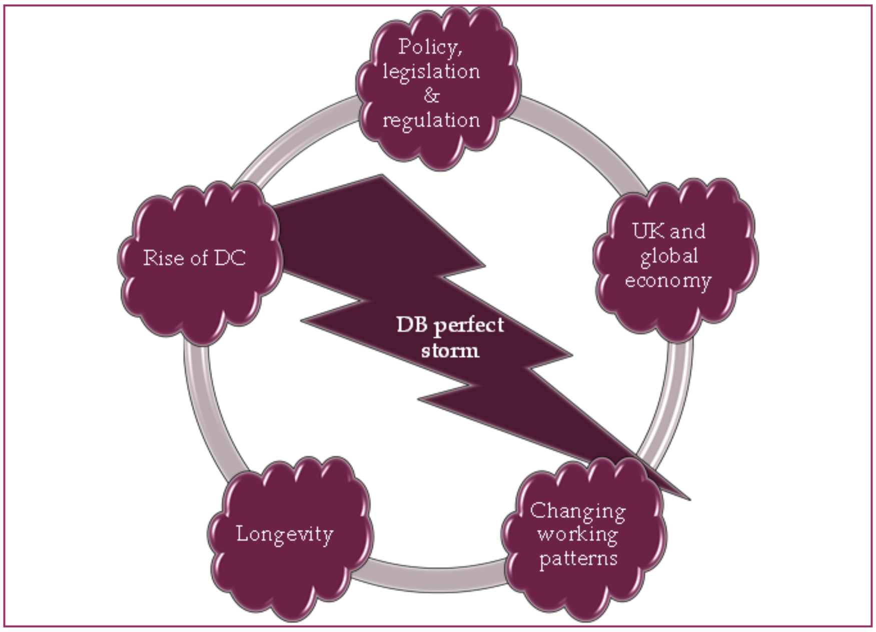
Chart 3: Funding ratios (s179) improve in 2016, although half of schemes still below 90%

Data from TPR returns (no data for 2008)



and 1986 established that early scheme leavers must have benefits they have accrued within a scheme preserved. Previously, it was not mandatory that early leavers had preserved rights; preserved benefits were provided at the discretion of scheme specific rules.

- The Finance Act 1986 introduced restrictions on surplus levels. The maximum acceptable funding level was set at 105% of present liabilities, calculated using a prescribed basis. This was introduced to prevent companies from using pension funds to hold profits tax free until they could take advantage of lower levels of corporation tax. The main result was that employers reduced and sometimes stopped paying contributions in an effort to reduce surpluses during times of high funding.
- Section 75 of the Pensions Act 1995 established that certain events could trigger an unsecured debt for the sponsoring employer. These circumstances include a sponsor entering an insolvency process, a scheme winding up or making an application to the PPF. In the case of a multi-employer scheme, the debt can also be triggered by there being no active members in the scheme. Subsequent modifications to the rule require the debt to be calculated on a buy-out basis.
- In 1997 dividend tax credits for pension schemes were abolished. Pension schemes previously received a tax credit of 20% on dividends received from UK companies to offset the corporation tax already paid by companies on their profits.



- The introduction of FRS17 in 2002 established tighter restrictions on accounting standards and transparency in pension funds. Surpluses and deficits in pension schemes must now be reported on sponsoring employers' balance sheets. This fundamentally changed the way that pension liabilities are viewed, making them more transparent to shareholders, as well as shortening the investment horizon for DB schemes in cases where trustees agree to invest in such a way that would help sponsors to meet their accounting objective.
- The Pensions Act 2004 established a framework for improving funding levels in DB schemes, requiring that all schemes must meet a statutory funding objective (SFO, determined using a prudently chosen approach. Schemes are also required to prepare a statement of funding principles (SFP), which must set out how they aim to meet the SFO.
- S179 of the Pensions Act 2004 requires that every PPF-eligible DB scheme undertakes a valuation to establish the level of its assets and liabilities. This information is used to set the level of levy the scheme will pay to the PPF. Schemes that are underfunded or with a sponsor at greater risk of insolvency are required to contribute a higher amount than similar but more well-funded schemes with stronger sponsors.
- With the introduction of the new state pension in 2016, contracting-out for DB scheme members came to an end. With the abolition of the state second pension (S2P), contracting out was no longer an option, and schemes had to ensure that the level of Guaranteed Minimum Pension (GMP) held within the

fund matched up with the amount HMRC expected to be held; this is known as a GMP reconciliation exercise. For many schemes this exercise has led to an increase in funding costs.

Economic change
Changes in the UK and global economy during the second half of the 20th century and into the 21st have contributed significantly to the decline of DB pensions. Structural change in the nature of UK industry and employers, as well as changes in patterns of employment, have affected provision and membership. The low investment returns and sustained low gilt yields experienced more recently have compounded the problems facing schemes.

Decline and volatility in asset growth negatively impacted the funding levels of many DB schemes. Investment markets are volatile by nature and this can have significant impacts on the investment returns of DB schemes, and, as a result, the level of contributions required to provide promised benefits.

Until the latter half of the 1990s, high rates of stock market return made DB provision more affordable. Between 1974 and 2000, the average real return on UK equities was 13%, compared with an average of about 5.5% for the whole of the 20th Century.[8] The decline since the turn of the century has hit some DB schemes hard.

Quantitative easing
In more recent years, scheme funding has also been affected by sustained low interest rates and quantitative easing (QE), a tool employed by the Bank of England to inject funds into the economy. It has occurred periodically in recent years, both in 2009-2010 and 2011-2012, and again in the wake of the recent EU referendum. While QE can strengthen the economy overall, its immediate impact on DB schemes is largely negative. QE can lead to increases in a scheme's assets as the value of any gilts it holds goes up, as well as the economic growth that QE aims to stimulate. But this increase is relatively small compared with the decrease in discount rates used for calculating pension scheme liabilities that results from QE. Estimates suggest that for every £1 increase in assets resulting from falling gilt yields, there is a £5 increase in liabilities.[9] A 0.25% fall in gilt yields could increase DB pension scheme deficits by as much as £45 billion.[10] The first round of QE, in 2009-2010, increased pension deficits by an estimated £74 billion, even after adding the corresponding investment gains.[11]

Changing work patterns
Fewer than 5% of workers remain with the same employer throughout their whole career.[12] Workers now have, on average, eleven jobs[13] and one complete career change over the course of their working life.[14] Portability is a growing concern in pension decisions for many, which may make DC pensions a more convenient option, as well as appearing significantly cheaper for sponsors as increased job changes can result in a greater number of deferred members within DB schemes.

Changes in work patterns, such as more part-time work and an increase in the number of smaller employers may also have contributed to the shift away from DB provision toward DC.

Long lived pensioners
In 1981, the average male life expectancy at age 65 was estimated to be 14 years; this has since increased to almost 22 years. Women's life expectancy at age 65 increased from 18 years to 22 and a half years over the same period.[15] A one year rise in longevity is now estimated to result in a 4.5% increase in the liabilities of a DB scheme.[16]

Increases in retirement age, both in state and private sector pensions, which were introduced largely as a means to reduce the impact of increased longevity, have not been effective in decreasing the amount of time spent in retirement, although they have somewhat mitigated the speed at which this has been increasing.

The rise of DC pension schemes
One of the factors contributing to the decline of DB has been nearly four decades of legislation that has encouraged or facilitated DC pensions.

One of the consequences of these policy developments has been that employers have been able to shift their pension provision, for future service at least, from a type of benefit where costs were becoming higher and unpredictable to a benefit where costs have the potential to be significantly lower as sponsors are able to control the level of contributions. Policy changes have also brought about a change in public attitudes to pensions. DC pensions are now considered the norm.

Until 1986, DB schemes were the main form of workplace pension provision. Although some DC schemes did exist, they were not recognised by HMRC for tax purposes. Even after this changed to include DC schemes, DB remained the dominant form of workplace pension scheme. In 1987, nearly 10.5 million members of workplace pension schemes (including public sector) were members of a DB scheme, compared with just 0.2 million DC members.[17]

The shift in distribution of pension provision from DB to DC occurred slowly at first, but it has accelerated quickly more recently. In 2007, there were 2.7 million active members of private sector DB schemes, compared with just under 1 million active members of DC schemes.[18] Active membership of private sector DB schemes has now decreased to less that 1.7 million,[19] while active membership in DC schemes has risen to around 4 million.[20]

The introduction of Automatic enrolment has contributed to the relative decline in the proportion of DB schemes in comparison to DC. Gradually implemented from 2012 onwards, automatic enrolment has affected not only the number of savers and levels of saving overall, but also the distribution of coverage in pension provision.

Overall, workplace pension scheme participation has increased, from 50% in 2013 to 59% in 2014, and then 64% in 2015. In 2014, DB schemes, including those in the public sector, represented less than half of total workplace pension membership (49%) for the first time. In 2015, this fell further to 45% coverage.[21]

Increasing implementation of automatic enrolment contributed significantly to this decline, with the majority of employees being automatically enrolled into DC schemes, in large part because of the perceived expense of providing DB schemes. By 2030, the number of people saving in private sector DC pension schemes could range between 12.5 and 14.5 million.[22]

The introduction of Freedom and Choice may make DC schemes a more attractive option for members. The Treasury acknowledged that, while DB schemes continue to be the best option for most members, there may be an increase in those who wish to transfer out into a DC scheme in order to take advantage of this new level of flexibility.

Challenges facing DB pension schemes, their members and their sponsors

The decline of DB pension provision in the private sector cannot be attributed to any one force. The challenges facing employers are many and highly correlated, and combined to make DB pension provision more expensive and therefore less attractive for employers.

Rising costs and competing needs

A significant factor in the decline of DB provision has been the increasing cost of providing such schemes. In the 1950s, at the beginning of DB's boom years, the cost of funding a typical DB scheme based on final salary was around 11% of salary. By the early 2000s, this had risen to around 25% of salary,[23] even before recovery payments. By comparison, the most common level of employer contribution in DC schemes is between 4% and 8%.[24]

The increasing cost of DB pension provision presents challenges for employers, trustees, members and government. The rising cost of provision and uncertainty about benefits are the central concern for sponsors and members respectively. However, wider concerns include the impact of growing deficits on other stakeholders.

Employers are faced with balancing the needs and interests of many, often competing, stakeholders. The financial needs of the

DB scheme must be balanced against current employees, investment in the business, and shareholder dividends. While it is important that the sponsor upholds its commitment to DB scheme members, it must also ensure the continued success of the company. TPR's Code of Practice on funding states that 'a strong, ongoing employer alongside an appropriate funding plan is the best support for a well-governed scheme'.[25] Funding of the DB scheme should not threaten the ongoing survival of the sponsoring company, making it insolvent or unprofitable, nor should it lead to poor compensation for current employees, most of whom are unlikely to be members of the DB scheme. Because of this, many DB scheme sponsors are seeking ways to de-risk and/or reduce the level of sponsor contributions required to provide member benefits, in order to ensure that competing stakeholder needs are balanced correctly.

The challenges of intergenerational fairness

Of particular concern for many employers is the impact that calls for funding of DB schemes have on younger generations of workers, most of whom will never accumulate defined benefits but must rely on the retirement income they can generate from DC schemes. This position is particularly difficult where there are no longer any members of the DB scheme employed by the sponsor, and pay, bonuses and pension contributions of current employees are constrained by DB funding payments. This has been described as a clear redistribution from younger to older generations.

While the cost to employers sponsoring DB schemes has increased, there has also been an increase in the total amount of pension benefits that scheme members are likely to receive. While the amount that will be paid to them periodically remains the same, the effect of increased longevity means that most people will receive payments for longer. This means that the value of the benefits provided by a DB scheme are generally much higher than individuals would have expected when signing up to the scheme.

But, scheme members face increasing uncertainty over future pension payments. As more and more scheme sponsors seek ways to reduce liabilities or wind-up schemes entirely, promised benefits no longer seem as secure as they once did. With growing concern over the prospect of receiving reduced pension benefits, schemes members are faced with difficult and complex decisions, such as whether to convert DB entitlements into DC pension pots. This will generally mean a reduction in the value of benefits, but may seem an attractive option for some members who fear that they will not receive their DB benefits as promised.

The existence of the PPF and the Pensions Regulator (TPR) somewhat moderates the risk to members of DB schemes.

The PPF aims to protect members of workplace DB pension schemes in the event that their employer becomes insolvent and can no longer afford to deliver

the pension benefits members have accrued entitlement to. A scheme will only transfer to the PPF if the scheme is found to have insufficient assets or money to buy benefits with an insurance company which are at least as much as PPF levels of compensation (broadly, 90% of pension benefit entitlement for members who have not yet retired, although this is capped if their pension entitlement is large, and 100% for members who have reached their scheme's normal pension age before the employer's insolvency). When a scheme is transferred, the PPF takes on all responsibility for members' pension benefits, as well as taking on the assets of the scheme and recovering what it can from insolvent employers.

TPR works to ensure that workplace pension schemes are adequately funded and run in the best interests of their members. It has a range of regulatory powers, which fall under three broad categories:

- Investigating schemes—TPR requires that all schemes complete a regular scheme return which gives information on membership, sponsoring employers, trustees, advisers, administration, funding and investment. It also expects to receive reports in certain circumstances, including when a scheme is unable to comply with its funding framework.
- Rectifying the problems identified—methods include: issuing improvement notices which require specific action to be taken within a certain time frame; taking action to recover unpaid employer contributions; prohibiting unsuitable trustees; issuing fines where breaches have occurred; and even, in extreme cases, prosecuting in criminal court.
- Acting against avoidance—in cases where the regulator believes an employer is deliberately attempting to avoid its pension liabilities, it will attempt to ensure that the PPF is not improperly used. This action may take the form of contribution notices, financial support directions or restoration orders.

However, the introduction of these safeguards has further increased the cost of DB provision. This might have contributed to an acceleration in the rate at which DB is declining.

There are many different issues which may arise in relation to DB pension provision. A number of high profile cases have drawn attention to these issues in 2016 (Box 1).

Is there a problem? Not everyone agrees

If media reports are anything to go by, there is a fundamental problem with DB schemes that is in need of fixing. But, there are two different schools of thought:

- The view of many commentators seems to be that DB schemes are in severe crisis and that changes are required to regulations to manage their decline so that it does not have unintended adverse consequences on members.
- But not everyone agrees that the situation is as dire as it is often presented. Only a minority of schemes and sponsors are having difficulty making a sufficient level of deficit recovery contributions (DRCs), with these struggling schemes accounting for only around 10% (£30-35 billion) of the total DB deficit. The shared deficit of the 6,000 remaining DB schemes improved sharply by £60 billion in October 2016.[31]

Even where there is agreement that there is a problem, there are different views on what this problem is. Identification of the problem is dependent on the objectives which are identified as most important. Is it a case of managing the decline, minimising risk to members' benefits, or trying to reinvigorate DB?

What are the options available to sponsors and trustees of DB schemes?

Trustees and sponsors wishing to improve the funding of their schemes are faced with a limited set of options. Trustees can manage risks and seek increased funding from the sponsor when that strategy does not narrow the deficit, or they can look for ways of increasing the assets of the fund through investing in assets with higher returns but also higher risk.

Government, faced with the sense that DB schemes present a wider set of problems for the economy may consider a new set

Box 1: Recent examples

BHS – Failure to agree to adequate deficit recovery payments caused BHS two pension schemes to fall from a £43 million surplus in 2001, to an almost £350 million deficit by 2015, although some of this increase is likely a result of changes in the way that liabilities were valued. In 2012, the board offered to contribute deficit recovery payments of a maximum £10 million; contributions at this level would have meant a recovery period of 23 years – the median recovery period for comparable schemes was 8 years. Large dividend withdrawals (as much as 150% of profits in the period 2002-04) also impacted the security available to the scheme. In March 2016, the pension schemes entered the PPF's assessment period, with members now facing uncertainty over future benefit payments.[29]

Bernard Matthews – A recent example of a not unusual process for underfunded DB schemes. In September 2016, the company was sold through a pre-pack administration deal which allowed the buyer to take on the company's assets, without becoming responsible for its liabilities. As a result, the Bernard Matthews pension scheme liabilities were transferred to the PPF, with many members now facing 10% cuts to their pension benefits as a result of the PPF's 90% cap, as well as other factors which may result in a larger than 10% decrease for some members. Deals of this sort can protect the viability of the company as an ongoing concern, as well as the jobs of current employees (in the case of Bernard Matthews around 2,500. But critics of the deal have suggested that it was structured 'to enable secure creditors and controllers of Bernard Matthews to extract maximum cash from the company and dump the pension scheme.'[30]

Tata Steel – Uncertainty over the British Steel Pension scheme led the government to consider unconventional ways to solve the DB problem, including proposals for the pension scheme to be separated from the core business and run on a 'standalone' basis or without an employer sponsor. It was suggested that removing the underfunded scheme would make the company more attractive to buyers and keep the company going as an ongoing concern, along with the jobs of its almost 11,000 current employees. By reducing future pension increases, the scheme could become more or less self-sufficient, offering scheme members reduced benefit entitlements but still higher than benefit levels provided by PPF. As yet, no conclusion has been reached.

of options in the forthcoming Green Paper.

There will be continued deficit recovery funding by employers. The challenges facing sponsors trying to balance the competing needs of stakeholders will continue to create tensions in this process.

Schemes will increasingly be looking for ways of reducing their deficit and the uncertainty surrounding it. The options available to trustees and sponsors to reduce deficits and/or volatility of deficits remain much the same as they have been in recent years.

Schemes may try to invest their way out of difficulty. The erosion of the yield on long-dated gilts has affected the value of future pension promises. One option for trustees is to look for better investment returns through changes in asset allocation. This may mean seeking unconventional types of assets, such as:

- Commercial real estate (CRE) debt—traditionally the domain of banks, the global economic crash has reduced the amount they are willing or able to lend against CRE. This has created a gap in the market that pension funds can potentially fill. But CRE debt increases liquidity risk in portfolios, as it involves long-term investment horizons with only one lender/one borrower, and a very limited secondary market in which such commitments can be sold.
- High yield debt instruments—Schemes may choose to invest in riskier assets which potentially yield higher returns than assets traditionally invested in by pension schemes such as high quality corporate bonds or gilts. Although these high yield investments can potentially reduce deficits, they also increase exposure to market risk and volatility. They can also increase the scheme's risk profile, leading to higher rates of PPF levy.
- Infrastructure—this and the previous Government have been keen to encourage investment by pension schemes into major infrastructure investments such as the building of schools, hospitals, road and other major projects. The long-

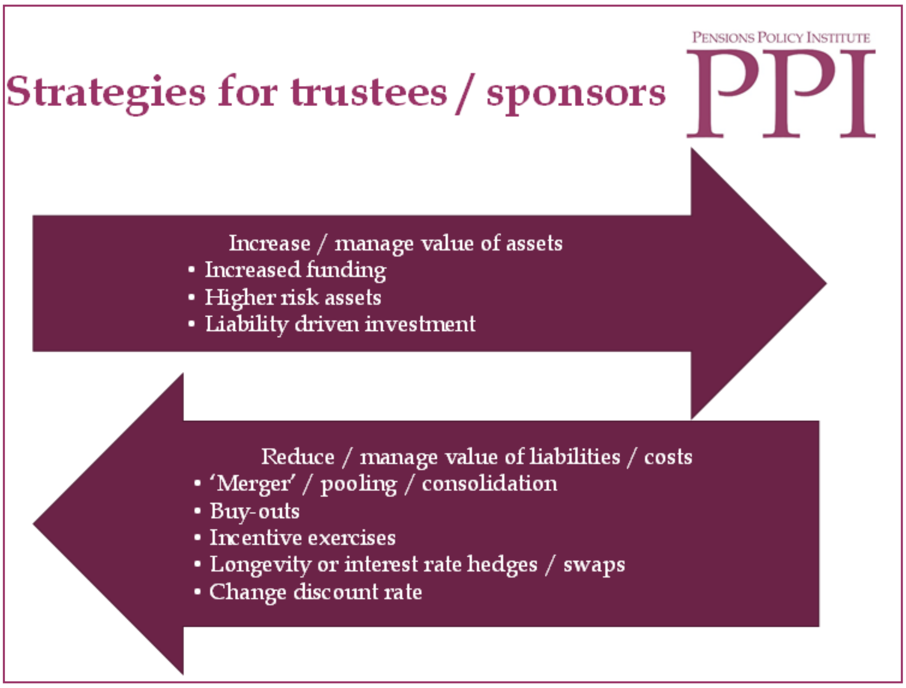
term nature of such investments and the inflation-plus yield makes such investments an attractive proposition to pension funds, particularly as the need for cash increases with scheme maturity. However, infrastructure projects come with risk and investment costs have traditionally been high compared to other assets, factors which have deterred some schemes from investing.

- Liability Driven Investment—in recent years, some schemes have moved in the opposite direction and played safe by seeking to derisk and match their assets and liabilities more closely. LDI strategies attempt to match a scheme's investment portfolio to the characteristics of its liabilities. There are two main types of LDI strategies: immunisation strategies, which match the duration of the assets and liabilities; and, dedication strategies, which aim to match the cash flows of assets and liabilities.

Options for reducing costs or uncertainty include scheme consolidation or pooling, incentive exercises, benefit buy-outs or buy-ins and hedging.

Consolidation/Merger

Consolidating schemes can be achieved in a number of ways but none is without some complexity, particularly where the benefits differ and different sponsors bring different strengths of covenant. It is possible to achieve some of the benefits of a merger by pooling just some of the activities of the scheme with another, such as pooling assets and establishing a joint investment management mandate, sharing administration or shared governance. These mechanisms would not require merging the liabilities of the scheme or standardising benefits.



A step further for some might involve transferring the scheme into a multi-employer trust, allowing them to benefit from cost savings and wider investment choice but maintaining the same scheme rules, sponsor commitment and benefit structure. Where two schemes are sponsored by the same company a 'merger' can be achieved by standardising benefits and moving the members of one scheme into another along with the assets of the scheme. However, merging schemes can be complex and, in itself, a costly exercise.

Merging two or more schemes to produce one larger scheme can have many benefits, including:

- Smaller schemes may have access to previously unattainable investment options and hedging facilities once they have been consolidated into a larger scheme;
- Governance and administration costs can be reduced.

Important considerations when weighing up whether a merger is the best way forward, either as the transferring or receiving scheme include:

- The funding positions of the two schemes, although risks can be mitigated by maintaining separate sections for each scheme;
- The 'balance of powers' there will be in the merged scheme.

Schemes may also look for ways to reduce risk or uncertainty through buy-outs/buy-ins, incentive exercises and/or hedging.

Buy-outs—transferring all or some accrued pension liabilities to an insurance company in exchange for a premium or fee. The insurance company will then pay scheme members' pension benefits when they become due. This eliminates all of the risk for the scheme sponsor and trustees, in relation to those members whose benefits are bought out, as they no longer need to worry about being able to fulfil benefits promised to those members. However, the cost of buy-outs can be high which means that many DB schemes, particularly those which are severely underfunded and most in need of de-risking, simply cannot afford this option. Approximately £8 billion of final salary liabilities were transferred to insurance companies in 2014 through buy-outs. But this represents only a fraction of the liabilities associated with DB schemes.

Buy-ins— essentially consist of an insurance policy which covers the liabilities associated with some scheme members. Like buy-outs, buy-ins require the payment of a premium to the insurer for taking on this risk. The employer sponsor is still responsible for providing remaining members' benefits. In some cases it may be possible for a scheme to use a deferred premium pension annuity buy-in, which allows for the premium to be paid in instalments.

Incentive exercises (IE) provide a way of reducing the liabilities of the scheme.

- Enhanced Transfer Values—Sponsors encourage members to transfer their accrued benefits out of the DB scheme into a DC scheme by offering a higher amount than the Cash Equivalent Transfer Value that would generally be offered to members by trustees as a fair valuation of the benefits given up by exiting the scheme.
- Pension Increase Exchanges—Members are offered a one-off increase in the amount of benefits that they are entitled to, but must give up entitlement to any future annual benefit increases. This is a modification of benefit entitlements rather than a transfer out of the scheme.

There are some concerns that IEs may not be in the best interests of all scheme members. While such exercises are understandably appealing to scheme sponsors, they may leave some members who agree to them with lower, potentially inadequate pension benefits.

The Financial Conduct Authority (FCA) and tPR have expressed their concern regarding this issue. The Incentive Exercises Monitoring Board (IEMB) established a 'Code of Good Practice' in 2012 (updated in 2016) to govern the implementation of such exercises. While it is not mandatory that sponsors follow the Code when carrying out IEs, failure to do so without good reason could result in investigation by TPR.

Longevity hedging can offer pension funds a way to reduce uncertainty. This could be done through investment in longevity-linked contracts, or 'survivor swaps'. These longevity-linked contracts set out an exchange of cash flows in the future which are dependent on a fixed rate of expected longevity applying to the group of members included in the swap, compared with the actual rate of longevity that members included experience. This effectively acts as insurance; if scheme members live beyond their expected ages, the scheme will have to continue to pay benefits for longer, but because of the longevity-linked contract ('survivor swap') they will also receive money from the insurance company based on a comparison of the actual survivor rate to the fixed survivor rate agreed upon.

Changing valuation assumptions to reduce deficits—Trustees can also choose to review the assumptions that they use to value a scheme's liabilities (Box 2). One key assumption is the discount rate used. Many schemes use the long-term gilt yield to discount liabilities but with today's extremely low yields, this does little to deflate liabilities that may not be due for many years to come. While trustees have a responsibility to be prudent in their assumptions, those schemes with greater diversity of investments and a strong employer covenant who believe that future returns on the scheme's investments are not necessarily going to be lower just because gilt yields are lower may choose to use a higher discount rate. This will reduce the measured value of the liabilities, relative to the alternative, and therefore any deficit.

But, most of these options are not simple or without significant cost. And in many cases it is unlikely that anything can be done to reverse the decline that has already occurred. Rather, these options might be used smooth the process of decline and reduce the associated risks. The effectiveness of these options is also somewhat dependent on domestic and global economies.

Looking ahead: the future of DB

Barring significant changes to the economy or regulation, it is likely that the decline of DB pension schemes will continue. In the private sector there will be more scheme closures, very few new members, and a maturing membership base with pensioner numbers increasing and in time becoming dominant. Most pensioner benefits should be paid in full, but some will suffer reductions as a result of corporate failures which could lead the scheme to be transferred into the PPF.

Winding-up DB schemes entirely may seem the most preferred solution to many sponsors, but it is not without significant cost, and so not necessarily viable, at least in the short-term. Solvent employers are required to settle their existing pension liabilities in full. If the scheme is fully funded, wind-up is possible. However, where the scheme is in deficit, wind-up crystallises the deficit and can therefore appear expensive.

Closing schemes to new members leads to an increase in scheme maturity. Immature funds tend to be more cash positive, meaning that they have adequate contributions, being continually paid in by active members and their employers, which can more than cover the cost of pensions in payment for members who have already reached retirement. As an increasing number of members gradually reach retirement, the ratio of pen-

Box 2: Differing valuation assumptions

The funding position of a DB scheme is measured as the ratio of the scheme's assets to is liabilities. It provides information on the scheme's ability to pay accrued benefits (liabilities) using the funds and assets held within the scheme. There are a number of different ways to calculate assets and liabilities, each of which will provide a different assessment of the scheme's funding position.

S179—The liabilities represent (broadly) the cost of providing PPF compensation (the level of liabilities that would be taken on by the PPF if the scheme were to transfer) measured using a basis prescribed by the PPF. This is used to calculate the level of levy the scheme must pay to the PPF. Discount rates used in this calculation are linked to gilt yields and are intended to reflect the cost of buying out the benefits.

Buy-out— Liabilities are calculated based on the amount the pension scheme would have to pay to an insurance company to secure benefits for all scheme members and transfer all risk to the insurer. Both S179 and Buy-out valuations are calculated as if the scheme were winding-up, rather than as an ongoing concern.

Technical provisions—Used to calculate the levels of contribution (including DRCs) that would be required in order to deliver accrued benefit entitlements when members reach retirement. Discount rates used in this calculation reflect a prudent view of the returns the portfolio of assets actually held by the scheme are expected to generate.

Accounting basis– Accounting standards, such as FRS102 and IAS19, mandate that the discount rate used to calculate DB scheme liabilities recognised in employer's balance sheets must be based on yields on high quality bonds.

Calculations of funding can fluctuate significantly year-on-year, since regardless of the approach they are related to market conditions and depend on the market value of assets.

sioners to active members increases, and the scheme becomes more mature and, eventually, cash negative. This is exacerbated when the scheme is closed to new members, as there comes a time when there are no funds being paid into the scheme by active members, although employers might still have to pay DRCs, so the scheme might be forced to sell assets to fund pensions in payment.

Conclusion

The future of private sector DB pension schemes is uncertain, and will depend on a range of external factors, as well as the strategies undertaken by trustees and sponsors. The subsequent briefing notes in this series will discuss some of these strategies in greater detail.

1 Pensions Commission (2005) p.122
2 PPI analysis of TPR data (2016)
3 Ibid.
4 PPF Purple Book (2015) p.28
5 PPF 7800 Index (30 September 2016) p.1
6 PLSA DB Taskforce (October 2016) p.14
7 PPI analysis of TPR data (2016)
8 Maer & Thurley *Defined Benefit pension schemes* (2009) p.9
9 NAPF *Exceptional times, exceptional measures? Economic developments and the impact on pension schemes and members* (March 2012) p.6
10 NAPF *Quantitative Easing: the pension scheme perspective* (October 2011) p.4
11 Ibid. p.3
12 Blake *The United Kingdom Pension System: Key Issues* (2003) p.17
13 DWP *Making automatic enrolment work: A review for the Department of Work and Pensions* (2010) p.8
14 LV *Goodbye to the job for life* (2012)
15 ONS *Pension trends* (2012)
16 Hymans *Record low gilt yields lead to longevity risk costs rocketing* (July 2016)
17 Turner & Hughes *Large declines in defined benefit plans are not inevitable* (2008) p.21
18 ONS *Occupational Pension Survey* (2013)
19 PPI analysis of TPR data (2016)
20 ONS *Occupational Pension Survey* (2016)
21 ONS *Annual Survey of Hours and Earnings Pension Tables: 2015 Provisional and 2014 Revised Results* (2016)
22 PPI (2014)
23 PPI (2012)
24 TPR (2014)
25 TPR *Code of practice no.3: Funding defined benefits* (2014) p.7
26 House of Commons Inquiry BHS (2016)
27 Prem Sikka *House of Commons Select Committee* (2016)
28 PWC (2016)

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This Briefing Note was sponsored by Mercer and was supported by a roundtable discussion attended by representatives from Government and industry. We are grateful to Mercer and the roundtable attendees for their support in producing this note.

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