

Abstract

The well-being of older people in society depends in part on their having sufficient financial resources to provide for their everyday needs, and to enable them to maintain their health and relationships. Pensions are therefore directly implicated in the well-being of older members of the population and hence are a potential source of significant social and societal risks. This paper critiques the role of accountants and accounting technologies in the treatment of the social and societal risks inherent in the UK occupational pensions' landscape in relation to four characteristics of pensions' security, namely that pensions should be predictable, stable, long-lasting and comprehensive. The UK pensions' landscape has undergone rapid and fundamental change in recent years. A range of examples drawn from state, public and private sector occupational schemes are discussed. Across all sectors, while some people have gained, others have lost valuable pension benefits. In occupational schemes, employer costs have been reduced and pension liabilities have been de-risked, usually involving risk sharing with employees or risk shifting towards employees. The role played by accountants and other business advisers in quantifying, analysing and mitigating this work is critiqued. The rhetoric of de-risking, security and enablement inherent in the various pension changes, where the reality is often different, is examined and implications for social and societal risk explored.

Keywords

Social and societal risk; de-risking; risk shifting; state pensions; occupational pension schemes.

1. Introduction

Asenova et al. (2015) show how recent austerity measures including welfare reform and cuts to public services have redistributed social and societal risks to individuals and communities in Scotland. They view social risks as those that have individual consequences, typically linked with experience of unemployment, increased health inequalities, an exacerbation of financial instability, reduced educational attainment, loneliness and a breakdown of support networks. Societal risks inherent in, for example, changes to employment patterns, quality of employment and increased likelihood of low pay, are conceived more broadly, in terms of direct or indirect impact on personal well-being and on ‘human value’. Social and societal risks have far reaching effects, extending beyond issues such as poverty and deprivation, into “more subtle social impacts of which our understanding is limited” including, for example, “social injustice... further polarisation of society between rich and poor, prospects of poverty and low pensions in old age” (*Asenova and Stein, 2014, p.9*). While social and societal risks in relation to welfare reform in the light of recent austerity measures have been examined (*Asenova et al., 2013 and 2015; Asenova and Stein, 2014*), and while the social and societal risks inherent in recent changes in the UK pensions landscape have been considered in general terms (see for example, *Foster, 2011; Ginn and McIntyre, 2013*) the role of accounting technologies in relation to the social and societal risks inherent in recent changes in the UK pensions landscape have not been subject to the same scrutiny. It is with these that this paper is concerned.

A pension has been defined as an expected flow of income directed to a designated recipient by reason of retirement or permanent disability (*Clark and Whiteside, 2003, p.229*). Such flow of income is expected to continue in retirement until the death of the designated recipient (*Blake, 2006*). *Clark and Whiteside (2003)* state that it is commonly believed that pension systems should have four essential characteristics, namely that they should be predictable, that they should be stable and minimise risk, that they should be sufficient to last for the duration of the pensioner’s lifetime, and that they should be comprehensive and non-discriminatory. In this paper, we use these four characteristics to assess social and societal risk in relation to pensions in the UK.

The well-being of older people in society depends upon a wide range of factors including health, social relationships and access to resources. Pensioners view financial resources as being important to well-being and they express their needs in terms of ‘having enough’ without having to worry both in the present and in the future (*Ward et al., 2012*). Pensions are therefore directly implicated in the well-being of older members of the population and hence are a potential source of significant social and societal risks.

Decisions relating to such issues as welfare and pensions reforms are not the sole responsibility of accountants, being influenced by politicians, civil servants, actuaries and other stakeholders too. Neither are they based solely on explicit costings and calculative practices, with a growing emphasis being placed on other factors such as the assessment of risk and risk culture (*Ring, 2010a; Ring et al., 2016*). However, the accountancy profession plays a part in these decisions, in relation especially to the production of accounting data and in the work undertaken by a range of professionals, including accountants, in a variety of settings including the public sector and professional services firms. The large accountancy firms, especially the Big 4, and major legal and actuarial firms have created advisory departments and specialist units providing advice on pension matters including the risks involved. These show the scale, business potential and commercial value in such advisory work.

The discourse employed by professional advisors encompasses a variety of risk-related terms including ‘risk sharing’, ‘risk shifting’ and especially ‘de-risking’. The term ‘de-risking’ contains an implied bias as it references an institutional, private or public sector perspective in which risks are mitigated. While some pension changes have benefitted some categories of pensioner, for example in relation to state pensions in the UK as discussed in Section 4, others do not so that many pensioners find that the risks have transferred to them, heightening risks from their perspective. Hence, this paper considers the nature of risk in relation to pensions and questions whether de-risking can be viewed as a transmission tool for potential social and societal risks.

The aim of this paper is to critique the role of accountants and accounting technologies in the treatment (creation, reinforcement, mitigation and redistribution) of the social and societal risks inherent in the UK pensions’ landscape in relation to [Clark and Whiteside \(2003, p.232\)](#)’s four characteristics of pensions’ security – that pensions should be “predictable, stable, long-lasting and comprehensive”. The UK pensions’ landscape is a complex mix of both public and private provision ([Paisey and Paisey, 2006](#)) and has undergone rapid and fundamental change in recent years. In order to achieve the above aim, examples drawn from state, public and private sector pensions’ provision are discussed. In addressing this aim, our paper contributes to pension debates by highlighting the processes taking place in relation to pension risk and the need to mitigate some of their consequences.

This paper is organised as follows. In section 2, relevant theoretical perspectives are set out in order to frame the paper. These include conceptions of risk, risk sharing, risk shifting and de-risking. In section 3, the UK pension landscape, spanning state, public and private sector provision and hybrid formats, is explained in order to contextualise the subsequent discussion. Sections 4, 5 and 6 review the historical development and main features of state, public and private sector pension provision respectively, including the focus on cost reduction across the range of schemes and the technologies related to accounting for pension scheme assets and liabilities. Section 7 explores the rhetoric of the market in relation to de-risking and the role played by accountants and other business advisers in this work. Section 8 considers the rhetoric of security and enablement inherent in the various pension changes where the reality is often different. Finally, conclusions are drawn and implications discussed in relation to wider social and societal risk.

2. Theoretical insights - Conceptions of risk with reference to pensions

2.1. Conceptions of risk

The concept of risk has become a quintessential feature of contemporary western society ([Jaeger, et al., 2001](#); [Austen, 2009](#)), encompassing everyday human activity ([Tulloch and Lupton, 2003](#)). As [Luhmann \(2000, p.97\)](#) puts it, “such awareness of risk - the risks of technological development or of investment... - is now a very familiar aspect of everyday life...” Yet, despite such awareness and a plethora of risk discourse in the social sciences ([Lash, 2005](#); [Beck, 2005](#)), there remains a lack of consensus on a concise definition of risk ([Damodaran, 2008](#)).

At a conceptual level, discussions of risk revolve around the dichotomy between objective quantifiable risk, which Knight (1921, p.20) referred to as “risk proper”, and perceived or subjective unquantifiable risk (Asenova, *et al.*, 2015; Adams, 2016). The former is rooted in the realist tradition and is concerned with risk as a real phenomenon that can be objectively measured based on known probabilities and individuals’ cognitive and behavioural responses to risk (Webb, 2006). However, some critics have argued that such objectivist approach to risk is narrow, reductionist and lends itself to instrumental rationality (Douglas, 1992). The latter, rooted in the constructionist tradition, considers risk from a broader societal perspective (Zinn, 2006). This approach is concerned with risk as social construction of a perceived future outcome (Zinn, 2007). For Adams (2016), all risk is perceived in the sense that it refers to the future, constructed with reference to a particular socio-cultural setting. According to Van Loon (2005, p.176), “only by thinking risk in terms of a construction can we understand its indefinitely deferred ‘essence’. Risks cannot be understood outside their materialisation in particular mediations, be it scientific, political, economic or popular”. Given that risk “is a general feature of any activity which involves future outcomes” (Taylor-Gooby, 2005, p.218), “how [it is] managed or how [it] could be managed best” (Zinn, 2006, p.3) becomes a means of dealing with future uncertainties (Luhmann, 1993). According to Beck (2000, p.214):

The concept of risk reverses the relationship of past, present and future. The past loses its power to determine the present. Its place as the cause of present-day experience and action is taken by the future, that is to say, something non-existent, constructed and fictitious. We are talking about something which is not the case, but could happen if we were not to change course.

In the context of UK pension provision, this future has been conceptualised variously as “pensions fog” (Confederation of British Insurers, 2008), “pension crisis” (Mitchell and Sikka, 2006) and “pensions apartheid” (Taylor, 2010) – a future wherein retirees will be worse off unless action is taken now to increase pension saving by, for example, increasing contribution rates, and by increasing the normal pension age for current workers to deal with a looming demographic crisis fuelled by longevity (Disney, *et al.*, 2010). Conceptualising risk in this way posits that humans have agency and are therefore capable of shaping particular future outcomes rather than just experiencing them. This insight about risk has become “embedded within political rhetoric and policy initiatives” (Austen, 2009, p.457) as exemplified in the case of pension provision in the UK where government pension policy is increasingly geared towards anticipating, managing and/or preventing risks inherent in pension provision.

It is in this context that risk can be understood as social, the management of which is generally intended to avert the loss of something of human value (Asenova *et al.*, 2013 and 2015), or to prevent a perceived hazard with implications for social and societal security becoming an incident (Black, 2002; Zinn, 2006). This awareness of risk and its management, according to Beck (1992), has transformed contemporary nation states into risk societies in which new risks and uncertainties are being manufactured and managed in different ways to previous generations (Webb, 2006). Yet Beck (2006, p.329) warns that “the highly developed institutions of modern society – science, state, business and military – attempt to anticipate what cannot be anticipated”. The fatal irony of such optimistic futility is that “we do not know what it is we don’t know – but from this dangers arise, which threaten mankind”. The irony which Beck refers to here is that instrumental rationality (Douglas, 1992), which relies on the experience of the past, encourages the anticipation of risks that can be quantified and

controlled, whereas the uncertainties facing risk societies emanate “from what we do not know and cannot calculate” (Beck, 2006, p.330).

Academic literature on pensions is infused with the language of risk. Prior research has focused on the factors influencing managerial policy in relation to pensions’ risk management (Anantharaman and Lee, 2014); the reporting of risk disclosures (Abraham and Shrivess, 2014); and whether individuals understand the decisions they have to take in regard to pensions, including the risks involved (Maloney and McCarthy, 2017). Concern has been expressed that the widespread discussion of risk has underplayed the importance of security (Ring, 2003) and that the changes affecting individuals require them to display a considerable amount of trust (Ring, 2010a; 2012). Such feelings of security and trust may not always exist in practice, especially if people do not understand the risks surrounding pensions and the decisions that they are required to make. There is evidence that people find pensions very complex, despite efforts to simplify legislation and language surrounding pensions and that there is a lack of pension literacy, with older people, better educated people and those working in the financial sector being best equipped to make pension decisions (Ring and Webb, 2014; Webb et al., 2014). This points to a large underclass of people, especially the young (Ring, 2003), those lacking higher education and those not working in financial jobs for whom the risks associated with pensions may not be fully understood.

More specifically, risk sharing and risk shifting have been considered in prior literature. The relatively benign term ‘risk sharing’ encompasses a variety of forms, sometimes involving the sharing of risks between generations or internationally (Beetsma et al., 2011). In both the UK and US, pensions for public sector workers have come under increasing pressure as many pension schemes are unfunded. For example, recent reforms in US teachers’ pensions (Koedel and Podgursky, 2016) and UK police pensions (Crawford and Disney, 2014) have sought to reduce the risk burden on the state by limiting increases in employer pension contributions and requiring both employers and recipients of pensions to share some of the risks of increases in contributions. Thus, the term risk sharing may actually imply a partial transfer of risk from employer to employee.

The more overt term ‘risk shifting’ makes this transfer more apparent, especially in cases of financial distress. Under the Employee Retirement Income Security Act of 1974 (ERISA) in the USA, most defined benefit pension plans are insured by the Pension Benefit Guaranty Corporation (PBGC). If the event of bankruptcy of a plan sponsor with an underfunded plan, the PBGC takes over the plan and, up to specified limits, makes up the funding deficit. According to Anantharaman and Lee (2014), this guarantee mutes the incentives of rank-and-file beneficiaries to monitor the management of their plan, fuelling the moral hazard problem, providing strong reasons to expect US defined benefit sponsors to increase plan risk as they approach distress, for example by underfunding and/or by increasing plan asset risk. Likewise, Krapf and White (2016) present evidence to show that in the US, pension-compensated managers are primarily interested in preserving the long-term survival of the firm, thus ensuring the payout of their pensions. This incentivises them to manage foreign exchange exposure more aggressively in order to reduce cash flow volatility, ultimately resulting in lower levels of foreign exchange exposure with this risk shifting being more apparent in distressed firms.

Risk shifting is not confined to situations of financial distress, however. The widespread closure of defined benefit pension schemes to new accrual in the UK and their replacement with defined contribution schemes also represents a form of risk shifting, by shifting the risk of increasing pension liabilities away from companies and increasing the risk for employees

whose pensions are no longer guaranteed as a proportion of final salary (Paisey and Paisey, 2006; Josiah *et al.*, 2014).

While risk generally, risk sharing and risk shifting have received attention in prior literature, pensions de-risking has rarely been discussed, with papers focusing on pricing and regulatory aspects rather than accounting matters and social risks (see, for example, Sekunda and Maher, 2016 and Lin *et al.*, 2017). However, de-risking is a term that is being used increasingly within professional services firms and it is becoming an increasingly lucrative advisory area. De-risking has been described as “a slogan applied to many of the actions taken by trustees and sponsors running defined benefit (DB) pension schemes but, like all slogans, it conceals a diverse and complex pension landscape” (Duke, 2011, p.1). Duke explains that the rationale for de-risking is clear - to reduce risk whilst having a fund of sufficient size to support itself with little reliance on the employer – but that de-risking in practice can take a variety of forms. These include pension buy-outs, buy-ins, longevity insurance, hedging arrangements, making changes to pension scheme provisions, such as increasing contributions and the retirement age, and changing the pension asset investment portfolio.

The UK is regarded as being the world leader in pensions de-risking, with more than £105 billion in defined benefit pension risk having been transferred from corporate balance sheets to insurance companies through buyouts, buy-ins and longevity insurance (Manning, 2016, p.27). However, the US pension market is now beginning to follow the UK’s lead in pension re-risking with a range of consultancies offering advice on de-risking strategies (Mayer-Brown, 2018). Although the number of defined benefit¹ pension plans in the US fell by 80% between 1978 and 2014, there are still approximately 45,000 plans (Dahl, 2018) and, given that the value of defined benefit pension liabilities in the US now exceeds \$3 trillion, by far the largest concentration of defined benefit pension risk in the world, the scope for an increase in de-risking is vast (Manning, 2016). Cannon and Tonks, (2013) examined risks associated with defined contribution schemes in sixteen countries, finding substantial pensions risk. Therefore, while this paper utilises examples from the UK where de-risking has a relatively longer history, the arguments put forward also apply to other countries with similar pension arrangements, such as Australia, New Zealand and Canada which have seen shifts from defined benefit to defined contribution pension schemes (Wilmington plc, 2018).

In relation to defined benefit pension schemes, de-risking implies that the risk for an employer with a defined benefit pension scheme is reduced or removed but, depending upon the de-risking strategy adopted, those risks might transfer to pension scheme members or others, hence the underlying risks often remain but they may shift from employer to other parties. However, de-risking also has other aspects in relation to private sector paybacks, including those from lucrative consultancies and the de-risking of state obligations. A critique of some recent examples of de-risking drawn from both public and private sectors is included later in this paper.

2.2. Accountants and accounting technologies in relation to pension risk

In this paper, it is suggested that the concept of risk can be usefully employed to gain insight into the role of accountants and accounting technologies in the treatment (creation, reinforcement, mitigation and redistribution) of social and societal risk inherent in the current

¹ Defined benefit and defined contribution pension schemes are explained in Section 3.

UK pensions' landscape. By accountants, we do not confine our discussion to the work of professional accountants involved in the management or audit of organisations that offer occupational pension schemes to their employees or those working in the insurance companies that provide pension products, although such accountants have a clear role in the calculation of pension estimates, costs, gains and deficits. We also include a range of personal services firms, including accounting and other consultancy firms that rely on accounting technologies when working within the pensions' domain. The so called Big 4 accounting firms are major providers of consultancy services, with a large role in the field of pension de-risking, yet, while the work of consultants is becoming referred to more frequently in the accounting literature, "few studies have more intensively dealt with what consultancy activities and reports mean in stabilising accounting systems" (Christensen and Skærbæk, 2010, p.524). By including consultancy activities within our coverage of accountants, we take a more inclusive view of the accounting domain and accountants working in the field of pensions.

In discussing accounting technologies, we note that within the accounting literature, the construction of the governable person, and the role of accounting in that construction, has been examined. Miller and O'Leary (1987) discuss how scientific management, connected to calculative practices or technologies such as standard costing and budgeting, constructed individual workers into more manageable and efficient entities. They show that a recurring theme in the discourses and practices was a positive concern to improve the life of the person – "quite literally, the person was to be worked upon, to be managed through a series of interventions into an enhanced state of life" (Miller and O'Leary, 1987, p.261). Similarly, the discourse of pensions assumes that individuals should be encouraged to take more personal responsibility for their future pension provision in order to ensure a better income and hence quality of life in retirement. Thus defined, accounting technologies both construct the governable person and they extend beyond corporate notions of accounting into wider aspects of everyday life (Jeacle, 2015).

Management accounting generally is underpinned by a range of calculative practices, including the calculation of costs and budgets, and the analysis of deviations from these, the calculation of rates of return for investments and the setting of transfer prices (Miller, 2001). More recently, web-based ranking mechanisms such as TripAdvisor, have been viewed as calculative practices inscribed into expert systems (Jeacle and Carter, 2011) that gain trust because of their scale and the fact that the rankings are generated from lay input into the system's hard number rankings of hotels. Hence, calculative practices or technologies can take many forms, not all of which may initially appear to focus on accounting, as narrowly defined in terms of financial statements and their accompanying disclosures, but which rely on elements of quantification, based on the "objectivity and rationality of hard numbers" (Jeacle and Carter, 2011, p.305). Hence, figures produced by actuaries such as calculations of pension scheme deficits, the minimum funding requirement and the subsequent scheme specific funding requirement, as well as assessments of the value of longevity or interest rate swaps or bonds and the policy of liability driven investment become part of the accounting sphere when used to provide quantifiable data that informs decision-making, summaries of which are disclosed in the financial statements.

Calculative practices are also related to calculative culture. Question has been asked in relation to the most recent financial crisis whether attempts to count risks, by first quantifying the then aggregating them into units of control as a prelude to controlling uncertainty, have failed (Power, 2009) or, alternatively, whether they indicate the existence of a range of

calculative cultures, some of which have the capacity to be more successful than others (Mikes, 2011). As Ring (2010a) notes, the discussion of risk in relation to pensions is not limited to measurement issues. We suggest here that in-depth scrutiny of the role accounting technologies play in the treatment of risks and uncertainty in relation to pension provision must transcend the realm of rational calculability to an understanding of how accounting technologies are deployed to disseminate, manage and govern pension risks and uncertainty.

2.3. Social and societal risks and the neoliberal agenda

Pensions are not always the only source of income for people in retirement, but for the vast majority of people in advanced western economies, pensions are essential to their long-term quality of life (Clark and Whiteside, 2003). Noting that “nation-state sponsored social security was the core pension provision of the twentieth century”, Clark and Whiteside (2003, p.230) show that the extent of this provision has varied in different parts of the world, with UK and US state provision being at a base level in contrast with the state systems in continental Europe that have been by far the most significant source of retirement income.

Douglas and Wildavsky (1982) and Douglas (1990 and 1992) provide an interesting insight into how particular social and societal risks are selected and politicised in modern societies. In their seminal work on *Risk and Culture*, Douglas and Wildavsky (1982, p.7) argued that a cultural approach to risk and its management highlights “how community consensus relates some natural dangers to moral defects. ...dangers are selected for public concern according to the strength and direction of social criticism” and transformed into social risks. In that sense, the concept of risk and its surrounding rhetoric function as a mechanism for preserving social order (Zinn, 2007). It is in this way that the language of risk performs a “standardising [and] centralising role at the level of public debate” (Douglas, 1992, p.x) wherein risks and uncertainties are constructed and interpreted as real or potential dangers to a particular social group (such as members of a pension scheme) and its system of norms (such as financial security in retirement) and thus requiring expert knowledge (Giddens, 1991 and 1998) and calculative technologies for managing and/or controlling such risks (Zinn, 2007). Central to these calculative technologies is the normalisation of risk, through which individuals are “fabricated within a network of instruments and techniques of power” (Lupton, 2013, p.87). The resultant effect is the emergence of what Giddens (1991, p.28) referred to as “risk culture” in which individuals have come to accept the centrality of risk in their daily lives, including a recognition “that no aspects of our activities follow a pre-ordained course, and all are open to contingent happenings” (Lupton, 2013, p.87).

Understood in this way, the construction of risk and its management become “a governmental strategy of regulatory power by which populations and individuals are monitored and managed through the goals of neoliberalism” (Lupton, 2013, p.87). In general terms, the neoliberal agenda encompasses political and socio-economic policies which underpin free markets, deregulation, privatisation and retrenchment of state intervention in areas of social provision (Harvey, 2005) including pensions. Yet neoliberalism does not equate to less state intervention in the operation of the so-called free market (Baud and Chiapello, 2017). Rather, the state takes on the role of creating and sustaining institutional frameworks that promote “individual entrepreneurial freedoms” (Harvey, 2005, p.2), “...achieved through mechanisms aimed at influencing individual behaviour without eliminating the freedom of individual actions” (Morales, et al. 2014, p.425). By encouraging individual economic sovereignty and “independence of individual responsibility”, the neoliberal agenda attempts

to destabilise the dependency proclivities produced by increasing state intervention particularly in areas of social provision (Jupe and Funnell, 2015, p.69).

In neoliberal states, risk culture is created by deploying a “network of interactive actors, institutions, knowledges and practices” to collect and analyse information about diverse risks, which are then “problematised, rendered calculable and governable” (Lupton, 2013, p.87). From a neoliberal vantage point, risk is increasingly individualised and constructed as a crucial characteristic of the “entrepreneurial self” (Webb, 2006). The individualisation of risk positions citizens as active subjects of governance by encouraging them to interpret risk “as something which can only be solved on an individual level through personal action” (Furlong and Cartmel, 2007, p.6). This requires the individual “...to become a calculating subject, set up as an entrepreneur responsible for himself, in order to be governed based on his interests...” (Chiapello, 2017, p.53). This applies especially in situations where individuals have to make pension decisions, such as when investing in defined contribution schemes. In Chiapello’s conception, individuals tend to pursue their best interest, freedom and security by exercising power upon themselves, rationalised inter-alia by a process of neoliberal governmentality, often in the form of “advice from institutional governmental agencies, from experts who have problematised areas of life as pervaded by risk” (Lupton, 2013, p.88).

Over the last few decades, critical accounting research has produced interesting insights on the relationship between neoliberalism and accounting. This body of literature has contributed greatly to our understanding of the ways in which accounting technologies participate in the development and rationalisation of neoliberal political and socio-economic policies (Rose, 1991; Andrew and Cortese, 2013; Jupe and Funnell, 2015). Chiapello (2017) charts the way in which critical accounting literature has engaged with the notion of neoliberalism since the early 1990s. Her research sheds light on how neoliberal ideas are embedded in the construction of accounting technologies on the one hand, and on the other hand, how those accounting technologies are harnessed to rationalise neoliberal policies. An interesting insight relates to the effects of the use of accounting technologies on the distribution of wealth and power. She posits that the pattern in which accounting technologies produce certain distributions of wealth and power may be related to their threefold epistemic, pragmatic and political dimensions. At the epistemic dimension, accounting technologies seek to produce knowledge, set out truth and establish value. At the pragmatic dimension, they are deployed in judgement and decision-making thereby contributing to the construction of the world and people. At the political dimension, they are employed to “legitimate social asymmetry and distributions” (Chiapello, 2017, p.59). Andrew and Cahill (2017) explore the relationship between accounting and neoliberalism within the context of proposed privatisation of two prisons by the government of New South Wales, Australia. They show how the government mobilised accounting technologies and discourses to demonstrate that the neoliberal agenda of private delivery of both prisons would provide better value for money than continued public delivery. Given the differing policy outcomes², they conclude that neoliberal accounting technologies and discourses were mobilised to rationalise privatisation of one prison, while counter accounting narratives of cost from a communitarian perspective were employed to successfully resist privatisation of the other, showing that neoliberal accounting technologies can be used to promote divergent political outcomes.

The import of neoliberalism on pension reform has been discussed in various contexts. Belfrage and Ryner (2009) note that pension reform in Sweden has followed a neoliberal

² While identical accounting technologies and discourses were employed to justify privatisation of both prisons, the policy outcome was to privatise only one of the prisons (Andrew and Cahill, 2017).

agenda in the form of decreasing state coverage and recommodification of private provision from defined contribution to defined benefit schemes while promoting voluntary funded schemes and a mass individualised investment culture. Hu (2012) suggests that pension reform in China since 1978 has followed neoliberal models based on privatisation, marketisation and individual responsibility for pension savings and outcome. In the UK, neoliberal pension reforms are taking place within political and ideological agendas. Government pension policy over the last three decades has given rise to the retrenchment of state provision while driving changes to private provision including individual responsibility for pension saving and retirement outcomes (Hyde and Dixon, 2009). This has had the effect of repositioning individuals into personal risk managers with responsibility for managing inherent pension risks to secure sufficient retirement income for themselves (Ring, 2010a). In general terms, pension reforms have been directed at shaping the behaviour of individual members of pension schemes to enable them to take personal action to deal with risks that are identified and normalised by accounting technologies. Central to this neoliberal model is the assumption of self-reliant and fiscal-disciplined individuals who rationally plan “their consumption and savings over their lifetimes” (Hyde and Dixon, 2009, p.3). Whether the various reforms have done this in such a way as to protect the four commonly desired characteristics of pensions – namely whether they are predictable, stable, long-lasting and comprehensive (Clark and Whiteside, 2003) - is the central concern of this paper.

Chiapello (2017, p.57) discusses how accounting technologies “bring things into existence that would not exist without them”. Given that pensions provide income streams for individuals at a future date, uncertain future events can affect their value (Department for Work and Pensions, DWP, 2008). Accounting, through its calculative technologies, plays an important role in the identification, measurement and mitigation of pension risks and uncertainty. For example, accounting technology provides a measure of pension risks in the form of net pension asset/liability (Napier, 2009; Amir, *et al.* 2010) which is then deployed by stakeholders including the state and employers to take relevant action in dealing with pension risks.

Section 2 has shown that the nature of risk in relation to pensions is conceptualised in a variety of ways and that accountants and accounting technologies have played a role in such conception. More broadly, pension risk can be better understood when located within a neoliberal approach to retirement provision, with consequent social and societal risks. In this paper, we utilise four characteristics identified by Clark and Whiteside (2003) as being necessary elements of a pension system. First, pensions should be predictable since the standard of living of most pensioners is heavily dependent upon pension benefits. Second, pensions should involve minimum risks to the recipient given that individuals are poorly placed to deal with pension risks. Third, pensions should be of sufficient value to last over the years of retirement until death and, fourth, pensions should be comprehensive in coverage, taking account of the inequities of discrimination (for example in relation to gender, working life experience, ability, or disability). In this light, they argue that it is necessary to consider “the extent to which funded pension schemes have been important in the Anglo-American world in ensuring pension security (predictable, stable, long-lasting, and comprehensive retirement income)” (Clark and Whiteside, 2003, p.232).

3. The UK pension landscape

In the UK, the pension landscape is a complex mix of three tiers (see Figure 1) that span both state (public) and occupational (state and private sector) provision.

Insert Figure 1 about here

The first UK state pension system introduced by the Old Age Pensions Act 1908 consisted a means-tested non-contributory benefit, restricted to the respectable poor from age 70 (Bozio *et al.*, 2010). The Widows, Orphans and Old Age Contributory Pensions Act 1925 then introduced a non-universal provision based on a Contributory National Insurance principle (Arthur, 2001). Membership of the scheme was compulsory only for manual and other low-wage workers (Dilnot, *et al.*, 1994). However, the foundation of modern pension provision in the UK was laid in the 1940s (Pensions Policy Institute, 2016a; PPI hereafter), beginning with the seminal Beveridge Report of 1942 which led to the introduction of a universal pension based on a social insurance model in 1948 (Bozio, *et al.*, 2010). Since the 1960s, significant amounts of legislative change have affected pensions policy (PPI, 2016a) and “little now remains of Beveridge’s two most fundamental principles: a ‘contributory’ or ‘insurance’ principle linking benefits and contributions, and a universal Basic State Pension sufficient for subsistence” (Arthur, 2001, p.41).

Until recently, public pension provision comprised two tiers: Basic State Pension (BSP) aimed at providing flat-rate minimum standard of living for retirees and State Second Pension (S2P) which was more closely related to earnings. In 2012, S2P was replaced by the National Employment Savings Trust (NEST) and changes were made to the basic state pension effective from April 2016. Section 4 explains these recent changes and current provision.

In addition to the state pension, a range of occupational pension provision exists. An occupational pension scheme is “an arrangement (other than accident or permanent health insurance) organised by an employer (or on behalf of a group of employers) to provide benefits for employees on their retirement and for their dependants on their death” (ONS, 2009, p.4). The key legal feature of such schemes (with the exception of most public sector schemes) is that they are set up as irrevocable trusts, where a trust is a legal arrangement between persons for the disposal of assets (Davis, 2004; Pensions Advisory Service (PAS), 2010). Assets are provided by one person (the employer) and held by a group of persons (the trustees) for the benefit of another group (the employees/members). Thus, trustees administer and financially manage the assets, and are responsible to the beneficiaries, that is, the pension scheme members (Daykin 2002; Davis, 2004

There are three main types of occupational pension arrangements in the UK with each operating on a different set of rules (see Figure 2). First, Defined Benefit (DB) schemes are ones where the pension payable on retirement is usually determined by a combination of both the employees’ length of service and earnings (Forth and Stokes, 2007). Second, Defined Contribution (DC) schemes are ones in which members build up individual pension pots (Cannon and Tonks, 2009) accumulated through contributions paid by both the employee and the employer which are invested in assets (such as stocks and bonds) and the whole pot is used to purchase a pension at retirement from returns generated from investing these contributions (Barr and Diamond, 2006; Watson, 2008). Third, Hybrid Schemes (HS) are ones which usefully combine a number of DB and DC features, for example, a core DB element with optional DC add-ons (PSPC, 2010).

Insert Figure 2 about here

Within the pension tiers, schemes can be funded or unfunded. An unfunded scheme, also known as ‘pay-as-you-go’ (PSPC; 2010) is based on an intergenerational agreement where the contributions of today’s earners are used to provide retirement income for current retirees; while current earners expect in turn to be supported in their retirement by future earners (Black, 2002). In this regard, unfunded schemes do not accumulate capital, or hold any investments or other assets (House of Commons Scrutiny Unit, 2007) to meet future pension payments, hence the notion of pay-as-you-go. A funded scheme, on the other hand, is one in which contributions by and/or on behalf of current earners are accumulated to provide pension income for those earners on retirement (Black, 2002). The main UK state pension provision is unfunded while all private sector pension schemes are funded.

In 2017, there were 13.5 million active members in UK occupational pension schemes, 7.7m in the private sector and 5.7m in the public sector (ONS, 2017a). Given this balance between public and private sector workplace pension provision, both sectors are considered in this paper. Occupational pension provision for people employed in the UK’s public sector such as teachers and health workers is discussed in Section 5. Private sector provision is discussed in Section 6.

4. UK state pensions

The last decade has seen significant legislative changes in response to the fluidity of risks (such as longevity and investment risks) inherent in pension provision, including increases in pension ages around the world (Disney, 2016). Recent reforms have been largely predicated on the recommendations of the Turner Report in 2005:

Faced with the increasing proportion of the population aged over 65, society and individuals must choose between four options. Either: (i) pensioners will become poorer relative to the rest of society; or (ii) taxes/National Insurance contributions devoted to pensions must rise; or (iii) savings must rise; or (iv) average retirement ages must rise (Pensions Commission, 2005, p.38).

Following the Turner Report, retirement ages were raised in the Pensions Act 2007. The Pensions Act 2008 introduced a number of reforms including a legal duty on employers to automatically enrol eligible employees into either a qualifying workplace pension or the National Employment Savings Trust (NEST), an occupational pension scheme set up by the government, effective from October 2012 (Hall, 2010), to which both the employer and employee must contribute unless the employee opts out (Wood, *et al.*, 2010).

In the tax year 2014/15, 51% of total UK pensioner income was paid from state provision (down from 55% in 1997/98), with the remaining 49% coming from private pension provision (PPI, 2017). By April 2016, 96% of pensioner households had an annual disposable income of over £10,000 compared to only 21% of pensioner households in 1977 (ONS 2017b). This increase is attributable to a nearly sevenfold increase in private pension income (ONS, 2017b, p.3). Therefore, while state provision remains a significant source of pensioner income, the UK has a long history of occupational pension provision which has increased as a proportion of total pensioner income in recent years. Developments such as NEST have had a dramatic effect on pension provision, evidenced by the fact that while only 39% of men and 36% of women in 2010/11 were accruing a non-state pension (PPI, 2016b), as at July 2016 NEST had 3.3m members and was experiencing only a 7% opt-out rate (NEST, 2016) further

emphasising the role of workplace provision. This is the main reason for the large rise in active membership of occupational pensions schemes from a low of 7.8m in 2012 to a figure of 13.5m in 2016 (ONS, 2017a).

The NEST has therefore achieved success in increasing the numbers of people enrolled in pension schemes. It fits with the model of pension saving predicated on empowering individuals to save for retirement but has only limited success in reconceptualising individuals as entrepreneurial selves (Webb, 2006) or responsible citizens (Ring, 2010b) since the choices open to them are limited, essentially remaining in the scheme or opting out. This view of governmentality, of how government shapes individuals as governable persons, therefore has the potential not of developing individual subjectivity through behaviour of the self, but as subjection (Ring, 2010b).

The Pensions Act 2014 introduced further reform to state pensions which was implemented in 2016. This involved replacing the two-tier state provision (BSP and S2P) with a single-tier New State Pension (NSP). The NSP has been presaged as fairer, especially for women, carers and the low paid (Vickerstaff and Loretto, 2017), designed to provide a flat-rate pension that is set above the current means-tested ‘Pension Credit’ for individuals reaching state pension age on or after 6 April 2016. It is more comprehensive (Adams et al, 2015), with eligibility to the pre-reform S2P now extended to groups (for example, the self-employed) that were only eligible to the BSP (Disney, 2016). Therefore, some of the very poorest pensioners who are solely reliant on the state pension are set to benefit provided that they have paid sufficient national insurance contributions. However, not all have benefitted, for example, people who have paid fewer than ten or more than 35 years of national insurance contributions. Also, spouses, civil partners, widows and widowers will no longer be able to claim or inherit a state pension based on a partner’s national insurance contribution record (Davies, 2018).

The NSP is uprated under the so-called ‘triple lock’ which guarantees that pensions will rise by the highest of earnings growth, consumer prices index (CPI) or 2.5%. Prior to the triple lock, the BSP was uprated only in line with the higher of the retail prices index (RPI) or 2.5%. The triple lock provides a more generous pension in times of low CPI and earnings growth. For example, between 6 April 2017 and 5 April 2018, the NSP was uprated by 2.5% since the CPI and earnings grew by lower rates over the period (Pensions Advisory Service, 2017). However, from 6 April 2018, the NSP will be uprated by 3% CPI growth (being higher than earnings growth and 2.5%). Yet, Rutherford (2013) notes that increases in CPI tend to be lower than those in the RPI. As such, the NSP is likely to be slightly lower in 2018 under the triple lock (with CPI as benchmark) than if the RPI³ was maintained as benchmark over the same period. Hence, although the triple-lock does protect pensioners, there are times when it does incorporate risk.

One final change relates to the equalisation of the age of eligibility for the state pension for men and women, which was enacted in the Pensions Act 1995, which was intended to address the inequality associated with men becoming eligible for the state pension at age 65 while women became eligible at age 60. A timetable was set out for bringing women’s ages into line but this was accelerated in the Pension Act 2011. A campaign group, Women Against State Pension inequality (WASPI) was formed in 2015 to campaign against acceleration that they claimed was insufficiently publicised and too rapid resulting in women born in the 1950s being unable to change their pension plans at short notice. The group agrees that pension ages should be equalised but argues as follows:

³ The RPI growth over the same period is estimated at 3.6% (ONS, 2018).

Significant changes to the age we receive our state pension have been imposed upon us with a lack of appropriate notification, with little or no notice and much faster than we were promised – some of us have been hit by more than one increase. As a result, hundreds of thousands of us are suffering financial hardship, with not enough time to re-plan for our retirement. Women are telling us that they can't believe their retirement age has increased by 4, 5 or 6 years and they didn't even know about it!! With no other source of income (until the 1990s many women weren't allowed to join company pension schemes, many of us are carers or in poor health) securing work is proving impossible and zero contract hours or Job Seekers' Allowance is the only alternative for many ([WASPI, 2018](#)).

The financial effects of the above change are significant. [Cribb and Emmerson \(2018\)](#) estimated that the changes reduced the affected women's household incomes by £32 per week on average, with the proportional effect being substantially larger for women in lower income households. This increased the income poverty rate among affected women by 6.4 percentage points.

Overall, the above review shows that the changes in UK state pensions have benefitted some and disadvantaged others. The NSP is predictable and better than expected for the poorest earners and some previously disadvantaged groups. However, for others, such as women born in the 1950s, their predicted pensions were postponed, often with them being unaware of changes in eligibility. Furthermore, the changes in 2011, accelerating changes only introduced sixteen years earlier, were not long-lasting ([Osborne, 2016](#)). As more people are eligible for the NSP, it is more comprehensive. As regards sufficiency, the NEST scheme provides additional pension for many people whose employers did not previously offer pensions and opt out rates in the early years of introduction have been low, indicating that the number of people receiving additional pension in future will rise substantially. However, the contribution rates have been criticised for having high charges ([Hyde, 2010](#)) and for being inadequate to provide a good pension ([Cheek, 2010](#)). Risks are being addressed in a variety of ways. Increases in the age of eligibility for the state pension are designed to ensure affordability and the triple lock provides a hedge against risk but only to the extent of CPI and the long-term future of the triple lock remains uncertain. In terms of state provision [Clark and Whiteside's \(2003\)](#) four tests have been partially, rather than fully, met.

5. Public Sector Occupational Pension Provision

Public sector occupational pension schemes are generally set up and run by the government for public sector employees ([PPI, 2008](#)). There are seven main public sector pension schemes to which a majority of the estimated 5 million (about 25% of UK workforce ([British-North American Committee, 2009](#)) public sector employees are members ([PPI, 2010](#)). Unlike private sector pension schemes which can be amended by trustees or even closed down by the sponsoring company, the main public-sector schemes are statutory, established and therefore can be only reformed, by Acts of Parliament ([PPI, 2010](#)). Some of the schemes are centrally run (see Table 1) and paid for by government departments while others are separately run by local authorities. For example, the Local Government Pension Scheme is a funded scheme and is centrally guaranteed, but locally administered.

Insert Table 1 about here

Six of the seven major public sector occupational pension schemes are unfunded DB schemes. Such schemes guarantee their members pension “benefits which are either specified in absolute terms or are calculated according to a prescribed formula” (Daykin, 2002, pp.10-11) usually based on length of service in the plan and a measure of earnings towards the end of active membership (Banks and Smith, 2006; Disney *et al.*, 2010). Their unfunded nature means that they do not hold an investment or any form of asset (House of Commons Scrutiny Unit, 2007) to cover scheme members’ pension rights (PPI, 2008). Rather, current scheme members and their public-sector employers (for example, NHS Trusts) pay notional contributions under the SCAPE system (Superannuation Contributions Adjusted for Past Experience – where employers’ notional contributions form part of their annual budget) to a sponsoring government department as if the schemes were funded (PPI, 2008). The sponsoring government department then uses the money to honour pension rights of retired scheme members (CBI, 2008).

A public-sector employee’s claim to a pension is based on a promise from the government that, if s/he pays contributions now, s/he will be given a pension in the future (Barr and Diamond, 2006). In effect, there is an intergenerational agreement in which former (or retired) members are supported by current scheme members who in turn expect to be supported by future scheme members in their own retirement (Black, 2002).

Major reforms to the main public sector occupational pension schemes were implemented between 2007 and 2008. The main components of these reforms encompassed four broad areas. First, the Normal Pension Age (NPA – the age at which an individual stops contributing to the pension plan) was increased from 60 to 65 for new entrants to the NHS, Civil Service and Teachers’ schemes while an NPA of 60 would still apply to existing members (PPI, 2010). Second, members’ contribution rates for a number the schemes were increased. For example, contribution into the teachers’ schemes increased from 6 to 6.4 percent for all members; the NHS scheme introduced tiered contributions (ranging from 5 to 8.5 percent) based on the level of pensionable pay (NHS Business Services Authority, 2010); and the Local Government Scheme also introduced tiered contribution for all members (PPI, 2010). Third, accrual rates for the NHS, Teachers’ and Local Government schemes were increased from 80ths to 60ths of salary for new entrants while the separate provision of a lump sum at retirement equal to 3/80ths of salary for each year of service was abolished for new entrants (PPI, 2010). Fourth, arrangements were introduced for cost sharing (that is, allocation of unanticipated increases in scheme costs between the employer and the member in the proportion of 50:50) and cost capping (limiting employer contributions at a certain level with any unanticipated costs above this level being borne by the pension scheme members rather than employers). Taken together, these changes were based on the aim of reducing the cost to the state of offering the scheme and hence the state’s risk. The fourth means that risks above the cost cap are shared with employees. This risk mitigation and risk sharing substantially mirrors the changes that have taken place with regard to private sector occupational pension schemes as discussed later.

To illustrate the changes made, the Scottish Teachers Superannuation Scheme (STSS) is used here as an example. The STSS is a DB final salary pension arrangement which brands itself as one of the most important and valued benefits available to teachers. It is a statutory scheme subject to the Teachers’ Superannuation (Scotland) Regulations 2005 as amended (Scottish Public Pension Agency, SPPA, 2018), into which all teachers/academics aged between 18 and 75 in Scotland employed in a state-funded comprehensive or independent fee-paying school, or further or higher education establishment that has been accepted into the STSS, are

enrolled automatically. Although enrolment into the scheme is not compulsory, automatic enrolment means that employees who do not want to be a member of the plan have to make an active decision to opt out. Until changes introduced in 2016, the plan was ‘contracted out’ of the State Second Pension (S2P). This means that its members did not accrue any additional entitlement to the S2P on retirement but in return they could pay lower national insurance contributions, which could be used to contribute to the STSS scheme instead (Eich, 2009). However, the introduction of the NSP has meant that contracting out of the S2P is no longer.

With effect from 1 April 2007, reforms were introduced to the scheme. These reforms provide different rules, particularly regarding pension accrual, to apply to existing members who started accruing entitlement before 1 April 2007 and, new members who joined the scheme after that date (SPPA, 2017). A summary of the main features including contribution rates and benefits to both existing and new members is provided in table 2.

Insert table 2 about here

As noted above, a key reform to the STSS was the increase in employees’ contribution rate which was predicated on (among other things) the notion of providing of a secure and adequate income in retirement. However, current employee contribution rates to the STSS (for example, 9.7% on income between £35,350 and £41,914) falls short of achieving such security particularly for individuals who take career breaks or those who start to make pension savings at or above age 40. In their analysis of the level of contribution rates needed to obtain adequate retirement income, Redwood, et al. (2013) suggested that where the triple lock uprating of the NSP is maintained, median earners who take career breaks or start making contributions at age 40 will need to contribute 14% and 23% respectively to achieve a 66% chance of securing adequate replacement income in retirement. If the triple lock uprating was to be abandoned (considered by some as just a matter of time) in favour of, for example, earnings growth, contribution rates would have to increase to 18% and 27% respectively for both groups to reach a similar probability of achieving adequate income in retirement. Abandoning the triple lock would especially impact upon poorer pensioners who are more reliant on state provision, thus exacerbating pension inequality.

Another significant change to the scheme was the increase in the Normal Pension Age (NPA) from 60 to 65 for new members. This meant that members who joined the scheme after 1 April 2007 are not entitled to an unreduced pension benefit until the age of 65. In addition, the accrual fraction was changed. Whereas existing members continued to accrue a pension worth 1/80th of pensionable salary per year of service in addition to a lump sum equal to three times their pension, new members accrued a more generous pension worth 1/60th of pensionable salary per year of service but with no lump sum, or the option of a lump sum in exchange for lower annual pensions, known as commutation (SPPA, 2017). The increase in NPA, if taken alone, could result in a significant reduction in the level of pension benefits offered to new members (Disney, et al., 2010), thus limiting the income security objective of pension provision identified by Clark and Whiteside (2003). Similarly, Disney, et al., (2010) note that new members receiving pension income from age 65 will do so for five fewer years while making contributions for five more years than existing members who receive pension income from age 60. The effect is that members of the scheme still have a pension that is more generous than many that now exist in the private sector, but it is significantly less generous than the previous scheme. Therefore, the new scheme does provide a predictable pension and, whilst it involves more risk than the previous scheme, is still relatively less risky than many private sector equivalents.

The type of changes discussed in this section affect the range of public sector occupational schemes not just the ones discussed. As with any changes, some people benefit and others suffer detriment. Lower paid workers could see their pensions become more generous (Cribb and Emerson, 2015). The changes may be fairer as they do not reward people for promotions late in a career. For example, IFS (2015) asks why a teacher promoted to a headteacher post late in his/her career should enjoy a considerably higher pension than an unpromoted teacher despite the fact that they both held the same level of post for most of their careers.

Whilst generally critical of the changes, the National Union of Teachers recognised that teachers who did not get promotion and those who worked part-time, who would now pay contributions based on actual rather than full time equivalent salary, would benefit. The union also recognised that the new scheme, being a career average pension scheme (hence a type of DB scheme), maintained a link to earnings which was more predictable and stable than a DC scheme would have been (NUT, 2015). Others who could benefit include those who previously had high earnings but then reduced their earnings after a career break by taking a lower paid job, for example, since the early years of high salary would contribute to their pension rather than it being based on final salary (Cribb and Emerson, 2015). In addition, changes to pensions have been accompanied by governance improvement and if the changes make them more financially sustainable then that can act as a stabilising factor making the pensions more predictable.

Overall, therefore, the changes have mixed effects. While there are some beneficiaries and the pension schemes have become more affordable for employers, many members of public sector pension schemes are set to have lower pensions than they would have built up under previous schemes.

6. Private Sector Occupational Pension Provision

The history of private occupational pensions reflects social reform, economic prosperity and political pragmatism. One late 19th century view of pensions, as expounded by Charles Booth, a prominent social campaigner who sought to highlight the causes of poverty in London, was that a benevolent and charitable employer would take care of old servants (Pilch and Wood, 1971). That this was not a predominant view is illustrated by the introduction of minimum safety-net state pension provisions in the 1908 Old Age Pensions Act (Blake, 2004). As the industrial revolution took hold, and firms sought ways of retaining workers in an increasingly competitive job market, more widespread corporate pension provision emerged⁴.

Successive government policies have encouraged private occupational provision as a means of reducing the burden on the state. The introduction of a limited non-contributory, means-tested pension from 1908 proved to be expensive, leading to the introduction of tax relief in 1921 as a means of encouraging employees to save for their own pensions in an effort to reduce the burden on the state⁵. The result was the proliferation of occupational pension

⁴ Among the early schemes were those established by the West India Docks (1852), London and North Eastern Railway (1853), Siemens Brothers (1872), J & P Coats (1895), Colmans (1899) and WD and HO Wills (1899) (Hannah, 1986).

⁵ The 1921 Act set out the principle that pension savings would not be taxed when paid into a pension scheme but rather would be subject to tax on payment of the pension, thus ensuring that the income was only taxed once and encouraging pension saving.

schemes, usually for salaried workers (Hannah, 1986). A further boost was provided in 1959, when the new Conservative government introduced a form of reduced national insurance contributions for workers who opted for private provision. These pieces of legislation had the desired effect, increasing the number of workers covered by occupational schemes from 2.6m in 1936 to 7.5m in 1956, then to 9m by 1960 and to 12m (approximately half of the employed population) by 1966 (Whiteside, 2003) thus going some way to meeting Clark and Whiteside (2003)'s comprehensiveness criterion, although there was some concern that such schemes largely benefited the middle classes, with working class provision being more sporadic (Paisey and Paisey, 2006), hence not addressing persistent inequalities that a comprehensive system should avoid.

The strength of the stock market in the 1970s resulted in an increase in pension scheme assets (Blake, 1995) but the 1980s saw the first signs of decline. The number of employees covered by occupational schemes fell to 10.6m by 1987 (Blake, 1995), as a result of rising unemployment. From a pension funding perspective, however, the resulting reduction in pension scheme actuarial liabilities advantaged employers, 47% of whom were able to take a pension holiday, a temporary cessation of employer contributions due to the widespread pension scheme overfunding (Blake, 1995). These pension surpluses caused political concern because pension contributions attracted tax relief, but the surpluses were untaxed. In response, the 1986 Finance Act introduced a requirement that these surpluses be reduced to no more than a five per cent excess over liabilities within five years, typically achieved by employers reducing (often to zero) their employer contributions⁶ (Blake, 1995). This shows how accounting technologies helped to flout Clark and Whiteside (2003)'s stability and risk minimisation criterion by artificially generating a pension surplus based on actuarial values leading to a change of government policy that has had repercussions ever since as, had the pension schemes been able to retain their surpluses at that time, these would have provided some buffering effect for the more recent deficits.

Another tax change in 1997 further undermined private sector occupational pension provision. The abolition of the rebate of advance corporation tax (ACT) announced following the Labour Party's election victory sharply reduced the dividend income received by pension funds by an estimated £5bn per year (Davis, 2004). Successive governments, through taxation, have therefore been complicit in stoking the current crisis faced by occupational pension schemes by first encouraging them through the promise of financial inducements to companies to provide pensions, only for subsequent provisions to cause their asset base to be reduced (Paisey and Paisey, 2006).

Despite the fact that many occupational pension schemes have closed either in totality or to further accrual, nevertheless occupational pension provision remains an important – and increasing – source of retirement income for retired people (PPI, 2016b). What has changed the landscape considerably is the changing nature of that occupational provision. While there were 3.0m active members of private sector DB schemes in 2006 (down from 4.6m in 2000) as opposed to only 1.0m in DC schemes, by 2015 the position had reversed, with only 1.6m active members in private sector DB schemes and 3.9m in DC ones (ONS, 2016). Also significant is that the form of DB schemes has also changed, with many moving from a final salary to career average basis, including the Universities Superannuation Scheme (USS) that implemented such a change in 2016.

⁶ For example, British Telecom and British Aerospace suspended pension contributions. The Post Office, British Rail, Imperial Chemical Industries and Grand Metropolitan reduced employer contributions (Blake, 1985).

The switches from DB to DC schemes and from final salary DB schemes to career average DB schemes do increase predictability and minimise risk for employers, thereby promoting stability (Clark and Whiteside, 2003), from the perspective of employers. Also, a shift of responsibility of all or part of payment from an employer to an insurer can benefit individuals if insurers are better able to cope with the pension promise risk. Even if they are as likely to fail as an employer, then it might well be the case that a claim against the Financial Services Compensation Scheme could provide more protection than a claim on the Pension Protection Fund.

Set against this potential benefit, from the employee's point of view, the flip side is that DC schemes render an individual's final pension partly or entirely unpredictable and therefore more risky as its value is affected by ever-changing and volatile factors such as stock market returns, interest rates and longevity predictions. The effect will be partial where a person has already accrued DB benefits at the point of change of the scheme to a DC one. In that case, benefits already banked are unaffected but future provision is subject to greater unpredictability. It could be argued that such a change is effectively a change to the employment contract going forward in terms of pension provision but this ignores the fact that the employee cannot go back and revisit previous pension decisions or increase prior contributions. In effect, therefore, the previous pension promise expected in the employment contact has been broken and replaced with another, less predictable, one.

For new employees, the position is clearer as the new DC arrangements will have been known at the time of recruitment. Nonetheless, both DC and career average DB scheme tend to provide lower pensions since employers often contribute less to DC schemes, while average salaries often lag behind final salaries where people get promoted at later stages in their career (Paisey and Paisey, 2006), resulting in concerns about the sufficiency (Clark and Whiteside, 2003) of the resultant pensions to provide a good level of funding for retirement.

The switch to DC schemes theoretically places the employee in control of the investments, becoming an entrepreneurial self (Webb, 2006) via the use of mechanisms such as statutory money purchase illustrations and pension calculators but the irony is that such decisions are often constrained, for example where an employer provides a DC scheme that permits choice but only from a limited range of options. Hence in practice, the opportunity for individuals to make their own calculations and choices is limited.

While the tax changes discussed above contributed to the decline in DB schemes, more recently, funding requirements have had a major impact. Changes introduced in the Pensions Act 1995 had the effect of increasing demand for bonds, thus reducing their yield and increasing pension liabilities (Davis, 2004). The 1995 Act introduced an accounting technology in the form of a minimum funding requirement to ensure that if a pension fund was wound up there would be sufficient funds to buy out pensioners' benefits with an insurance company. At the triennial pension fund valuations, the liabilities were to be valued by reference to a benchmark portfolio of UK government bonds and equities, with the proportion of bonds increasing as the scheme matured, thus requiring a greater rise in equity prices on the reduced equity base to eliminate deficits if the company was to avoid increasing its pension contributions (Lane Clark and Peacock, 2005). The precedent of calculating pension fund surpluses and deficits by reference to an accounting technology – valuation utilising government bonds rates - was therefore established.

In 2005, the minimum funding requirement was replaced by the scheme specific funding requirement whereby pension fund deficits should be eliminated, initially within ten years.

Like the previous minimum funding requirement, the scheme specific funding requirement was introduced as a means of providing greater security in retirement for members of DB schemes by attempting to ensure that the schemes were fully funded, a strategy that worked successfully initially but then encountered problems as the Great Recession of 2007 to 2009 broke increasing deficits and therefore necessitating increased contributions to eliminate them. Hence, the irony is that a scheme designed to protect pensioners from the collapse of pension schemes began to cost so much for employers to fund that the very existence of these schemes came under scrutiny. This was exacerbated by the further increase in the costs of operating an occupational pension scheme following the establishment of the Pension Protection Fund, funded by a levy on pension funds, to provide partial compensation to members of pension schemes whose sponsoring employer becomes insolvent. Whilst these changes derive from legislation, the issue became one of accounting since, even where employers were able to cope with a funding deficit on their balance sheet, what was more difficult for immediate ongoing business in many cases was the requirement for a recovery plan to bring the fund up to 100% funding over a limited period, until recently within ten years. Therefore a legislative change led to the calculation of accounting figures that were used to quantify the deficit and the funding plan, and to call into question more fundamental questions about whether the plan was sustainable. In this way, legislation can impact upon accounting technologies. It is this immediate strain on cash flow in the event of a deficit being disclosed by an actuarial valuation that has persuaded many employers to shift from DB to DC.

These changes, alongside ever-rising life expectancy and declining birth-rates which together increase the dependency ratio (the proportion of retired people relative to those of working age), placed the viability of private sector DB occupational schemes under increasing threat. More recent events including the Great Recession and subsequent quantitative easing have continued to increase that threat and show more starkly the effect of specific accounting technologies and calculative practices on the perceived stability of occupational pensions.

The Great Recession impacted on pensions with pension fund assets dropping by over \$5 trillion from their previous value of \$27 trillion during the crisis ([Keeley and Love, 2010](#)). The effects of the recession, including volatile market returns and depressed interest rates, increased financial statement volatility, elevating pensions up many firm's risk registers and encouraging them to de-risk ([Berk et al., 2016](#)). By 2012, the number of active, as opposed to deferred, members of private sector occupational DB pension schemes had fallen from 38% to 12% ([Cribb and Emmerson, 2016](#)). Although market returns increased in 2013, as did some interest rates, thus improving the funding status of many pension schemes, the vote in the UK referendum of 23 June 2016 to leave the UK, so-called Brexit, led to pension fund liabilities increasing once again, necessitating careful risk management ([Deloitte, 2016](#)). The volatility inherent in, and current perilous state of, UK pension funds is illustrated by the fact that, at the end of September 2016, the aggregate deficit of the 5,945 schemes in the UK's PPF 7800 Index stood at £419.7bn⁷, compared with a deficit of £376.8bn only two months earlier ([Pensions World, 2016a and b](#)).

⁷ Total assets were £1,449.5bn and total liabilities were £1,869.3bn. The funding ratio at end-September 2016 stood at 76.1%. 4,993 schemes were in deficit, with only 952 schemes in surplus ([Pensions World, 2016a and b](#)).

While all of the above changes in, and influences on, private sector pensions have involved accountants and other professionals as advisers, managers or auditors, accounting calculative practices have also had a direct impact in influencing the valuation, and increasing the visibility, of pension deficits. Before the introduction of SSAP 24 in the UK (ASC, 1988), companies accounted for DB pension schemes in the same way as DC schemes, essentially on a cash basis. SSAP 24 introduced a fundamental change from cash to accruals-based accounting, with associated disclosure of pension assets and liabilities, but companies had considerable discretion in the calculation of these assets and liabilities (Kiosse and Peasnell, 2009). When SSAP 24 was replaced by FRS 17 (ASB, 2000), that discretion was removed as assets had to be shown at market value while liabilities had to be discounted using the yield on AA-rated corporate bonds. FRS 17 therefore made visible on the face of a company's balance sheet the extent of pension deficits calculated by reference to asset market values and bond rates, and this continued with the current international standard used by listed companies in their group accounts, IAS 19 (IASB, 1998, amended 2011).

The accounting disclosure of pension deficits has been frequently cited as a reason for the switch from DB to DC schemes, although in reality it is necessary to distinguish between the method of measurement of the deficit and its disclosure on that basis. The accounting policy did not create the existence of a deficit. Kiosse and Peasnell (2009) argue that increased life expectancy, the withdrawal of pension funds' tax credits on dividend income and tighter prudential regulations have been more significant factors in the closure of defined benefit schemes than accounting effects. Nonetheless, the method of measurement adopted does determine the size of a deficit.

The pension deficits disclosed under FRS 17 and IAS 19 showed an (accounting) mark-to-market valuation of assets and liabilities based on a fair market price rather than the previous actuarial valuation of assets based upon the income producing ability of assets. The principle underlying FRS 17 and IAS 19 was that the cost of providing employee benefits should be recognised in the period in which the benefit is earned by the employee, rather than when it is paid or payable hence adopting a 'corridor approach', effectively a smoothing mechanism (IASB, 1998). A downside was that the new valuation basis did not necessarily reflect market values at a point in time in the event of a scheme discontinuing. IAS 19 was revised in 2011 (IASB, 2011), introducing a requirement to fully recognise changes in the net defined benefit liability (asset) including immediate recognition of defined benefit costs, and requiring disaggregation of the overall defined benefit cost into components and the recognition of re-measurements in other comprehensive income. Therefore the 'corridor' approach was eliminated. The effect was to change the valuation of deficits, producing substantial and, perhaps more significant in market terms, volatile deficits in periods when the stock market and bond rates experienced large fluctuations (Barthelme *et al.*, 2018). Thus, while it cannot be argued that accounting measurement caused pension deficits, it certainly played a role in bringing the scale of the deficits to prominence.

In similar vein, debates elsewhere about whether fair value accounting was implicated in causing the Great Recession of 2007-2009 suggest that the effect of any particular valuation basis can be overstated (Barth and Landsman, 2010; Power 2010). Nonetheless, they point to the increasing financialisation of financial reporting (Müller, 2014) despite strong resistance, being "promoted by a minority in the face of considerable opposition and critique" (Power, 2010, p.209) and the perception that its underpinnings are largely intuitive and simplistic (Whittington, 2008). Rayman (2007) argues that fair values are, by definition:

transactions that could have taken place at the balance sheet date but did not in fact do so. Neither the IASB nor the FASB have produced any justification for reporting business performance on the basis of differences between non-existent transactions...It is no surprise that accounts can be misleading if they are based on expectations that turn out to be false (Rayman, 2007, p.224).

Despite being based on values that are not based on actual transactions and which are inherently volatile, pension deficits have generated a considerable amount of media publicity amid the emotive and graphic rhetoric of terms such as a pensions' 'crisis' and 'black holes'. While it can be argued (Napier, 2009) that the levels of disclosure in the old SSAP 24 were inadequate, current disclosures are complex and lengthy, and it is not certain that they are in fact understood. Buxton (2016), writing in the context of concerns at present about companies' willingness to invest, states that investment could be stimulated if companies were not required to repair notional pension fund deficits:

Placing a value on a notional pension deficit in x years' time, putting it on the balance sheet and forcing companies to make them good within y years was always daft. But even more so today (Buxton, 2016, p.4).

His argument is that mark-to-market accounting requires assets and liabilities to be valued at a fair market price but a market price necessitates willing and unforced buyers. Since the market for bonds has been affected by the UK government's quantitative easing policy, he argues that there are no willing buyers at present, only forced ones, either the Bank of England through quantitative easing or pension funds in order to meet regulatory requirements. The resulting increase in bond prices and decrease in their yields have forced down the risk-free rate which pension funds use to calculate their pension liabilities, hence just as the Pensions Act 1995 had previously linked the discounting of pensions to bond rates, the current large deficits are at least partly artificially induced as a by-product of government monetary policy combined with an accounting policy that was formulated at a time when the risk-free rate was very different. The irony is that bond rates were intended to simulate a risk-free rate but, in times of depressed bond yields, such a calculative accounting practice has actually served to increase, rather than decrease, risk.

The above review has focused on UK private sector pensions but similar issues are evident elsewhere. In the US, disclosures are also extensive, with the scale of the \$3 trillion defined pension scheme liabilities having become visible on company balance sheets following the requirements of FAS 158 while the US Society of Actuaries issued updated longevity tables in 2014 showing significant increases in life expectancy that have resulted in 5-10% increases in US pension liabilities (Manning, 2016).

7. The rhetoric of the market: pension de-risking

The fluctuating economic cycles and crises, and resultant government responses via taxation and regulation discussed in the previous section, show first the encouragement of private sector occupational pension provision, and then the threat to its sustainability by prioritising wider economic considerations that had the, perhaps unintended but probably predictable, consequence of increasing pension deficits. These factors, when combined with accounting technologies that expose pension deficit values to the vagaries of the market and publicise them on the face of financial statements, thus giving them credibility despite their volatility

and artificiality, have created an environment in which companies have sought to manage their pensions' risks.

The Big 4 accountancy firms all have advisory teams working in the area. Likewise, a range of legal practices (Sackers, 2012; Slaughter and May, 2015) and business advisory consultancies (AON, 2012; Towers Watson, 2015) offer pensions de-risking services. All emphasise the risks to companies of having high or volatile pension liabilities. Hence de-risking is set within a context of the need to reduce, remove or secure pension fund liabilities (EY, 2016; PwC, 2016). The risks for individual pension fund members, current and future pensioners, are noticeably absent from the rhetoric.

Pension de-risking takes a variety of forms but essentially there are only two means of removing a pension deficit, either by the scheme assets outperforming the liabilities or by removing liabilities at a discount to their value under these bases (Grant Thornton, 2014). Some of the earliest de-risking strategies involved asset management whereby more attractive asset classes were sought (Towers Watson, 2015), however increases in the liabilities of pension funds have outstripped movements in pension fund asset values, hence the main focus of risk has been on the de-risking of liabilities (AON, 2012; Redington, 2016).

De-risking encompasses changes in either pension plan design, funding and investment policies⁸, or liability management⁹ (Society of Actuaries, 2014). Sometimes de-risking can be serendipitous, for example where gilt yields rise or inflation levels fall (AON, 2012), thus reducing a pension deficit or increasing a surplus. More likely, however, are the de-risking strategies that are adopted actively. Earlier forms of active de-risking typically took the form of changes in plan design including actions such as freezing benefit accrual and/or closing DB pension schemes to new entrants, instead offering DC schemes. As was discussed earlier, many DB schemes in the UK have now closed, with over 50% being closed to new members and approximately 30% being closed to future service (Slaughter and May, 2015) or, if continuing, have increased retirement ages, or member and company contributions, or reduced benefits.

The specific pension de-risking arrangements being utilised at present include two insurance-based forms of de-risking, buy-ins¹⁰ and buy-outs¹¹; longevity hedging (swaps)¹² and a new

⁸ Funding and investment policy actions include minimising interest rate risk by matching asset and liability durations.

⁹ Liability management often takes the form risk settlement, offering lump sums to certain groups of participants and/or purchasing group annuity contracts. The ultimate pension risk transfer is a full plan termination, in which all plan liabilities are settled with the pension risk being fully transferred to a third-party through the purchase of annuity contracts (Society of Actuaries, 2014).

¹⁰ Buy-ins involve the purchase of a bulk annuity contract covering all or some of the pension payments. The annuity policy is owned by the pension fund trustees and remains a scheme asset (Towers Watson, 2015) but liabilities can be removed from a company's balance sheet, hence buy-ins are often marketed as an effective way to reduce the risk and volatility within the pension scheme and a tactical decision to take advantage of favourable conditions in the market (EY, 2016). Although complex to set up and requiring ongoing maintenance, they are regarded as being flexible and offer the possibility of using different counterparties for different risks (Sackers, 2012). A major area of focus for business advisers in relation to buy-ins is collateral as the sponsor remains liable should the insurance contract and the Financial Services Compensation Scheme fail to pay out in full (Slaughter and May, 2015).

¹¹ Buy-outs involve the purchase of a bulk annuity contract that covers pension payments to scheme members. They therefore remove all liabilities from a company's balance sheet and associated obligations to provide those pensions in the future.

¹² Longevity hedging (swaps) involves a contract with a provider that removes or reduces longevity risk. The pension scheme makes an agreed schedule of payments to a counterparty based on an expected mortality

form of hedging, termed index hedging contracts¹³. Until recently, buy-outs have been used less commonly than buy-ins (Deloitte, 2015; Slaughter and May, 2015) since securing a large scheme's liabilities in full can be prohibitively expensive (Sackers, 2012), and since payment is typically made at outset rather than being spread or deferred (Towers Watson, 2012). As market capacity increases, more buy-outs are expected in future (Slaughter and May, 2015). Longevity swaps have a short history, with only around twenty transacted between 2009 and 2013 but the market has rapidly gathered pace since then (Towers Watson, 2015) due to the significance of longevity risk. In the last fifteen years, the inclusion of additional allowances for longevity improvements has resulted in liability increases of around 10% for a typical scheme (EY, 2016). In a longevity swap, risk is reduced or removed as fixed cash flows based on estimated mortality are replaced by cash flows based on actual experience. Such hedging is marketed as a suitable arrangement for large pension schemes where buy-in or buy-out arrangements may not be feasible at the current time. It also has the cash flow advantage that, unlike most buy-outs and buy-ins, no large upfront premium is required (EY, 2016), although Sackers (2012) caution that it can be difficult to assess whether trustees are getting good value. The newest form of hedging that is beginning to emerge involves index hedging contracts which are expected to gain in prevalence in the years ahead (Towers Watson, 2015). When none of these de-risking strategies is considered to be suitable, a variety of bespoke arrangements¹⁴, sometimes known as synthetic solutions, can be devised.

The de-risking market has expanded considerably in recent years with year-on-year monetary growth in deal-size terms. Table 3 provides examples of deals from 2008 to the present showing the sheer scale and rapid increase in size in a short period of time. It is not uncommon for de-risking arrangements to be in excess of £1bn¹⁵ (Slaughter and May, 2015). The highly lucrative value of pensions' advisory work to a range of consultants including chartered accountants lawyers and other business advisers is therefore not in doubt. The above review has concentrated on the UK but the US is also experiencing an increase in buyout activity¹⁶ with liabilities settled ranging from \$1.1bn at Philips to \$26mb at General Motors, giving a sense of the enormity of the transactions (Agius, 2016).

Insert Table 3 about here

One perhaps unintended boost for pensions de-risking schemes followed the March 2014 budget in which the then Chancellor of the Exchequer, George Osborne, announced that from

assumption in respect of pension scheme members and, in return, the scheme receives actual payments, which are linked to whether the scheme members underlying the hedge are alive or not at each payment date (Towers Watson, 2015).

¹³ Index hedging contracts are typically fixed term and are linked to the development of life expectancies. These hedges are more liquid than other types and are more accessible to smaller schemes and to those with less mortality experience.

¹⁴ Where buy-outs, buy-ins or longevity hedging are not suitable or desired, a range of bespoke arrangement, (EY, 2016), can be used to hedge interest rates, inflation and aspects of longevity risk covering part or all of a scheme's liabilities. Recent examples of bespoke arrangements include Uniq's debt for equity swap and Unilever's global centrally held insurance policy which counted as a plan asset for corporate accounting purposes (Slaughter and May, 2015).

¹⁵ Examples of £1bn plus deals include buy-ins for RSA (£1.9bn) and Cable and Wireless (£1.05bn); longevity swaps for AEGON annuity books (EUR 13.7bn), Delta Lloyd Levensverzekering (EUR 12bn), Standard Life annuity book (£6.7bn), AUGON-Deutsche Bank/Rolls-Royce Pension Fund (£3bn), Deutsche Bank-AstraZeneca Pension Fund and Carrillion pension schemes (£3.5bn) and alternative funding arrangements at Marks and Spencer (£1bn) (Slaughter and May, 2015)

¹⁶ Recent examples include General Motors in 2012, Motorola and Bristol-Myers in 2014, and Philips and Kimberly Clark in 2015 (Agius, 2016).

April 2015 all members of DC schemes would be able to access their funds with no restrictions once they reached the minimum retirement age, currently age 55, rather than having to purchase an annuity. This led to favourable outcomes for employers seeking to reduce pension deficits as many individual annuity providers saw demand for their products fall and chose to shift their attention towards the provision of bulk annuities, resulting in competitive pricing for pension buy-outs (Grant Thornton, 2014). It is perhaps not surprising, then, that 2014 became the biggest year for pension de-risking with approximately £35bn of liabilities being hedged (Towers Watson, 2015).

The picture is complex, however, with the number of large deals increasing in 2014 and 2015 but the overall volume of deals falling by approximately 10%, due to a decline in smaller transactions (KPMG, 2016a). In a rare reference to fairness, KPMG commented that the decline in smaller deals “doesn’t seem fair given they are typically the best funded schemes and are less able to control risk in other ways” (KPMG, 2016b, p.1).

Looking to the future, concerns have been expressed by both the International Monetary Fund (IMF) and the Organisation for Economic Co-operation and Development (OECD) about de-risking schemes. The International Monetary Fund has warned that the practice of companies de-risking pension schemes to an insurer, meaning one entity would cover the risk for numerous funds, could threaten the stability of the US financial system should an insurance company fail (IMF, 2015). Likewise, the OECD has cautioned that if insurers have to move towards riskier asset classes in order to increase returns in a difficult market, this could seriously compromise their long-term solvency (OECD, 2015). In such circumstances, not only would individual pension funds have passed some of their risks to scheme members but they would also have passed risks to large-scale insurers, raising the question of whether the latter would be ‘too big to fail’ (Deloitte, 2015). De-risking therefore has the potential to destabilise the global economy if funds are concentrated in an ever reducing field of insurance players. It must be questioned whether these wider consequences, with their clear public interest implications, are considered by the accountants and other advisers in the quest for commercial return.

Throughout the above discussion of de-risking, it is evident that the focus is on the employer rather than employee. Noticeably, most marketing literature produced by business advisers only refers to benefits for companies, however Sackers (2012) states that in a buyout situation members benefit from insurance company covenants and capital requirements. The earlier forms of de-risking inherent in the move from DB to DC schemes were characterised by risk shifting from employer to employee. The more recent complex de-risking vehicles employed by employer organisations show that pensions de-risking, like tax avoidance, is a lucrative commercial opportunity but it appears that the client (corporate and shareholder) interest prevails over the individual pension scheme member’s interest.

Though the rhetoric of de-risking is not evident in discussions relating to other types of pension arrangements, the underlying concept is evident there too. The changes to public sector occupational pension schemes incorporate risk sharing by capping employers’ exposure to increased costs and they defer payments through the lifting of the age at which benefits can be accessed without actuarial reduction. The NEST scheme, encouraging pension saving via auto-enrolment, operates differently, by shifting risk from employers to NEST. The NEST arrangements ensure that there are some funds, however inadequate, to top-up the basic state pension thus reducing reliance on the state as a sole means of financing retirement and hence de-risks state obligations by diversification. These, along with the

provision of pensions based on average rather than the usually higher final salary, serve to reduce employers' costs in such a way that their exposure is at least partially de-risked.

8. The rhetoric of security and enablement inherent in recent pension changes

Financial hardship has a strong negative effect on quality of life of older people (Netuveli *et al.*, 2006) and there is a growing body of evidence on the link between financial security and health (Marmot, 2005). Given that pensions constitute the most prevalent component of the income of pensioners (97% of UK pensioners are in receipt of a basic state pension, 63% have occupational pensions, 18% have personal pensions and 72% have private pensions) (DWP, 2016), the potential social and societal risks accruing from changes in pensions policies are significant.

From the standpoint of an individual, a main purpose of a pension is to ensure income security for the pension scheme member in retirement (Blake, 2006; Blake, *et al.*, 2009). Unsurprisingly therefore, the dominant rationale for pension provision articulated by policy makers (see for example, DWP, 2010 and 2013) and pension professionals (see for example, Barr, 2001; Barr and Diamond, 2006) is the provision of a secure and adequate income for individuals in retirement (Ring, 2005), hence Clark and Whiteside (2003)'s articulation that pensions' security requires pensions to be predictable, stable and long-lasting and to cover all groups in society including the most disadvantaged.

In order to achieve such pensions' security, a range of necessary conditions have been discussed in the academic literature. These include consumption smoothing over the lifecycle of the individual (Blake, 2006), that is "a process which enables a person to transfer consumption from her productive middle years to her retired years, allowing her to choose her preferred time path of consumption over working and retired life" (Barr and Diamond, 2006, p.16). A second condition is insurance against pension risks such as longevity risk and investment risk (Barr and Diamond, 2006). A third objective relates to poverty relief. Given that retirees may not be able to undertake paid work (Bozio, *et al.*, 2010), "pension benefits are designed to ensure that recipients have a minimum standard of living, presumably above commonly accepted measures of poverty in the relevant community" (Clark and Whiteside, 2003, p.228). A fourth element is the redistribution of incomes from higher earners to lower earners on a lifetime basis. This could be achieved by, for example, paying pensions to low earners at a high replacement rate, thus subsidising the consumption smoothing of lower earners (Bar and Diamond, 2006). However, the achievement of these objectives and the sustainability of the whole pension structure have been questioned (Mitchell and Sikka, 2006). The above conditions are predicated on the assumption that pension provision should reduce risk and provide security, whereas the reality is that many of the recent changes in state and public sector pension provision have shifted rather than reduced risk, thus threatening security and well-being.

NEST, the new workplace pension introduced following the passing of the Pensions Act 2008, explained earlier, incorporates auto-enrolment that is designed to maximise uptake. In this regard, it is in line with Clark and Whiteside (2003)'s comprehensiveness criterion as it enables an increased number of workers to save in the scheme, many of whom did not previously have access to pensions through their employer. However, while large numbers of people have enrolled in the scheme, it has to be questioned whether the contribution levels are sufficient to ensure a good income in retirement. The website

www.moneysavingexpert.com estimates that a 32 year old should save at least 16% of salary to secure a decent pension so the NEST scheme is unlikely to meet many pensioners' expectations of financial security in retirement.

Aside from sufficiency concerns, the other aspect of NEST that has caused debate is whether people have sufficient expertise to take control of their own financial security in retirement. The opportunity afforded to individuals to take control of their own pension finances is hailed as enabling (DWP, 2016). The idea of individualised savings accounts incorporated into NEST personalises the process. At the heart of these reforms, individuals are required to assume greater responsibility (DWP, 2006a and b) for investing their savings in a complex financial services landscape (Ring, 2010a) to secure a decent pension on retirement. Yet a majority of individuals lack the financial sophistication and willingness to adequately plan for their own retirement (Thaler and Sunstein, 2008; Blake and Boardman, 2010; Ariely, 2010). The link between financial knowledge and behaviour in effective household management seems clear (Hilgert *et al.*, 2003) while effective financial education has been shown to impact upon saving behaviour (Lusardi, 2004). In particular, good financial planning skills and financial literacy have been found to be positively associated with so-called baby boomer retirement security and housing wealth (Lusardi and Mitchell, 2007).

While the benefits of auto-enrolment, particularly for individuals who might not otherwise have joined their existing employer-sponsored pension scheme, are recognised “it is still unknown whether it will make them more alert and active in the issues around saving at sufficient levels to ensure a reasonable retirement income, whatever their salary” (Frost, 2011, p.207). The concern, not tested in advance of the introduction of the scheme, is that where companies and individuals are required, as in a quasi-mandatory auto-enrolment regime, to save more for pensions, they will reduce other forms of saving, leading to a substitutionary effect rather than a real increase in savings. Evidence from Australia and New Zealand, two countries that have introduced pension schemes similar to NEST, is that auto-enrolment overcomes people's disinterest in pension saving but only to a limited extent, therefore it does not fully address the need for pension security (Clark and Whiteside, 2003). In those countries, where individuals have the opportunity to determine where their savings are invested, relatively few do so, leaving savings in the scheme's default investment vehicle, thus falling short of the enablement vision advanced as part of the design of such schemes (Collard, 2013).

The NEST scheme offers predictability of contributions to the employer, whose contributions are fixed but it fails the predictability test from the perspective of the individual as it is based on investing pension contributions in a DC-type manner rather than offering a more predictable DB-type scheme. It therefore by its nature incorporates investment risk and as such does not minimise risks to the recipient given that individuals in NEST schemes are typically those whose employer does not offer better schemes, the very individuals who are least placed to deal with risks inherent in pension provision. The sums contributed, amounting in total to only 8% of an individual's salary, are small in relation to estimated pension needs so it is also doubtful that the resulting pensions will be of sufficient value to last over the years of retirement until death. Inequalities and discrimination, inherent in previous pension provision (Paisey and Paisey, 2006) will also remain, especially for women, disabled people and others with a greater likelihood of intermittent work histories (Foster, 2011; Ginn and MacIntyre, 2013). Indeed, PPI (2016c) reports that in 2015 particular groups were found to be more likely to be unemployed (disabled people, Pakistani, Bangladeshi and Chinese people, carers, and women), or to work part-time (women, Bangladeshi people,

disabled people and carers), or to be low earners (Pakistani people, the self-employed, Bangladeshi people, carers, disabled people, and women) or to be self-employed (Pakistani people). The report concludes that most of these factors cannot be tackled through pension policy, as they involve labour-market, social and legal issues, hence reducing inequalities in retirement necessitates tackling inequalities in working-age which lie behind differences in labour-market characteristics.

As with NEST, the high profile private-sector DB scheme closures (PwC, 2010) and paradigm shift from DB to the less regulated DC schemes (Cannon and Tonks, 2009; Ashcroft, 2010) transfer risk, in whole or in part, from employer to employee. Employers providing DB schemes essentially give their employees insurance against pension risks (such as longevity, investment and inflation risks) by effectively offering them annuities at rates that are fixed well in advance of retirement (McCarthy, 2006). DB scheme members generally rely on fund trustees through their employer to make important financial planning decisions on their behalf (Clark and Whiteside, 2003). While this might appear to limit the employee's ability to choose investment vehicles, and therefore could be said to limit their enablement capacity, DB schemes offer the predictability and risk minimisation that Clarke and Whiteside (2003) regarded as necessary conditions. While the value of a DB scheme depends upon factors such as number of years worked and average or final salary, factors that are not always under the control of recipients, the DB pensions are paid until death and therefore the fund cannot be depleted early as can happen with alternative types of scheme.

Unlike DB plans, DC scheme members are expected, given numerous options and a raft of information, to make complex financial decisions to optimise their income in retirement but it is not clear that sufficient assistance and personal financial education have been provided to enable decisions to be made (Byrne, *et al.*, 2008; Ashcroft, 2010). In any case, knowledge and education have limits in relation to the risk minimisation criterion advocated by Clark and Whiteside, (2003) since, even where well placed to deal with risks, individuals “cannot hedge themselves against exposure to untraded risks [such as longevity risk] by trading securities in financial markets” (McCarthy, 2006, p.59). In relation to the shift in the model of pension provision from DB to DC noted above, it is important to note at this point that the shift does not negate or remove inherent pension risks. Rather, the main difference between DB and DC is how the inherent risks are distributed. In a DB scheme, majority of the risks are borne by the employer whilst a DC scheme places the majority of the risks on the individual scheme member (Paisey and Paisey, 2006; DWP, 2008). The de-risking strategies adopted by sponsoring employers shows that they have realised some of the inherent risks with DB schemes and have taken steps to shift those risks to individual pension scheme members in the form of DC plans (DWP, 2008; Watson, 2008; Hudson, 2008) or by retaining but adjusting DB schemes to share or reduce risk.

9. Conclusion

In this paper, we have used Clark and Whiteside (2003)'s four characteristics of pension security as a framework for discussion. Given the uncertainties surrounding many of the variables that determine pensions, such as longevity, investment returns and interest rates, pensions are infused with risk. Some of these risks are known or relatively predictable but others are less so. Since pensions affect some of the most vulnerable people in society who are often the least well equipped to deal with risks and uncertainties, pensions security is regarded as an essential contributor to pensioner well-being. Clark and Whiteside (2003)

therefore stated, first, that pensions should be predictable since the standard of living of most pensioners is heavily dependent upon pension benefits. State pensions are often viewed as more predictable than occupational ones given the political nature of the pension promise inherent in them. However, changes in recent years relating to pension age, contribution requirements and eligibility, often with relatively short lead times which do not match the long term nature of pensions, have impacted on predictability. In both the state and private sectors, DB schemes have declined in prevalence in recent years, being replaced by DC schemes or, if still in place, have often moved from a final salary to a career average basis. The latter retains predictability, albeit at generally lower levels than final salary schemes, but DC schemes do not offer predictability to individual scheme members. There has therefore been significant risk shifting from employers, whose predictability has improved at the expense of that of individuals. Scheme changes are often explained by employers on the basis that they need to secure the long-term survival of their organisations. This is certainly true but the risk shifting adopted by firms has prioritised corporate, organisational, shareholder interests over individual employee interests. Predictability is therefore a matter of perspective.

This also impacts upon the second criterion put forward by [Clark and Whiteside \(2003\)](#), that pensions should involve minimal risks to the recipient given that individuals are poorly placed to deal with the risks inherent in pension provision. State provision provides a degree of protection from risk for the most vulnerable pensioners. Other schemes, such as NEST, do this to the extent that some individuals now have occupational pension provision for the first time so their risk has been reduced, though to a limited extent given the small contribution rates inherent in NEST. For those who have seen their DB schemes close, however, their risk has increased substantially. Like predictability, then, minimal risk is a matter of perspective. The aggressive forms of de-risking that are being increasingly advocated by a range of professionals including accountants, do focus on risk minimisation but from the corporate, organisational, shareholder viewpoint. Accountants justify their professional claim on the basis of their duty to the public interest but the risk shifting and risk sharing inherent in pension de-risking schemes prioritises the client interest over the public interest.

Third, [Clark and Whiteside \(2003\)](#) stated that pensions should be of sufficient value to last over the years of retirement until death. The NSP is more generous than the previous version for those who meet eligibility criteria. However, it is unlikely that the NEST arrangements will set aside insufficient sums to meet pensioner expectations of a comfortable retirement, and the lesser pensions that typically are provided by career average schemes and the low returns from DC schemes in adverse economic conditions exacerbate concerns about sufficiency.

Fourth, [Clark and Whiteside \(2003\)](#) stated that pensions should be comprehensive in coverage, taking account of the inequities of discrimination (for example in relation to gender, working life experience, ability, or disability). By its very nature, the NSP is the most comprehensive UK scheme whilst NEST aims to increase significantly the number of people saving for a workplace pension. In contrast, occupational pension schemes, by their very nature, incorporate a bias towards those who have better remunerated, more stable, jobs. Those who work part-time or not at all, people with disabilities and those from certain ethnic groups seem set to continue to fare badly under the latest occupational pensions. Likewise, women, who continue to suffer a significant pay gap in work, are set for that to continue in retirement as pension contributions are typically linked to pay levels.

We conclude therefore that recent changes in state and occupational pension provision perhaps inevitably benefit some and impact adversely on others. For some of the poorest and most vulnerable groups, the NSP represents an improvement over prior provision and NEST offers the opportunity to save for a workplace pension to employees, especially those employed in small firms, that was not available before. As regards occupational pensions, recent changes reviewed in this paper render the scheme liabilities more predictable and less risky from an employer perspective but they fail to fully meet the needs of individual scheme members across the four criteria. [Asenova et al. \(2015\)](#) show how recent austerity measures including welfare reform and cuts to public services have redistributed social and societal risks to individuals and communities in Scotland. In this paper, we have argued that recent changes to occupational pensions have similarly redistributed social and societal risks, with adverse consequences for individuals. Given the complexity of pensions, low levels of pension literacy and low savings rates, it is not likely that a majority of individuals will benefit from the series of neoliberal reforms enacted in the area of pensions in recent years.

Both accounting and accountants have contributed to this situation. While accountants did not create pension deficits, the accounting technologies utilised to calculate these deficits and the disclosure policies adopted, have provided increased visibility and hence helped to create a perception that the risks were unsustainable and hence in need of de-risking. The very presence of so many players in the de-risking business reinforces the perception that pensions are a problem in need of a solution and that risk needs to be mitigated and/or redistributed. The accountancy profession needs to do more to engage in debates about the future of pensions. One recent initiative by ICAS (The Institute of Chartered Accountants of Scotland) has opened up a debate on pensions and other professional bodies should be encouraged to enter that debate. ICAS Chief Executive Bruce Cartwright has stated:

There are big issues with pensions that society needs to address at a macro and micro level. How do we pay for them? How much should we have when we retire? Are employees satisfied that their money is invested in the right place to get the best return? Are they content that they are getting value from their scheme, and what is a fair pension cost? A number of issues affect the whole of society, and pensions is one of them ([Cartwright, 2018](#)).

[Miller and O’Leary \(1987, p.235\)](#) viewed the role of accounting technologies as an “important calculative practice which is part of a much wider modern apparatus of power”. This form of power is primarily concerned with the “construction of the governable person” ([p.263](#)). Contrary to the received notion of accounting as an objective tool of observation and enterprise reporting, [Miller \(2001\)](#) was concerned with accounting technologies “as the mechanisms through which programs of government are articulated and made operable”. For Miller, the defining feature of accounting as a calculative technology is the ability to translate and make visible “complex processes into a *single financial figure*” ([Miller, 2001, p.381](#), italics in original). In doing so, accounting becomes “a technology of government”, linking together “responsibility and calculation” directed at individualising action while in tandem rendering individuals calculable and comparable ([Miller, 2001, p.380](#)). The pension deficit has often become that single financial figure, characterised as a looming presence over the sustainability of an organisation that needs to be de-risked. The solution often adopted by organisations has not so much de-risked as shifted risk in the direction of the individual pensioner, someone much less well-equipped to bear that risk.

Whether there is a will and political resolve to mitigate evolving risk in relation to pensions is unclear. A number of areas discussed in this paper need to be addressed from a policy perspective. First, there is a need to provide sufficient, and sufficiently understandable, information to people when pension changes are proposed. Second, there is a need to look again at pension asset investment policy so that deficits are not made to look worse because of investment strategies that do not take a long-term view. Sir Brian Soutar, founder of the UK transport company Stagecoach plc, has stated that

In 2006, the typical UK pension scheme invested more than 60% in equities and less than 30% in gilts and bonds. Rolling forward 10 years and the position is reversed: the typical scheme now holds less than 30% in equities, while more than 50% is in government gilts and bonds, and the balance in other investments such as private property and private hedge funds etc...Over that same time, the pure weight of money buying government gilts and bonds has pushed up prices, meaning that the expected return on those assets has plummeted – indeed, many pension schemes now investing in inflation-linked gilts are actually expecting to lose money on them; they are being bought on a prospective negative return! (Soutar, 2017).

Expressed in this way, such a policy makes no financial sense. Third, there is a need to review the requirements relating to scheme deficits that currently require schemes to bring assets and liabilities into balance in very short timeframes. Fourth, whilst recognising that pension schemes have to be affordable to employers, it should also be recognised that deficits and surpluses are to be expected according to economic cycles and need to be managed over the long term, given the inevitably long term nature of pensions. Finally, amid all the complex discussions about pensions, it needs to be remembered that well-being in old age necessitates sound finances and that in turn requires pensions to be sufficient, predictable, comprehensive and stable, not just from an employer or governmental perspective but from the perspective of individual pensioners too.

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Tables

Table 1: The seven main public sector schemes

	Unfunded	Funded
Centrally Run	National Health Service Teachers Armed Forces Civil Service	
Locally Run	Police Fire-Fighters	Local Government

Source: Adapted from (PPI, 2005, p. 4)

Table 2: Summary of Main STSS Features and Benefits changes.

Feature or Benefit	Members who joined the scheme before 1 April 2007	Members joining the scheme after 1 April 2007
Member contributions (applicable regardless of when you joined the scheme)	Full Time Equivalent pensionable pay: Up to £25,999 £26,000 to £34,999 £35,000 to £41,499 £41,500 to £54,999 £55,000 to £74,999 £75,000 and above	Contribution rate 2015/16 7.2% 8.7% 9.7% 10.4% 11.5% 11.9%
Pension	A pension worth 1/80th of pensionable salary per year of service	A pension worth 1/60th of pensionable salary per year of service
Retirement lump sum	Three x pension. Option to give up part of pension for larger lump sum	Option to give up part of pension for a retirement lump sum
Normal pension age	60	65
Pensionable salary	a) Average of best • consecutive three years' revalued salaries from last 10 years b) Salary in last 12 months	a) Average of best • consecutive three years' revalued salaries from last 10 years b) Salary in last 12 months
Death in service lump sum	Three x pensionable salary	Three x pensionable salary
Dependants' Pension on death	A pension based on your pay and family benefits service	A pension based on your pay and family benefits service

Source: Adapted from (SPPA 2017)

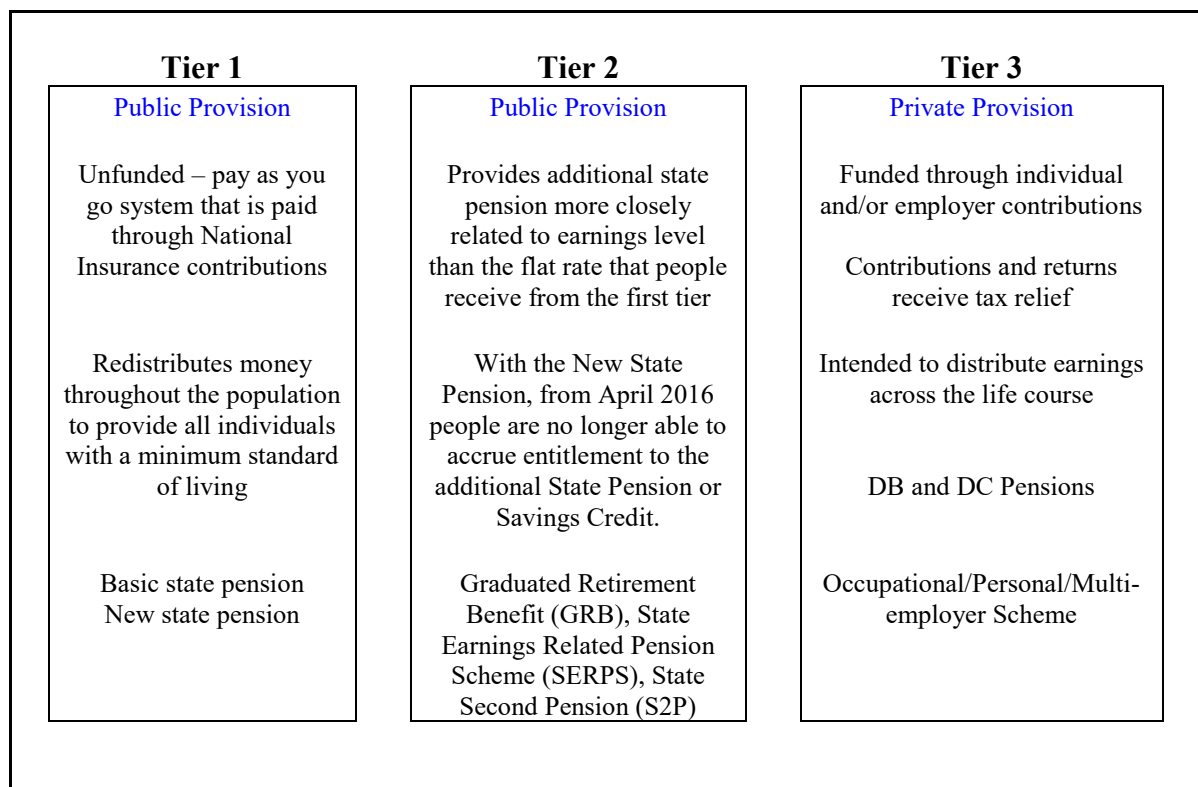
Table 3: Some examples of de-risking arrangements

Year	Company	Type	Value
2008	Trustees of Friends Provident Pension Scheme	Buy in (bulk annuity to cover pensioner payments)	£370m
2009	CDC Group plc	Buy-in	£370m
2010	GlaxoSmithKline and the trustees of two of its pension schemes	Purchase of insurance contracts under an innovative arrangement whereby the trustees retained legal ownership of all of the assets	£900m
2011	Trustees of the ITV Pension Scheme	Longevity swap	Approximately £1.7bn
2013	EMI Group Pension Fund	Buy-out (bulk annuity deal)	£1.5bn
2014	BAE	Longevity hedge	£3.2bn
2014	ICI Pension Fund	Buy-in	£3.6bn
2014	Aviva Staff Pension Scheme	Longevity hedge (involving insurance and reinsurance arrangements)	£5bn

(The above examples are drawn from [Sackers, 2012](#); [EY, 2016](#); [KPMG, 2016a](#); [Towers Watson, 2015](#); and [Slaughter and May, 2015](#).)

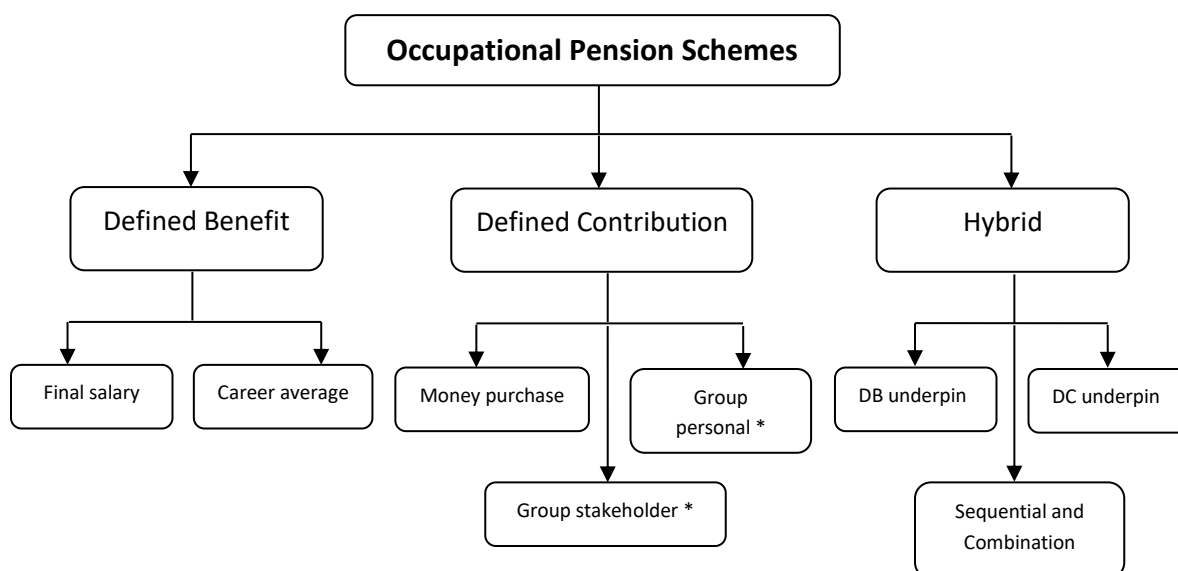
Figures

Figure 1: curent UK pension landscape



Source: PPI (2016a, p.2)

Figure 2: Types of Occupational Pension Schemes in the UK



** Group personal and group stakeholder pensions need not be occupational pension schemes but, where they are, they take the form of DC schemes.*

Source: Adapted from PPI (2016a, p.20)