# Expectations and experience of retirement in Defined Contribution pensions: a study of older people in England

Rowena Crawford
Gemma Tetlow

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# Expectations and experiences of retirement in defined contribution pensions:
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**Rowena Crawford**
*Institute for Fiscal Studies*
**Gemma Tetlow**
*Institute for Fiscal Studies*

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# Preface

*Rowena Crawford* is a Senior Research Economist at the Institute for Fiscal Studies.
*Gemma Tetlow* is a Programme Director at the Institute for Fiscal Studies.

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# Executive summary

This report, funded by the National Association of Pension Funds and the Economic and Social Research Council, examines a range of quantitative evidence to shed light on how current older cohorts of defined contribution (DC) pension fund holders are approaching and dealing with retirement and annuitisation.

Private pensions play an important role in the provision of income in retirement in the UK, although their role has evolved over time. While defined benefit (DB) pensions were prevalent in earlier decades, the importance of defined contribution pensions has been growing and will continue to increase in future years, especially for later cohorts. In particular, the introduction of auto-enrolment from 2012 is expected to increase pension coverage and the amount of pension wealth individuals accumulate before retirement, much of which is likely to be in DC schemes.

Much previous work has examined the accumulation phase of pension saving and how amounts of wealth accumulated in DC and DB pensions compare. Far less attention has been paid to the decumulation phase, which is the focus of this report.

How much income an individual gets from their defined contribution pension could depend just as much on the choices they make at the point of annuitisation as on their earlier contribution and investment decisions. Annuities are complex financial products and are unusual in the fact that individuals typically get only one shot at their purchase decision – once a particular DC pension fund has been used to purchase an annuity, the decision cannot be reversed. Therefore, even more than in the market for other financial products, individuals' knowledge and understanding of the decisions they need to make will be crucial in determining their outcomes.

This report presents evidence drawn from household surveys about the knowledge, expectations and behaviour of DC pension holders in England during the last decade as they have approached retirement and purchased annuities. The evidence we describe here relates mainly to the group of individuals aged 50 and over, who will be reaching State Pension Age over the next 10–15 years.

## Expectations of life in retirement

- Among women aged 50–64, 35% expect to (or actually did) retire at age 60, while 23% expect to (or did) retire younger than 60 and 37% expect to (or did) retire after age 60. Of men in the same age group, 43% expect to retire at age 65, while 42% expect to retire (or have retired) younger than 65 and 9% expect to retire after age 65.
- Despite the importance of long-term planning for retirement, many individuals report having given little thought to the future. Nearly three-fifths (59%) of individuals aged between 50 and 64 who are not yet retired report that they have never thought about how many years of retirement they might need to finance.
- Among those who reported that they had given some thought to how long their retirement would be, the average expectation was 20.6 years, implying an average life expectancy of 83.3 years.
- Comparing individuals' implied life expectancies with official cohort life expectancies, people appear to be somewhat pessimistic on average. Men (women) aged 50–60 underestimate their life expectancy on average by around 2 (4) years.
- In particular, too few people expect to live until very old age: only 9% of men and 10% of women aged 30–60 expect to live until at least age 90, when in fact the official estimates are that 18% of men and 29% of women in this age group will do so.

- To the extent that DC scheme members underestimate their true life expectancy, they will see annuity rates as offering poor value for money.

## The importance of DC pension wealth

- Among the current population of individuals aged between 52 and 64, 45% have a DC pension. Men are more likely than women to hold DC pensions, as are those with higher levels of total family wealth.
- The importance of DC pension funds within the total family wealth portfolio varies substantially. Unannuitised DC pension wealth constitutes at least 12% of total family wealth for half of individuals who have at least one unannuitised DC pension pot and over 30% of family wealth for one-in-four individuals, but less than 4% for a further one-in-four individuals.
- DC pension pots are a more important component of total wealth for those with higher levels of numeracy and for those with lower levels of total family wealth, and are of lesser importance for women in couples than for other types of individuals.

## What income do people expect from their private pensions?

- Almost one-third of individuals (32%) aged between 52 and the State Pension Age are unable to report a range within which they expect their future income from all their private pensions to lie. However, 46% of individuals are able to provide a range, while 22% of individuals report a precise income.
- Men report greater certainty about their future total pension income than women do, and those who are closer to retirement are also more certain about this.
- Individuals find it more difficult to predict how much income they will receive from a particular pension if that pension is a DC rather than a DB pension: 37% of DC pensions held by an individual aged 52 or over in 2010–11 were held by someone who was unable to give a range in which their income from that pension might lie, compared with 28% of DB pensions held by someone in the same age group.
- On average, DC pension holders' expectations of income in retirement appear somewhat optimistic. At prevailing annuity rates, the median individual would need to accumulate a further £20,200 on top of their existing DC fund to achieve their expected pension income, even assuming they do not take a lump sum on retirement. The median percentage increase in fund value required to achieve the expected income is 77%.
- Using information from repeated interviews of the same people, we compare pension income after annuitisation with previously reported expectations of income from that scheme. Among DC pension members for whom this information is available, at the median, realised pension income equates to 80% of the income individuals previously reported expecting to get. The equivalent figure for individuals who start receiving an income from a DB pension is 92%.

## Annuitisation behaviour and outcomes

- Despite individuals being largely unconstrained as to when they choose to annuitise, there is a significant spike in annuitisation at around age 65 for men and 60 for women.
- Annuitisation also often coincides with leaving the labour market, but 59% of annuitants who were in work before annuitisation remained in work after having annuitised. Over a quarter (27%) of annuitants annuitised sometime after they had withdrawn from the labour market.

- Despite the importance of shopping around for the best annuity rate, not all individuals do so. Only 28% of individuals observed to annuitise a non-employer DC pension fund between 2008–09 and 2010–11 report having bought an annuity from an external provider.
- We find some evidence that those with greater numerical ability and those who hold relatively large proportions of their total wealth in DC pensions are relatively more likely to buy an annuity externally. The latter are a group who might have more to gain by shopping around, but even within this group, rates of buying externally are still low.
- While we find some evidence that those with certain pre-existing health conditions are more likely to buy an annuity from an external provider, the differences are not statistically significant. Among those who had previously been diagnosed with diabetes, cancer, heart disease or chronic lung disease, only 27.7% bought an annuity from an external provider.

Not all the patterns described above will be applicable to younger cohorts, among whom DC pensions are more prevalent and for whom such funds are likely to constitute a greater share of total wealth. However, a number of inferences can be drawn.

First, the evidence suggests that people have greater uncertainty about what income they will get from DC pensions than from DB schemes. This implies that, as DB coverage declines and DC provision proliferates, levels of uncertainty about pension income as people approach retirement will increase across the population.

On its own, greater uncertainty could lead to higher (precautionary) pension saving, as risk-averse individuals seek to mitigate the downside risks they perceive. However, the evidence described here also suggests that individuals underestimate their life expectancies on average and (perhaps as a consequence) underestimate annuity prices – that is, they expect a given fund to generate a higher annuity income than it actually does. If these misperceptions persist among younger cohorts, increasing numbers of individuals could end up under-saving for retirement as more people become dependent on DC pensions.

The finding that annuitants are more likely to purchase from an external provider if their DC fund constitutes a larger share of their total wealth suggests that shopping around may become more common as cohorts with higher levels of DC wealth move into retirement. On the other hand, we also find that less-numerate individuals are less likely to buy externally – this is a group who might well be more likely to be covered by DC pensions in the future, particularly following the introduction of auto-enrolment.

# CHAPTER 1
# Introduction

The private pension saving environment in the UK has evolved dramatically over recent decades. Both the number of people with private pensions, and the types that they have, have changed significantly. The introduction of personal pensions in the late 1980s and the declining prevalence of defined benefit (DB) pensions among private sector employees have contributed to the growth in importance of defined contribution (DC) pensions.[1] The relative importance of DC pensions will continue to increase in future years, especially for younger cohorts of retirees. In particular, the introduction of auto-enrolment from 2012, where all 'eligible jobholders' will be automatically defaulted into a pension scheme by their employer unless they actively choose to opt out, is expected to increase pension coverage and the amount of pension wealth individuals accumulate before retirement.[2] Given the nature of the pensions market, this increased pension coverage and pension saving will primarily be in DC schemes.

Defined contribution pensions are a complicated product for individuals to understand (a fact for which we provide quantitative evidence in Chapter 4) and also involve a fair amount of uncertainty. To form an accurate expectation of their future pension income in retirement, an individual would need to know both the future investment return on their pension fund up to retirement and the rate at which that fund can be converted into an income stream in retirement. DC pensions also involve important individual decisions. In the accumulation phase, individuals must choose how much to contribute and where to invest their accumulated pension fund (or stay in the default fund) – trading off the potential for greater returns with the higher risk such choices normally entail. At retirement, individuals have to choose when and how to draw their pension income. This can be done through income drawdown but will typically involve the purchase of an annuity at some stage, which requires individuals to make complex decisions over *when* to annuitise, what *type* of annuity to purchase and *from whom* to purchase the annuity. These decisions will affect the stream of pension income provided for a given price of annuity. *Annuity rates* differ widely both over time and across providers at a given point in time. (For further information on DC pensions, annuities and the interaction between the two, see Appendix A.)

Recent UK government policy has aimed to increase the flexibility of DC pensions and has tried to make it easier for individuals to navigate the market in order to reinvigorate private pension saving. The effective requirement to annuitise by age 75 was removed from April 2011, and individuals who can prove that they have a sufficient and secure pension income in place are now allowed complete freedom over the timing and pace of withdrawal of income from their DC pension fund(s). However, recent research suggests that, for the majority of individuals, annuitisation is likely to remain the safest and most appropriate option for accessing their DC pension savings.[3]

With the growing importance of DC pensions, the complex decisions involved in annuitisation will play an increasingly important role in ensuring that individuals secure the type of income streams that they need to support themselves through retirement.

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[1] Defined benefit pensions are those where the pension received depends on years of service and some measure of salary. Defined contribution pensions are those where the pension received depends on the contributions made, investment returns, and the annuity rates available at the time of retirement.

[2] See, for example, http://www.dwp.gov.uk/newsroom/press-releases/2012/sep-2012/dwp103-12.shtml.

[3] See, for example, Silcock, Redwood and Adams (2011).

This report therefore aims to shed light on current annuitisation behaviour, which is an important prerequisite to thinking about how individuals' interactions with annuity markets might evolve going forwards. This report uses quantitative evidence from household surveys to:

- describe the expectations of current working-age adults about the length and timing of retirement (Chapter 2);
- describe annuitisable wealth holdings and their relative importance within overall retirement savings (Chapter 3);
- examine the extent to which individuals appear to understand annuity products – and how this compares with their understanding of other types of pension products (Chapter 4);
- consider the timing of annuitisation, the extent of use of the 'Open Market Option' and how annuity incomes compare with previously reported fund values (Chapter 5).

Appendix A provides a brief introduction to DC pensions and the options available for drawing an income from these schemes. Appendix B provides additional information on the household surveys that provide the data on which the quantitative analysis in this report is based – the English Longitudinal Study of Ageing (ELSA) in Chapters 3–5 and the Wealth and Assets Survey (WAS) in Chapter 2. Appendix C provides supplementary tables and figures.

This report focuses on evidence relating to the expectations, DC pension fund holdings and annuitisation behaviour of older working-age adults – specifically, those aged 50 and over. Focusing on this group allows us better to understand the group that will comprise much of the market for compulsory annuities over the next decade and a half. There will be differences, however, from the expected behaviour and interests of younger DC pension members – not least because, in general, those currently over 50 (most of whom will be outside the scope of auto-enrolment) are less likely to have ever belonged to a DC scheme and are less likely to have had long periods of membership than their later-born counterparts by the time each group reaches retirement. The last chapter of this report looks at what we can expect for this younger group of savers.

# CHAPTER 2
# Expectations of life in retirement

A crucial element of individuals' retirement saving plans is when they expect to retire and how long they expect to live after retiring: individuals face a decision about how much to trade off enjoying additional years of retirement against having higher income and consumption during their years in retirement. It is these decisions that determine in large part how much wealth individuals will accumulate in DC pension funds (as well as other assets) and when they will go to the market to purchase an annuity. Individuals' own expectations of their longevity will also affect how good 'value for money' they perceive annuities to be.

There has been much work investigating individuals' planned retirement ages, their life expectancies and their expected years of retirement.[4] Such work tends to draw on data from surveys that ask individuals to report one or more of these quantities directly. In this report, we use the Wealth and Assets Survey (see Appendix B for more detail), which asked individuals who were not yet retired: at what age they expect to retire; whether they have ever thought about how many years of retirement they will need to fund; and, if they had, what their expectation was.

## 2.1 Expected age of retirement

Figure 2.1 describes the expected age of retirement for respondents who were aged between 50 and 64 when interviewed (with the actual age of retirement shown for those who were already retired). Nearly half of women (47.0%) expected to retire (or had retired) at age 60–64, with 34.6% expecting to retire (or having retired) at age 60. This used to be the State Pension Age (SPA) for women, and currently remains a focal age for retirement plans among this age group.[5] Nearly half of men (45.6%) expected to retire at age 65–69, with 43.3% expecting to retire at age 65 – the SPA for most of the men in this sample. While the SPAs are clearly focal ages for retirement, it is worth noting that many men and women do not expect to retire at their SPA. About two-in-five (41.9%) men expect to retire (or had retired) before age 65, with 16.6% expecting to retire (or having retired) at age 60, which could be due to 60 being the normal retirement age (the earliest age at which a pension can start to be drawn without incurring a financial penalty) in some private pension schemes. Nearly a tenth (9.2%) of men expect to retire after age 65. Similarly, 23.1% of women expect to (or did) retire before age 60, but on the other hand 36.9% of women expect to (or did) retire after age 60 (with 20.4% of women expecting to retire at age 65).

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[4] See, for example, Clery, Humphrey and Bourne (2010).

[5] The State Pension Age is increasing for women born after 5 April 1950 and men born after 5 December 1953. For more details, see http://www.pensionsadvisoryservice.org.uk/state-pensions/state-pension-age-calculator.

Figure 2.1
Expected age of retirement
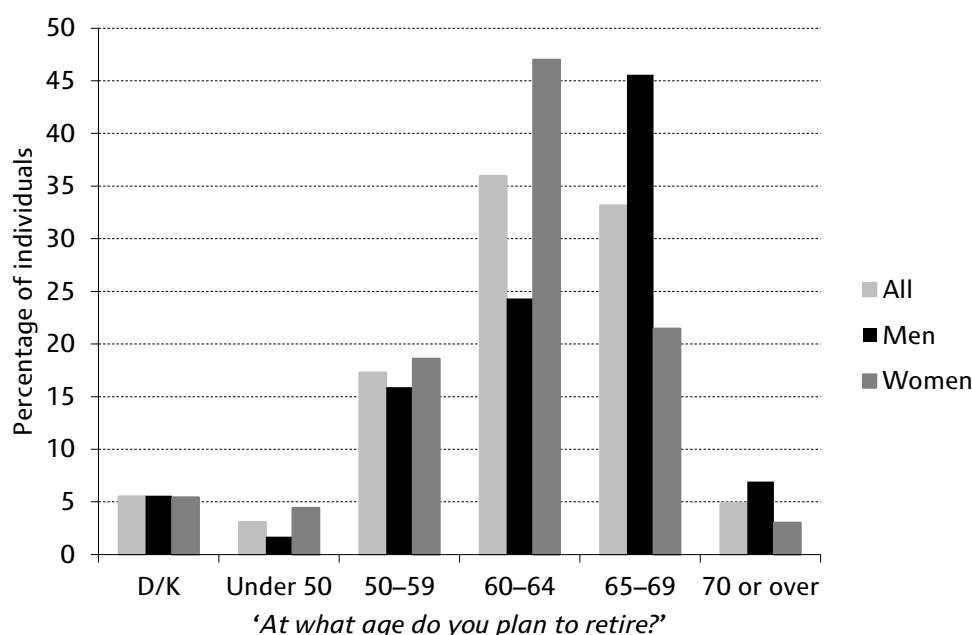


'*At what age do you plan to retire?*'

Notes: Sample is individuals aged 50–64 who are either employed, self-employed, sick / disabled / looking
after the home but expecting to work in future, or already retired (i.e. those who are sick or disabled or
looking after the home and who do not expect to work in future are excluded). For those already retired, the
'expected' age of retirement is taken to be their actual age of retirement. N = 5,120 men and 5,516 women.
Figures are weighted.
Source: Wealth and Assets Survey 2006–08.

## 2.2 Expected length of retirement

Whilst almost all individuals aged 50–64 reported an age at which they planned to retire
(only 7.3% of those who were in work or expected to be in work in the future reported
that they did not know at what age they planned to retire), far fewer individuals reported
having given any thought to how many years of retirement they might need to finance. As
Table 2.1 shows, over half of individuals who were not yet retired (58.5%) reported that
they had never thought how many years of retirement they might need to finance. This is
a surprising, and somewhat concerning, finding if it is a true reflection of the amount of
retirement planning that has been undertaken by those aged 50–64.

The proportion reporting that they had never thought about this is lower among those
who reported planning to retire at relatively young ages than among those planning to
retire later. For example, 38.9% of those planning to retire at age 50–59 had never
thought about how many years they might have to finance, compared with 66.9% of those
planning to retire at age 70 or over. Those who are planning to retire earlier will
generally have a longer retirement, and therefore will need to have accumulated a larger
stock of resources to fund that retirement. However, even 38.9% of individuals is still a
significant proportion who have not given any thought to the length of their retirement.
The proportion of individuals having considered the question was slightly larger among
men than women – 55.6% of men had never thought about it compared with 61.9% of
women. It is also higher among older individuals than younger individuals – 60.6% of
those aged 50–54 have never considered how many years they might need to finance,
compared with 56.7% of those aged 60–64.

Table 2.1

'Have you ever thought how many years of retirement you might need to finance?' – by sex, age and pension type

| *(% never thought)* | Age at which expect to retire: | | | | | **All** |
|---|---|---|---|---|---|---|
| | **D/K** | **50–59** | **60–64** | **65–69** | **70+** | |
| All | 80.0 | 38.9 | 52.5 | 61.1 | 66.9 | 58.5 |
| Men | 81.2 | 30.3 | 39.2 | 59.7 | 66.8 | 55.6 |
| Women | 78.7 | 46.5 | 59.6 | 63.7 | 67.1 | 61.9 |
| | | | | | | |
| Aged 50–54 | 82.7 | 43.6 | 56.1 | 64.2 | 69.9 | 60.6 |
| Aged 55–59 | 76.3 | 25.3 | 51.3 | 61.5 | 65.3 | 57.0 |
| Aged 60–64 | 81.1 | – | 39.6 | 55.6 | 64.9 | 56.7 |
| | | | | | | |
| DB pension | 74.8 | 35.5 | 48.5 | 57.1 | 66.6 | 52.1 |
| DC pension only | 73.0 | 34.7 | 49.7 | 59.4 | 63.0 | 56.8 |
| No private pension | 88.2 | 59.8 | 68.7 | 74.1 | 74.2 | 73.8 |
| *Sample sizes* | | | | | | |
| *All* | *591* | *455* | *2,714* | *3,292* | *536* | *7,588* |
| *Men* | *296* | *207* | *945* | *2,179* | *357* | *3,984* |
| *Women* | *295* | *248* | *1,769* | *1,113* | *179* | *3,604* |
| | | | | | | |
| *Aged 50–54* | *197* | *332* | *1,188* | *1,276* | *185* | *3,178* |
| *Aged 55–59* | *214* | *123* | *1,257* | *1,093* | *172* | *2,859* |
| *Aged 60–64* | *180* | *–* | *269* | *923* | *179* | *1,551* |
| | | | | | | |
| *DB pension* | *100* | *254* | *1,318* | *1,086* | *84* | *2,842* |
| *DC pension only* | *179* | *102* | *611* | *978* | *165* | *2,035* |
| *No private pension* | *215* | *64* | *512* | *722* | *204* | *1,717* |

Notes: Sample is individuals aged 50–64 who are either employed, self-employed, or sick / disabled / looking after the home but expecting to work in future. The split by pension type excludes individuals who are already in receipt of a private pension. Figures are weighted.
Source: Wealth and Assets Survey 2006–08.

One potential reason why individuals may, relatively legitimately, not have thought about the potential length of their retirement is if they are expecting an adequate income from a defined benefit pension. Since a DB pension is payable for the length of the individual's life, an individual might not need to think about how long their retirement will last if they expect the annual flow of income from their DB pension to be sufficient to meet their expenditure needs. At the other end of the spectrum, an individual might be expecting to be entirely dependent on the state for their retirement income, since some low earners might see the UK state pension and means-tested benefits as providing an adequate income. For similar reasons, these individuals would also not need to think about how long their retirement might last.

As shown in Table 2.1, just over half (52.1%) of individuals covered by a DB scheme had never thought about how many years they might need to finance, while 56.8% of those covered only by a DC scheme and 73.8% of those with no private pension had never thought about it. This suggests that not having thought about this issue could be as much an indicator of poor financial planning as an indicator that these individuals did not need to think about it.

Table 2.2

'How many years of retirement might you need to finance?' – by planned retirement age and pension provision

| | Don't know | Among those who did know: | | | | | Implied mean life expectancy | Sample size |
|---|---|---|---|---|---|---|---|---|
| | | Mean (years) | % reporting ... | | | | | |
| | | | 0–9 years | 10–19 years | 20–29 years | 30+ years | | |
| *Planning to retire at age:* | | | | | | | | |
| D/K | 34.5% | 18.2 | 13.2% | 22.7% | 46.8% | 17.3% | – | *126* |
| 50–59 | 2.7% | 25.6 | 0.7% | 6.7% | 51.4% | 41.3% | 81.7 | *282* |
| 60–64 | 4.0% | 22.0 | 1.5% | 18.5% | 60.9% | 19.1% | 82.8 | *1,339* |
| 65–69 | 5.2% | 18.5 | 3.7% | 37.1% | 51.0% | 8.1% | 83.6 | *1,338* |
| 70 and over | 7.4% | 15.6 | 12.3% | 47.5% | 31.8% | 8.4% | 88.1 | *192* |
| *All* | *5.7%* | *20.4* | *3.2%* | *27.0%* | *54.0%* | *15.8%* | – | *3,277* |
| | | | | | | | | |
| *Pension provision:* | | | | | | | | |
| DB | 4.4% | 21.6 | 2.3% | 20.7% | 58.0% | 19.1% | 83.5 | *1,437* |
| DC only | 6.8% | 19.7 | 3.3% | 32.6% | 50.3% | 13.8% | 83.0 | *1,010* |
| No private pension | 9.4% | 19.5 | 5.6% | 31.7% | 48.4% | 14.3% | 83.1 | *687* |
| *All* | *6.2%* | *20.6* | *3.3%* | *26.6%* | *53.6%* | *16.5%* | *83.3* | *3,134* |

Notes: Sample is individuals aged 50–64 who are either employed, self-employed, sick, disabled or looking after the home (i.e. who are not retired) and who reported that they had ever thought about how many years of retirement they might need to finance. The split by age at which planning to retire excludes those who are sick, disabled or looking after the home and not intending to work in future. The split by pension provision excludes those who are already in receipt of a private pension. Implied mean life expectancies are calculated only for those who reported both an expected age of retirement and an expected length of retirement. Figures are weighted.
Source: Wealth and Assets Survey 2006–08.

Individuals who reported that they had thought how many years of retirement they might need to finance were subsequently asked how many years they expected this to be. Table 2.2 describes the proportion of individuals who reported that they did not know, and the range of answers given by those who did know. Focusing on those who reported a retirement length, those planning to retire at age 50–59 on average expect to finance 25.6 years of retirement, compared with 22.0 years among those planning to retire at age 60–64 and 18.5 years among those planning to retire at age 65–69. Among individuals planning to retire between age 50 and age 69, over half expect that they might need to finance 20–29 years of retirement. Combining individuals' expected age of retirement with their expected length of retirement provides an indication of how long they expect to live for. As shown in the penultimate column of Table 2.2, this suggests (for the subsample of individuals who are able to report both an expected age of retirement and an expected length of retirement) that individuals' own life expectancy is higher for those planning to retire later than for those planning to retire at younger ages. For example, average implied life expectancy among those planning to retire between 50 and 59 is 81.7 years, compared with 83.6 years among those planning to retire between ages 65 and 69.

Table 2.2 also shows how retirement expectations differ by pension coverage for those who are not yet in receipt of a private pension. Those with a DB pension on average expect a slightly longer retirement (21.6 years) than those with only a DC pension (19.7 years) or those with no private pension entitlements (19.5 years). This is predominantly because they expect to retire earlier, rather than because they expect to live to older ages than those with only DC pensions: taking together planned retirement ages and expected length of retirement suggests that members of DB schemes expect to live to 83.5 years on average, compared with 83.0 among those who have only a DC pension and 83.1 among those with no private pension.

## 2.3 Expected length of life

An obvious question to ask is how realistic these expectations of length of retirement, and thus length of life, are. The expected duration of retirement is an important component of individuals' retirement planning. This is particularly true for those who plan to buy annuities, who may have unrealistic expectations of annuity prices if they estimate their retirement duration incorrectly, and for those who plan to fund their retirement by drawing down their stocks of capital, who may find they deplete their assets too soon.

To try to answer this question, we can combine individuals' expected date of retirement with their expected length of retirement to calculate the age at which they expect to die. This can then be compared with official life expectancy projections. Figure 2.2 compares average reported life expectancies and actuarial life table values for the sample of individuals responding to the Wealth and Assets Survey who were aged between 30 and 60 and were not retired at the time of interview.

Women's expectations are broadly in line with official period life expectancies – that is, life expectancies calculated based on the mortality experience of individuals of all ages over recent years (the dotted lines in Figure 2.2). However, they are pessimistic when compared with official cohort life expectancy projections – that is, life expectancy projections that incorporate some improvements in life expectancy in the future. Women on average have expectations of life that are similar to the experience of current older people, but they do not appear to be fully taking into account the improvements in life expectancy that actuaries expect to occur over the next few decades that mean they are likely to live longer than their forebears.

Figure 2.2
Average individual life expectancy, by current age
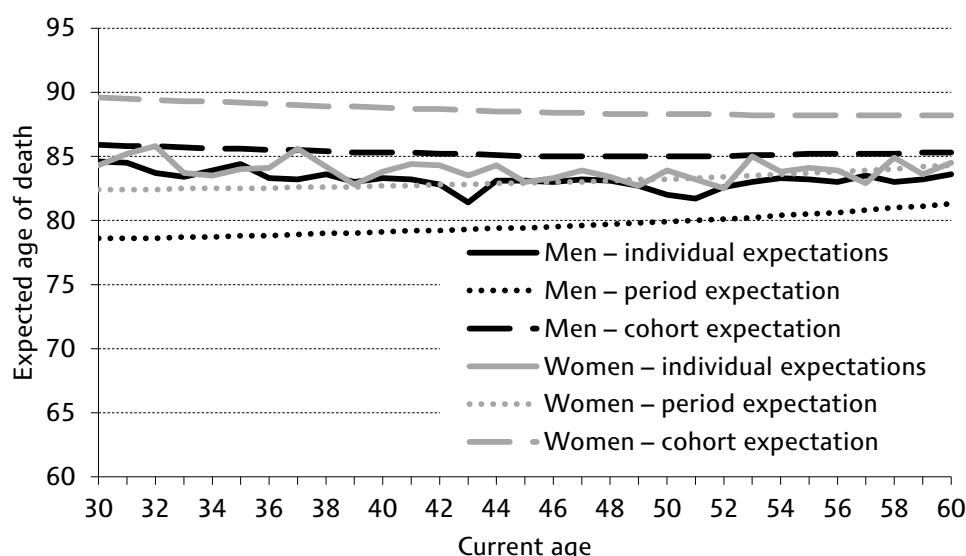


Notes: Sample is individuals aged 30–60 who are not yet retired, and who reported both a planned age of retirement and an expected number of years of retirement. Sample size = 3,745 men and 2,602 women. Individual 'expected date of death' is calculated as the sum of the age at which they plan to retire and the number of years of retirement that they expect to finance. Period and cohort life expectancies are 2008-based projections by the Office for National Statistics.
Source: Wealth and Assets Survey 2006–08. Office for National Statistics.

Men report expectations of life that are similar to those of women, despite official projections that male life expectancy is lower than female life expectancy. Men are therefore, on average, too optimistic relative to period life expectancies but, as with women but to a lesser extent, are somewhat pessimistic relative to cohort life expectancies on average.

Figure 2.2 suggests that men aged 50–60 are on average too pessimistic by around 2 years compared with cohort life expectancies, while women aged 50–60 are too pessimistic by around 4 years. This means that, on average, individuals will have a longer retirement to finance than they anticipate. Therefore, even if individuals have thought carefully about their retirement and think they have accumulated sufficient resources to fund it, this may not actually be the case. While DB schemes insure their members against the risk of living 'too long' from the point at which they first join the scheme, DC scheme members do not get this insurance until they purchase an annuity.

Average life expectancies disguise the fact that there will be wide variation in length of life across individuals of a given sex within a given cohort: some individuals will live for much longer, while other individuals will die much sooner. Figure 2.3 therefore shows the full distribution of official period life expectancies and reported life expectancies for WAS respondents aged between 30 and 60. The distribution of reported life expectancies is much more compact than the official distribution: significant proportions of individuals (both men and women) report expecting to live to age 80 or age 85. Only 18% of men (12% of women) report expecting to die before age 75, while the official estimate of this figure is 30% (20%). Conversely, only 9% of men (10% of women) report expecting to live beyond age 90, while the official estimate is 18% (29%). The relative lack of people reporting low life expectancies is perhaps not surprising, since these early deaths may be the result of accident, injury or illness that has not yet been diagnosed. However, the

Figure 2.3
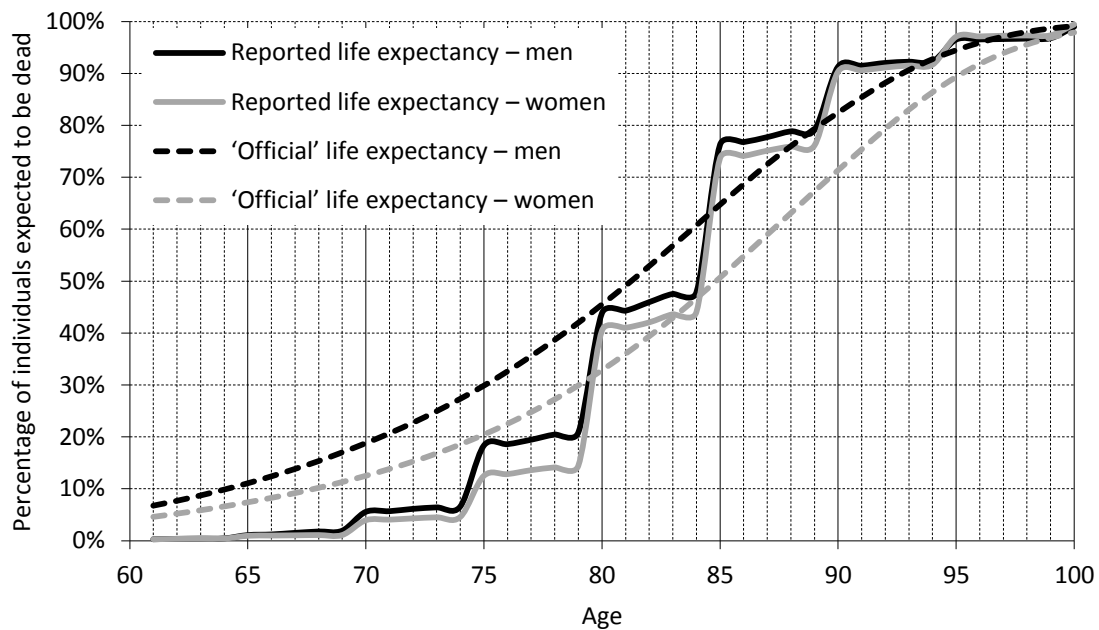Distribution of individual life expectancies



Notes: Reported life expectancy sample is individuals aged 30–60 who are not yet retired, and who reported both a planned age of retirement and an expected number of years of retirement. Sample size = 3,745 men and 2,602 women. Individual 'expected date of death' is calculated as the sum of the age at which they plan to retire and the number of years of retirement that they expect to finance. 'Official' life expectancies are period expectations of life based on 2006–08 data from the Office for National Statistics.
Source: Wealth and Assets Survey 2006–08. Office for National Statistics.

relative lack of people reporting very long life expectancies is more concerning from the point of view of retirement planning, and is perhaps more surprising. Individuals whose family members have lived to very old ages might be able reasonably to expect to live longer than average themselves.

## 2.4 Summary

In the context of thinking about how people make annuitisation decisions, two key features of people's understanding and behaviour stand out from this analysis:

- A surprisingly large proportion of people move towards retirement having thought very little about some of the most basic issues they will face, not least how long a period they are likely to need to support themselves for. Over half (58.5%) of individuals aged 50–64 (who are not yet retired) have never thought how many years of retirement they will have to fund. This figure is higher among members of DC pension schemes than among members of DB schemes. This suggests that DC scheme members may be poorly prepared to understand the value of an annuity.

- Even those who have given the matter some thought underestimate life expectancy on average. Although people appear to underestimate the chance that they will die young, too few expect to live until very old age – for example, only 9% of men and 10% of women expect to live until at least age 90, when in fact the official estimates are that 18% of men and 29% of women will do so. To the extent that DC scheme members underestimate their true life expectancy, they will see annuity rates as offering poor value for money.

# CHAPTER 3
# The importance of defined contribution pension wealth

The impact that individuals' decisions around annuitisation will have on their income in retirement will depend crucially on what fraction of their total retirement resources are held in DC pensions. This chapter therefore examines who holds DC pensions, how much wealth they hold in this form, and how important that wealth is relative to their other wealth holdings. The data described in this chapter are drawn from the English Longitudinal Study of Ageing – for more information on this data set, see Appendix B.

## 3.1 Who has a DC pension?

Almost half (44.7%) of individuals aged between 52 and 64 are either receiving an income from an annuitised DC pension or hold a DC fund that has yet to be annuitised. In this section, we examine the association between particular individual characteristics and having a DC pension, and the association between individual characteristics and holding an *unannuitised* DC pension in particular. This latter subsample of individuals is of interest as they are the individuals who are approaching annuitisation decisions. In Chapter 4, we explore expectations of future pension income from DC pensions among this group.

In this section, we focus on looking at the association between individual characteristics and pension membership using a multivariate regression technique, which allows us to examine the relationship between each specific characteristic and pension membership, controlling for other characteristics. This is important because the individual characteristics we are interested in are highly correlated. For example, the fact that DC pension coverage is higher among higher-income individuals could be because income is associated with pension coverage, or it could be because higher-income individuals tend to have higher levels of education and education is associated with pension coverage. To distinguish between these possible explanations, it is important to control for other characteristics when making comparisons between individuals to investigate one particular characteristic. For reference, Table C.1 in Appendix C reports the simple proportion of individuals with various characteristics who have a DC pension (either an unannuitised fund or an annuitised income) and the proportion who have an unannuitised DC pension fund.

Table 3.1 reports the results of a multivariate regression analysis of the association between individual characteristics and (i) the probability of having a DC pension (first pair of columns) and (ii) the probability of having an unannuitised DC pension fund (last two columns). The results are reported as *odds ratios*, i.e. the percentage chance of an individual with a specific characteristic having a DC pension expressed relative to the percentage chance for the reference group. For example, the figure 0.572 in the first column indicates that the probability of a single woman having a DC pension is 57.2% of the probability for a single man (the reference group). The stars indicate that the result is statistically significantly different from 1, i.e. that there is a difference in the probability of having a DC pension pot between single men and single women.

The results indicate that women are significantly less likely to have a DC pension than men (around half as likely), but there is no significant difference between singles and

Table 3.1
Probability of having a DC pension

|  | Pr(Has DC pension) | | Pr(Has unannuitised DC pension fund) | |
|---|---|---|---|---|
|  | *Odds ratio* | *p value* | *Odds ratio* | *p value* |
| Single men | ref. | ref. | ref. | ref. |
| Single women | 0.572*** | 0.000 | 0.387*** | 0.000 |
| Men in couples | 1.102 | 0.472 | 0.938 | 0.663 |
| Women in couples | 0.526*** | 0.000 | 0.459*** | 0.000 |
| *Age* | | | | |
| 50–54 | ref. | ref. | ref. | ref. |
| 55–59 | 1.121 | 0.486 | 1.029 | 0.867 |
| 60–64 | 1.202 | 0.265 | 0.576*** | 0.002 |
| *Education level* | | | | |
| Left school at or before CSL | 0.940 | 0.469 | 0.855 | 0.114 |
| CSL–18 | ref. | ref. | ref. | ref. |
| 19+ | 0.862 | 0.123 | 0.887 | 0.260 |
| *Numeracy* | | | | |
| Worst | 0.505*** | 0.000 | 0.506*** | 0.002 |
| 2 | 0.780** | 0.032 | 0.879 | 0.333 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | 0.922 | 0.400 | 0.867 | 0.191 |
| Best | 0.831* | 0.093 | 0.920 | 0.497 |
| *Work status* | | | | |
| Working full-time | 2.505*** | 0.000 | 6.613*** | 0.000 |
| Working part-time | 1.657*** | 0.000 | 3.335*** | 0.000 |
| Not working | ref. | ref. | ref. | ref. |
| *Income quintile* | | | | |
| Poorest | 1.051 | 0.695 | 1.301 | 0.081 |
| 2 | 1.059 | 0.663 | 0.991 | 0.954 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | 1.147 | 0.229 | 0.877 | 0.309 |
| Richest | 1.107 | 0.388 | 0.833 | 0.166 |
| *Total wealth quintile* | | | | |
| Poorest | 0.432*** | 0.000 | 0.534*** | 0.000 |
| 2 | 0.879 | 0.296 | 0.929 | 0.600 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | 0.883 | 0.273 | 1.072 | 0.583 |
| Richest | 0.865 | 0.224 | 1.162 | 0.261 |

Notes: Sample is individuals aged between 50 and 64 who report information about their education and numeracy (and who are therefore present in both 2010–11 and 2008–09 waves of the survey). CSL is compulsory school leaving age. Sample size = 3,626. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level respectively.
Source: English Longitudinal Study of Ageing 2010–11. English Longitudinal Study of Ageing 2008–09 used for defining numeracy.

those in couples for either men or women.[6] The relationship between sex and pension holding is even stronger if we look just at unannuitised DC pensions; this arises because women on average annuitise at a slightly younger age than men (as is described in more detail in Section 5.1). Perhaps surprisingly, education does not have a significant association with the probability of having a DC pension. Neither does numeracy for the most part, although those with the very lowest level of numeracy are only about half as likely to have an unannuitised DC pension as those in other numeracy groups.[7] The most important association appears to be with current labour market status: those who are working full-time are two-and-a-half times as likely to have a DC pension as those who are not in work, and one-and-a-half times as likely to have a DC pension as those working part-time, while those working part time are over one-and-a-half times as likely to have a DC pension as those not working. The relationships between work status and holding an unannuitised DC pension are even bigger, suggesting some association between annuitisation of DC pension funds and withdrawal from the labour market.

For comparison, Table 3.2 describes the characteristics associated with having a DB pension (that an individual is still contributing to, has retained rights to or is receiving an income from) and the characteristics associated with having any private pension coverage. A comparison of these characteristics can give some indication of whether DB and DC pensions act as substitutes for one another.

Some characteristics have a similar association with membership of a DB pension to that with membership of a DC pension: women in couples, for example, are only around half as likely as single men to be a member of either a DB or a DC pension, while those with the lowest levels of numeracy are significantly less likely than more numerate individuals to be a member of either type of pension.

Many other characteristics, however, have a different association with DB pension coverage from that with DC pension coverage. Single women, for example, are only around half as likely as single men to have a DC pension, but they are one-and-a-half times as likely as single men to be covered by a DB pension. Those working full-time (part-time) are two-and-a-half times (1.7 times) as likely to have a DC pension as those who are not working, while those working full-time are actually only 60% as likely to have a DB pension as those who are not working. Since our sample is individuals aged 50 to 64, this is likely driven by earlier retirement on average by individuals who have access to a DB pension. Membership of DB pensions is also much more strongly associated with income and total household wealth holdings (defined as net wealth held in property, pensions and financial and physical assets) than membership of DC pensions is: those in the lowest income quintiles are significantly less likely to be covered by a DB pension, and there is a strong positive association between household wealth and DB pension coverage. It is worth bearing in mind that since total household wealth includes wealth held in pensions, the causation in this last relationship might well run from pension coverage to wealth rather than the other way around. In other words, rather than high-wealth people opting to join DB pensions, it is perhaps more likely that having a DB pension enables a household to accumulate larger amounts of wealth.

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[6] We have tested whether there are significant differences between the odds ratios on each pairwise combination of the sex–marital-status groups.

[7] The measure of numeracy used here is defined in Appendix B.

Table 3.2
Probability of having a DC/DB/any pension

| | Pr(DC pension) | | Pr(DB pension) | | Pr(any pension) | |
|---|---|---|---|---|---|---|
| | *Odds ratio* | *p value* | *Odds ratio* | *p value* | *Odds ratio* | *p value* |
| Single men | ref. | ref. | ref. | ref. | ref. | ref. |
| Single women | 0.572*** | 0.000 | 1.484** | 0.019 | 0.718* | 0.075 |
| Men in couples | 1.102 | 0.472 | 0.904 | 0.504 | 1.290 | 0.179 |
| Women in couples | 0.526*** | 0.000 | 0.594*** | 0.001 | 0.263*** | 0.000 |
| *Age* | | | | | | |
| 50–54 | ref. | ref. | ref. | ref. | ref. | ref. |
| 55–59 | 1.121 | 0.486 | 0.908 | 0.579 | 1.248 | 0.292 |
| 60–64 | 1.202 | 0.265 | 0.796 | 0.191 | 1.148 | 0.511 |
| *Education level* | | | | | | |
| ≤CSL | 0.940 | 0.469 | 0.734*** | 0.001 | 0.778** | 0.018 |
| CSL–18 | ref. | ref. | ref. | ref. | ref. | ref. |
| 19+ | 0.862 | 0.123 | 1.463*** | 0.000 | 1.121 | 0.441 |
| *Numeracy* | | | | | | |
| Worst | 0.505*** | 0.000 | 0.660** | 0.029 | 0.520*** | 0.000 |
| 2 | 0.780** | 0.032 | 0.905 | 0.416 | 0.758** | 0.038 |
| 3 | ref. | ref. | ref. | ref. | ref. | ref. |
| 4 | 0.922 | 0.400 | 1.251** | 0.024 | 1.150 | 0.265 |
| Best | 0.831* | 0.093 | 1.241* | 0.059 | 1.275 | 0.137 |
| *Work status* | | | | | | |
| Working FT | 2.505*** | 0.000 | 0.590*** | 0.000 | 2.168*** | 0.000 |
| Working PT | 1.657*** | 0.000 | 0.896 | 0.278 | 1.682*** | 0.000 |
| Not working | ref. | ref. | ref. | ref. | ref. | ref. |
| *Income quintile* | | | | | | |
| Poorest | 1.051 | 0.695 | 0.470*** | 0.000 | 0.501*** | 0.000 |
| 2 | 1.059 | 0.663 | 0.731** | 0.022 | 0.647*** | 0.005 |
| 3 | ref. | ref. | ref. | ref. | ref. | ref. |
| 4 | 1.147 | 0.229 | 0.838 | 0.132 | 0.947 | 0.719 |
| Richest | 1.107 | 0.388 | 1.008 | 0.945 | 0.910 | 0.578 |
| *Total wealth quintile* | | | | | | |
| Poorest | 0.432*** | 0.000 | 0.161*** | 0.000 | 0.150*** | 0.000 |
| 2 | 0.879 | 0.296 | 0.673*** | 0.002 | 0.585*** | 0.000 |
| 3 | ref. | ref. | ref. | ref. | ref. | ref. |
| 4 | 0.883 | 0.273 | 1.634*** | 0.000 | 1.615*** | 0.002 |
| Richest | 0.865 | 0.224 | 1.878*** | 0.000 | 1.823*** | 0.001 |

Notes: Sample is individuals aged between 50 and 64 who report information about their education and numeracy. CSL is compulsory school leaving age. Sample size = 3,626. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level respectively.
Source: English Longitudinal Study of Ageing 2010–11. English Longitudinal Study of Ageing 2008–09 used for defining numeracy.

## 3.2 The composition of family wealth

On average, families approaching retirement in England had £551,300 of net wealth in 2010–11; this includes owner-occupied and other housing, financial assets, physical

assets (such as antiques) and private pensions.[8,9] However, this distribution is skewed – as is shown in Figure 3.1: one-in-four households held less than £146,600, while one-in-four held more than £698,300.

Unsurprisingly, private pensions are a relatively important component of wealth for older households in England. Figure 3.2 shows the composition of wealth held by families where the oldest responding adult is aged between 52 and 64. Private pensions, in one form or another, account for nearly half of all wealth. A relatively large proportion (13% of total wealth or 30% of private pension wealth) is in the form of pensions from which individuals in these families have already started to receive an income (this includes DB and DC schemes). A further 17% of total family net wealth is held in DB pensions that individuals are not yet receiving, and 13% is held in DC pensions that have not yet been annuitised.

The next largest contributor to family wealth is primary housing wealth – the value of the owner-occupied, main home; this, on average, accounts for over a third of total net wealth. Physical wealth (which includes other net housing wealth, property, land,

Figure 3.1
Distribution of family wealth
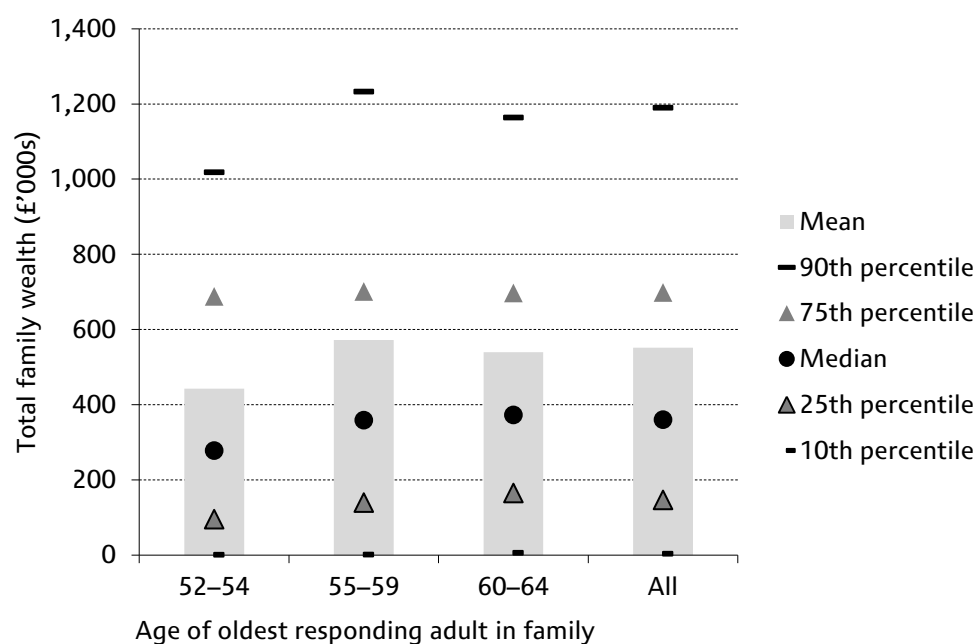


Notes: Sample is families where the oldest responding member is aged between 52 and 64. N = 2,653. Figures are weighted.
Source: English Longitudinal Study of Ageing 2010–11.

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[8] Pension wealth is calculated as the discounted sum of the stream of income that the individual (or family) is expected to receive from a pension over their lifetime. This is described in more detail in Appendix B.

[9] The definition of total wealth we use here includes only private wealth. In particular, it excludes wealth inherent in the state pensions that individuals expect to receive from the government in the future. This is a standard definition of private wealth; however, it is worth bearing in mind in this context that it does understate the total retirement resources available to people to the extent that it excludes the stream of income they will receive from the state.

Figure 3.2
Composition of total family wealth



Notes: Sample is families where the oldest responding member is aged between 52 and 64. N = 2,653. Figures are weighted.
Source: English Longitudinal Study of Ageing 2010–11.

antiques and collectables, covenants and trusts, and net business wealth) accounts for 11% and financial wealth (which includes savings, stocks and shares, bonds and investment trusts less any outstanding non-mortgage debt) accounts for the remaining 12%.
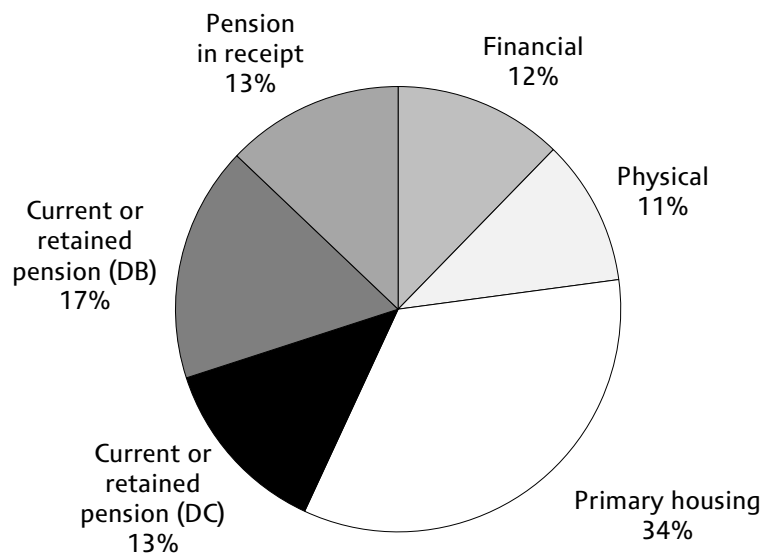
DC pension holdings are therefore, on average, an important component of family wealth among families where the oldest individual is aged between 52 and 64. On average, a greater proportion of family wealth is held in unannuitised DC pensions than in either financial wealth or physical wealth. In addition, some of the wealth attributed to pensions in receipt in Figure 3.2 is from annuitised DC pensions.[10] However, this average picture masks large differences at the family level. Only around a third of individuals aged between 52 and 64 have an unannuitised DC pension. For those families without a DC pension, other components (such as primary housing, financial wealth and DB pension wealth) account for a greater share of total wealth, while for families with unannuitised DC pension funds, the relative importance of these is much greater than that implied by Figure 3.2. The following section therefore investigates in more detail how relatively important these pension funds are in terms of these people's total family wealth holdings.

## 3.3 Relative importance of unannuitised DC funds

While Figure 3.2 showed that unannuitised DC pension funds represent just 13% of total net family wealth across all families aged between 52 and 64, only a third of individuals in this age range have a DC pension pot, implying that DC pension wealth will be much more important for some families. How substantial a DC pot is in the context of a family's

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[10] Given the imputation methods used to compensate for missing values in ELSA, it is unfortunately not possible to provide a complete breakdown of wealth from pensions in receipt into DB pensions and annuitised DC pensions.

overall retirement provision will determine how important their behaviour at the point of annuitisation is in affecting their ultimate pension income.

Figure 3.3 describes, for families who hold some unannuitised pension wealth, the relative importance of this wealth in the context of their total wealth holdings (as defined in Figure 3.2) and in the context of their non-housing wealth holdings.[11] At the median, unannuitised DC pension wealth accounts for 12% of total family net wealth (among this group with at least one unannuitised DC pot). For a quarter of these families DC pension wealth amounts to over 30% of their total wealth, while for another quarter of families it accounts for less than 4%. The mean proportion of total family wealth accounted for by DC pension wealth is 24%. The proportions of non-housing wealth accounted for by unannuitised DC pension wealth are obviously larger: the median is 26%, while for a quarter of families it is over 67% and for another quarter of families it is less than 7%.

This wide distribution of the importance of unannuitised pension wealth is a factor that will be important when considering the annuitisation decisions that people make. Individuals might be expected to make much more careful decisions regarding their annuitisation choices if those decisions involve a larger amount of money, or a greater proportion of their wealth – this is something we explore in Chapter 5. Table 3.3 describes the individual characteristics associated with the importance of DC wealth within a family's wealth portfolio.

Figure 3.3
Distribution of the ratio of unannuitised DC pension wealth to total family wealth and to family non-housing wealth



Notes: Sample is families with unannuitised DC pension wealth, whose oldest member is aged between 52 and 64. N = 1,167.
Source: English Longitudinal Study of Ageing 2010–11.

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[11] We focus on unannuitised DC pension holdings here because the imputation methods used to compensate for missing values in ELSA means that it is, unfortunately, not possible to provide a complete breakdown of pens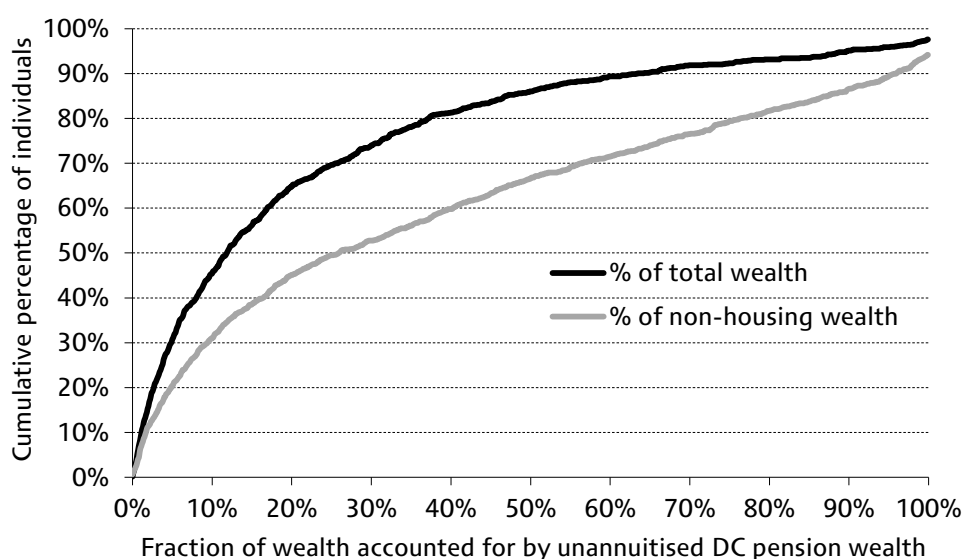ions in receipt into DB pensions and annuitised DC pensions. It is therefore not possible to describe total DC pension wealth (including both unannuitised funds and annuities in receipt).

Table 3.3
Characteristics associated with 'importance' of DC pension wealth

|  | DC pension wealth divided by total family wealth | | DC pension wealth divided by family non-housing wealth | |
|---|---|---|---|---|
|  | *Coefficient* | *p value* | *Coefficient* | *p value* |
| Single men | ref. | ref. | ref. | ref. |
| Single women | –0.026 | 0.557 | 0.002 | 0.994 |
| Men in couples | –0.028 | 0.416 | –0.045 | 0.844 |
| Women in couples | –0.107*** | 0.006 | 0.134 | 0.600 |
| *Age* |  |  |  |  |
| 50–54 | 0.027 | 0.504 | 0.167 | 0.525 |
| 55–59 | 0.073* | 0.080 | 0.088 | 0.747 |
| 60–64 | ref. | ref. | ref. | ref. |
| *Education level* |  |  |  |  |
| Left school at or before CSL | –0.038 | 0.126 | –0.144 | 0.382 |
| CSL–18 | ref. | ref. | ref. | ref. |
| 19+ | –0.038 | 0.144 | –0.005 | 0.975 |
| *Numeracy* |  |  |  |  |
| Worst | 0.079 | 0.200 | 0.050 | 0.902 |
| 2 | 0.001 | 0.987 | 0.027 | 0.905 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | 0.047* | 0.083 | 0.351** | 0.048 |
| Best | 0.068** | 0.023 | 0.139 | 0.476 |
| *Work status* |  |  |  |  |
| Working full-time | –0.030 | 0.348 | 0.095 | 0.646 |
| Working part-time | –0.095*** | 0.006 | –0.246 | 0.277 |
| Not working | ref. | ref. | ref. | ref. |
| *Income quintile* |  |  |  |  |
| Poorest | 0.056 | 0.152 | 0.203 | 0.425 |
| 2 | –0.033 | 0.413 | –0.110 | 0.679 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | 0.007 | 0.822 | –0.050 | 0.811 |
| Richest | 0.027 | 0.397 | 0.262 | 0.208 |
| *Total wealth quintile* |  |  |  |  |
| Poorest | 0.558*** | 0.000 | 0.031 | 0.911 |
| 2 | 0.056 | 0.110 | –0.295 | 0.198 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | –0.040 | 0.195 | –0.594*** | 0.004 |
| Richest | 0.007 | 0.823 | –0.689*** | 0.001 |

Notes: Sample is individuals aged between 50 and 64 who report information about their education and numeracy, who have an unannuitised DC pension. CSL is compulsory school leaving age. Sample size = 1,134. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level respectively.
Source: English Longitudinal Study of Ageing 2010–11. English Longitudinal Study of Ageing 2008–09 used for defining numeracy.

DC pension wealth is a more important share of total family wealth for those with higher levels of numeracy. On average, 5 percentage points more of total family wealth is accounted for by DC pensions among those in the second-highest numeracy group than among those in the middle numeracy group. Meanwhile, on average, 7 percentage points more of total family wealth is accounted for by DC pension wealth among those with the highest levels of numeracy than among those in the middle numeracy group. This potentially suggests that those for whom engaging with annuitisation behaviour could have a greater impact on overall pension income are also those who are best able to tackle such complex financial products. DC pension wealth is also much more important for those with lower levels of total family wealth. Among those in the lowest wealth quintile, DC pension wealth as a share of total family wealth is over 50 percentage points higher than among those in the middle wealth quintile. DC wealth is less important for women in couples than for men or single women.[12]

Looking at unannuitised DC pension wealth holdings in the context of family non-housing wealth, which might be more appropriate if families were not intending to draw on their housing wealth to finance their retirement, the characteristics associated with the importance of DC pension holdings are slightly different. The most important characteristic is total family wealth, which now has a significant negative association with the importance of DC pension wealth holdings: individuals in the highest family wealth quintile have a ratio of unannuitised DC pension wealth to family non-housing wealth that is on average 69 percentage points lower than the ratio among those in the middle total wealth quintile.

## 3.4 Summary

This chapter has shown that, while 45% of the current population aged between 52 and 64 have a DC pension, the importance of DC pension wealth within total family wealth portfolios varies substantially. Unannuitised DC pension wealth constitutes at least 12% of total family wealth for half of individuals who have at least one unannuitised DC pension pot. It accounts for over 30% of family wealth for one-in-four of these individuals, but less than 4% for a further one-in-four individuals. DC pension pots are a more important component of total wealth for those with higher levels of numeracy and for those with lower levels of total family wealth, and are of lesser importance for women in couples than for other types of individuals.

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[12] DC pension wealth divided by total family wealth is 8 percentage points lower on average among women in couples than among single women (significant at the 10% level) and men in couples (significant at the 1% level).

# CHAPTER 4
# What income do people expect from their pensions?

Defined contribution pensions require members to bear different risks from the risks that defined benefit pensions do during the accumulation phase – specifically, investment and longevity risk. These pensions require members to understand both how these risks will affect their fund value and how they will affect their subsequent pension income through annuity rates. Before examining actual annuitisation decisions in the next chapter, this chapter presents some evidence on the degree of knowledge and certainty individuals have about what they will get out of their DC pensions (and how this compares with knowledge among members of DB schemes).

This chapter draws on two sources of information on how much individuals expect to get from their private pensions in retirement:

- First, we use responses to questions in ELSA that ask individuals to report (for each private pension scheme that they hold) how much they expect to get from their pension scheme at retirement. Analysis of these 'point expectations' for each individual pension scheme is presented in Section 4.1.
- Second, ELSA also asks individuals about how much income they expect to receive at the State Pension Age in total from all their private pension schemes. Specifically, ELSA respondents are asked to report a range in which they expect their total private pension income to lie. Responses to these questions are analysed in Section 4.2.

Sections 4.3 and 4.4 then provide some indication of how 'accurate' expectations of income from DC pensions are by:

- comparing individuals' reported 'point expectations' of pension income with the current value of the same DC funds (Section 4.3);
- for those individuals who are observed to start drawing their pension income, comparing actual pension income with previously reported expectations (Section 4.4).

Together, this analysis provides an indication of the knowledge and expectations with which DC pension holders approach annuitisation.

## 4.1 Expectations of income from individual private pension schemes

For each pension scheme an individual reports in ELSA, they are asked, 'How much do you expect this pension to be worth when you retire?'. Individuals can report the answer as an annual income, a total amount (in the case of DC schemes only) or as a percentage of salary (for DB schemes only). Those individuals who reported that they did not know were asked a series of questions that aimed to elicit a range in which their expected income (or expected fund value) lay.

Table 4.1 shows that for only half (50.2%) of pension schemes held by people aged 50 and over are scheme holders able to report an exact amount that they expect to get at retirement. This will reflect genuine uncertainty about future growth in the value of their pension rights (including future investment returns, contribution behaviour and annuity prices) as well as uncertainty deriving from a lack of knowledge of the current value of

Table 4.1

Knowledge of expected future income from private pensions, by pension
scheme type

| (%) | All | Defined contribution | Defined benefit |
|---|---|---|---|
| Know exactly | 50.2 | 44.8 | 58.9 |
| *Of which:* | | | |
| Annual income (£) | 35.4 | 29.0 | 48.8 |
| Annual income (% salary) | 4.1 | n/a | 10.1 |
| Total fund value | 10.7 | 15.5 | n/a |
| Report range | 16.3 | 18.5 | 12.9 |
| Don't know | 33.5 | 36.8 | 28.2 |
| *Sample size* | *14,083* | *8,683* | *5,400* |

Notes: The sample is all cross-sectional observations on private pension schemes held by individuals aged 50
and over from which an income is not already being drawn. Unweighted.
Source: English Longitudinal Study of Ageing, waves 1–5 (2002–03 to 2010–11).

their pension rights. In advance of the interview, respondents were advised to get out any
paperwork that they had relating to their finances, including statements from pension
schemes. Therefore, if anything, the figures we present here may understate the latter
type of uncertainty if this prompting caused people to check their pension statements
when they otherwise might not have.

The figure is considerably higher for DB schemes (58.9%) than for DC schemes
(44.8%). Similarly, the proportion of DC scheme holders who are unable to give any
estimate of how much they will get from their scheme (36.8%) is higher than the
corresponding figure for DB scheme holders (28.2%).[13]

For DC schemes, about two-in-three of those scheme holders who reported an exact
figure gave this as an annual income, while the remainder reported a total fund value.
Among DB schemes, about five-in-six of those who reported an exact figure gave it as an
annual income, with the remainder reporting expected income as a percentage of salary.

DC scheme members seem to find it more difficult to estimate how much they will get
from their pension in retirement than DB scheme members do – at least among the age
group considered here. Multivariate analysis of levels of knowledge (reported in Table
C.2 in Appendix C) suggests that this remains true even after controlling for other
differences in characteristics between DB and DC scheme members.[14] This multivariate
analysis also suggests that more-numerate individuals are more likely to report an exact
figure than the least numerate; higher-wealth and higher-income individuals, as well as
those who are not working, are also more likely to report an exact figure.

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[13] The proportion of DB scheme holders reporting an exact figure is similar between those with retained DB
schemes and those who are currently contributing to their schemes. Among DC scheme holders, however,
those with retained pensions are more likely to report an exact expected income than those who are still
contributing to their scheme. (Results available on request.)

[14] The odds ratio for current DB schemes is significantly different from 1 at the 1% level. The odds ratios for
retained DB and retained DC pensions are significantly different from one another at the 10% level.

## 4.2 Expectations of total private pension income

This section examines how much (un)certainty people have about the income they will get *in total* from all their private pensions – that is, adding together all the income they expect from their various separate private pension schemes.

The analysis in this section uses ELSA data from 2010–11. Respondents aged below the SPA and with at least one private pension from which they were not yet receiving an income were asked to report the range within which they expected their income from *all* their private pensions to lie when they reach SPA.[15] As shown in Table 4.2, almost a third of individuals were unable to report a range within which their future private pension income was expected to lie (that is, they were unable to report a maximum expected income, a minimum expected income or both).[16] However, 45.8% of individuals did report a range, and slightly over one-fifth of individuals reported a degenerate range (i.e. a single number or a 'point expectation').[17] The proportions of men and women reporting point expectations are similar, but men on average seem to be slightly more certain than women about their future pension income: a larger proportion of men than of women report a valid range and a correspondingly smaller proportion are unable to provide any range.

Tables 4.3 and 4.4 (for men and women respectively) present results from two multivariate regressions: the first examines the relationship between various individual characteristics and the chance of not being able to report a range within which future private pension income is expected to lie, and the second examines the relationship between the same set of characteristics and the chance of reporting a point expectation when asked to provide an expected income range. As in previous sections, these results

Table 4.2

Expectations of future private pension income, by sex

| | Percentage of individuals reporting: | | | *Sample size* |
|---|---|---|---|---|
| | **No min &/or no max** | **Range** | **Point expectation** | |
| Men | 29.3 | 48.3 | 22.3 | *1,041* |
| Women | 36.3 | 41.6 | 22.1 | *659* |
| All | 31.9 | 45.8 | 22.2 | *1,700* |

Notes: Sample is those aged between 52 and SPA who have at least one private pension from which they are yet to draw an income. All figures are weighted using cross-sectional weights.

Source: English Longitudinal Study of Ageing 2010–11.

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[15] Further details of the exact question wording used are provided in Appendix B.

[16] This is similar to the figure shown in Table 4.1 for responses about individual pension schemes, although the sample of individuals included is somewhat different in the two tables: Table 4.2 includes only those aged below SPA, while Table 4.1 includes anyone with a pension pot from which they are not yet drawing an income.

[17] We classify as reporting a point expectation all those who report a maximum that is less than £10 per year above the minimum reported. That more people answer with a point expectation to the questions summarised in Section 4.1 (about individual private pension schemes) than those summarised here (about total private pension income) could reflect two factors. First (and perhaps most importantly), the wording of the two sets of questions was different. For individual pension schemes, the questions were structured explicitly to elicit a point expectation; individuals were only given the opportunity to report a range if they really were unable to provide a point estimate. Conversely, the questions about total pension income were explicitly designed to elicit a range: individuals were asked to report a maximum and a minimum and were only able to report a point expectation by giving the same response to the two separate questions. Second, individuals may have greater uncertainty about income from multiple pensions than they do about income from each specific scheme. For example, if all individuals hold two pensions – one about which they are certain and one about which they face uncertainty – we would find that people reported point expectations of income from half of pension schemes (and a range for the other half) but that all pension holders reported a range when asked about their total pension income.

Table 4.3
Multivariate analysis of relationship between characteristics and
expectations of future private pension income: men

| | No min &/or no max | | Point expectation | |
|---|---|---|---|---|
| | *Odds ratio* | *p value* | *Odds ratio* | *p value* |
| Single | ref. | ref. | ref. | ref. |
| In a couple | 0.870 | 0.527 | 1.125 | 0.630 |
| *Age* | | | | |
| 52–54 | ref. | ref. | ref. | ref. |
| 55–59 | 0.569* | 0.054 | 1.627 | 0.212 |
| 60–64 | 0.602* | 0.097 | 2.371** | 0.031 |
| *Education* | | | | |
| Left school at or before CSL | 1.197 | 0.364 | 0.820 | 0.362 |
| CSL–18 | ref. | ref. | ref. | ref. |
| 19+ | 0.985 | 0.946 | 0.966 | 0.870 |
| *Numeracy* | | | | |
| Worst | 1.147 | 0.797 | 0.700 | 0.572 |
| 2 | 1.490 | 0.186 | 0.676 | 0.293 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | 0.881 | 0.603 | 0.803 | 0.403 |
| Best | 0.870 | 0.583 | 0.811 | 0.430 |
| *Work status* | | | | |
| Working full-time | 1.250 | 0.460 | 1.114 | 0.702 |
| Working part-time | 0.965 | 0.922 | 1.467 | 0.240 |
| Not working | ref. | ref. | ref. | ref. |
| *Income quintile* | | | | |
| Poorest | 0.770 | 0.437 | 2.173** | 0.020 |
| 2 | 1.280 | 0.454 | 1.350 | 0.410 |
| 3 | ref. | | ref. | |
| 4 | 0.956 | 0.858 | 1.320 | 0.316 |
| Richest | 0.893 | 0.664 | 0.937 | 0.816 |
| *Total wealth quintile* | | | | |
| Poorest | 1.325 | 0.416 | 0.870 | 0.752 |
| 2 | 1.550 | 0.100 | 1.037 | 0.913 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | 0.760 | 0.264 | 1.447 | 0.174 |
| Richest | 0.660 | 0.107 | 1.636* | 0.076 |
| *Private pension holdings* | | | | |
| Current DC only | ref. | ref. | ref. | ref. |
| Retained DC only | 0.868 | 0.543 | 1.920** | 0.012 |
| Current and retained DC | 0.764 | 0.433 | 0.399** | 0.044 |
| DB only | 0.499*** | 0.003 | 2.976*** | 0.000 |
| DC & DB | 1.043 | 0.887 | 1.047 | 0.886 |
| 1 current/retained pension | ref. | ref. | ref. | ref. |
| 2 current/retained pensions | 0.707* | 0.096 | 1.417* | 0.099 |
| 3+ current/retained pensions | 0.399*** | 0.002 | 1.058 | 0.839 |
| *Sample size* | *895* | | *895* | |

Notes: Sample is men aged between 52 and SPA who have at least one private pension from which they are
yet to draw an income. CSL is compulsory school leaving age.
Source: English Longitudinal Study of Ageing 2010–11. English Longitudinal Study of Ageing 2008–09 used
for defining numeracy.

Table 4.4
Multivariate analysis of relationship between characteristics and
expectations of future private pension income: women

|  | No min &/or no max | | Point expectation | |
|---|---|---|---|---|
|  | *Odds ratio* | *p value* | *Odds ratio* | *p value* |
| Single | ref. | ref. | ref. | ref. |
| In a couple | 0.787 | 0.331 | 1.167 | 0.570 |
| *Age* |  |  |  |  |
| 52–54 | ref. | ref. | ref. | ref. |
| 55–59 | 0.574* | 0.078 | 1.383 | 0.398 |
| *Education* |  |  |  |  |
| Left school at or before CSL | 1.109 | 0.684 | 0.805 | 0.480 |
| CSL–18 | ref. | ref. | ref. | ref. |
| 19+ | 0.723 | 0.197 | 1.047 | 0.853 |
| *Numeracy* |  |  |  |  |
| Worst | 1.362 | 0.486 | 0.564 | 0.304 |
| 2 | 1.026 | 0.930 | 0.664 | 0.234 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | 0.733 | 0.231 | 0.879 | 0.638 |
| Best | 0.674 | 0.231 | 0.963 | 0.911 |
| *Work status* |  |  |  |  |
| Working full-time | 0.848 | 0.613 | 0.899 | 0.749 |
| Working part-time | 1.160 | 0.626 | 0.753 | 0.376 |
| Not working | ref. | ref. | ref. | ref. |
| *Income quintile* |  |  |  |  |
| Poorest | 0.997 | 0.994 | 1.875 | 0.139 |
| 2 | 0.757 | 0.447 | 1.598 | 0.293 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | 0.698 | 0.228 | 1.663 | 0.164 |
| Richest | 0.660 | 0.166 | 1.743 | 0.118 |
| *Total wealth quintile* |  |  |  |  |
| Poorest | 0.809 | 0.611 | 0.842 | 0.754 |
| 2 | 0.974 | 0.936 | 1.251 | 0.587 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | 0.526** | 0.036 | 1.554 | 0.205 |
| Richest | 0.976 | 0.939 | 1.732 | 0.126 |
| *Private pension holdings* |  |  |  |  |
| Current DC only | ref. | ref. | ref. | ref. |
| Retained DC only | 0.866 | 0.681 | 1.545 | 0.270 |
| Current and retained DC | 1.028 | 0.956 | 0.777 | 0.673 |
| DB only | 0.767 | 0.303 | 1.429 | 0.227 |
| DC & DB | 0.851 | 0.678 | 0.782 | 0.572 |
| 1 current/retained pension | ref. | ref. | ref. | ref. |
| 2 current/retained pensions | 0.804 | 0.395 | 1.095 | 0.731 |
| 3+ current/retained pensions | 0.862 | 0.720 | 0.529 | 0.200 |
| *Sample size* | 553 | | 553 | |

Notes: Sample is women aged between 52 and SPA who have at least one private pension from which they are
yet to draw an income. CSL is compulsory school leaving age.
Source: English Longitudinal Study of Ageing 2010–11. English Longitudinal Study of Ageing 2008–09 used
for defining numeracy.

are presented as odds ratios. (For reference, descriptive statistics showing the univariate relationship between other characteristics and whether or not the individual is able to report a range or point expectation for pension income are shown in Table C.3 in Appendix C.)

The results in Tables 4.3 and 4.4 suggest that male and female pension holders are much more likely to have a good idea about their future pension income the closer they are to receiving it. The odds ratio of 0.569 (0.574) for men (women) aged 55–59 in the first column indicates that individuals in this age group are just 56.9% (57.4%) as likely as those aged 52–54, the reference group, to be *unable* to provide a range for expected income. Similarly, the odds ratio of 2.371 in the third column for men aged 60–64 indicates that this age group are more than twice as likely to provide a point estimate for future income as those aged 52–54.

The most striking associations seen in Table 4.3 are between pension type and expectations of future income. As we saw in Section 4.1, those who hold at least one DB pension seem more certain about how much they will get from their private pensions in retirement than those who hold some form of DC scheme. Men who are only waiting to draw a DB pension are three times as likely as those who are waiting to draw only a DC pension to provide a point estimate of their future income, while they are only 49.9% as likely to be unable to guess a range within which the income will lie. This suggests that, after controlling for a range of other characteristics, those with DB pensions find it easier to estimate their future pension income than those holding DC pensions, even amongst this age group who are all within 13 years of the SPA. This likely reflects the different nature of the risks attached to the two types of pensions. Pensions from DB schemes will be affected by future earnings and employment shocks, which may be expected to be small for older workers, while DC pensions will be exposed to investment and longevity risk, which may be more significant. This different uncertainty over future pension income would be reflected in the communications individuals receive from different types of pensions. Those with DB schemes likely receive a statement with a single projected income in retirement, while those with DC schemes likely receive an annual statement describing their fund value, and a number of amounts for the retirement income that might arise from that fund under different scenarios for investment returns. Therefore, even if all individuals had their most recent pension statement to hand, those with only DB pensions might be expected to be more likely to give a point estimate for their total future private pension income than those with DC pensions. The associations between pension type and expectations of future pension income for women, shown in Table 4.4, show similar patterns but are not statistically significant.

For those who are able to provide a range within which their future pension income will lie, it is interesting to examine how wide the range of uncertainty is and how this changes with age. We do this in two ways: first by looking at the monetary gap between minimum and maximum expected annual private pension income, and second by looking at the size of the range relative to the maximum level of income expected. We also include here those who report a point expectation: for these people, the range is zero.

Figure 4.1 shows that the mean range (expressed in pounds sterling) between individuals' minimum and maximum expected total private pension income is smaller at older ages than at younger ages among both men and women. For example, on average, men aged 52 report a range for expected annual private pension income of nearly £10,000, falling to around £2,000 for men aged 64. This suggests, perhaps not unexpectedly, that the closer individuals are to retirement the more certain they are about their future pension income. This could be because some investment, earnings or

contribution uncertainty has been resolved and/or because individuals take a more active interest in finding out about their likely pension income as they approach retirement.

Figure 4.1 also suggests that women are more certain than men about their likely future pension income since, at any given age, women on average report a smaller expected range than men. For example, on average, women aged 56 reported a range of expected annual pension income of £2,000, compared with over £6,000 among men of the same age. However, women also on average expect lower private pension incomes than men and, therefore, a given monetary range reflects greater uncertainty as a percentage of expected income for women than it does for men. Figure 4.2 shows how the mean expected range differs by sex and age, with the range expressed as a percentage of the maximum expected pension income.[18]

Figure 4.2 shows that, among 52-year-old men, the reported range on average equates to 22% of the maximum expected value – that is, on average, the minimum value expected is 78% of the maximum expected figure. For women of the same age, the range equates to 25% of the maximum expected. This is a large degree of uncertainty, and the difference in living standards between a scenario where an individual's best case is realised and one where their worst case is realised could be substantial.

## Figure 4.1
How wide is the range between the minimum and maximum expected private pension income? (Mean range for total annual private pension income, by age and sex): £ per year
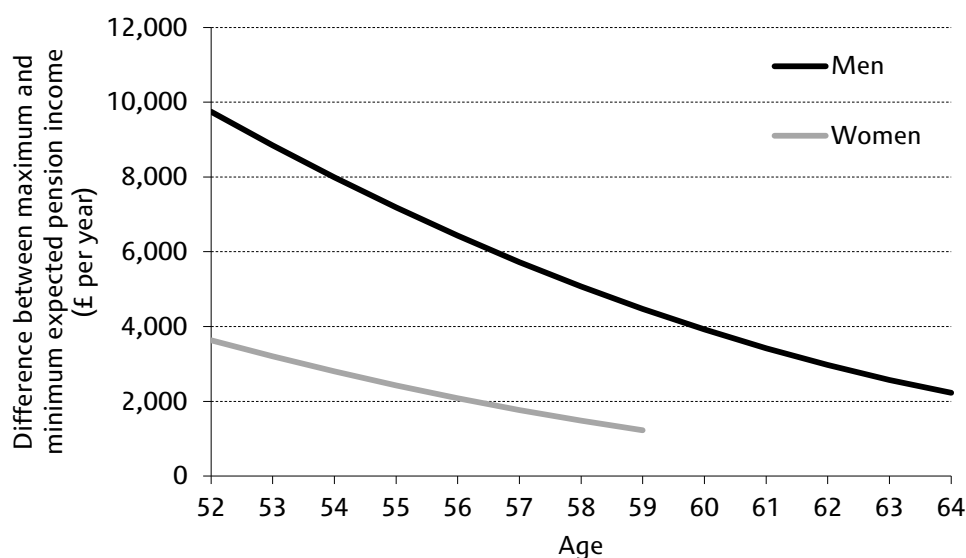


Notes: Figures shown are coefficients estimated in a regression of range on age and age squared. Full regression results, detailing the other variables also included in the model, are provided in Table C.4 in Appendix C. Sample is those aged between 52 and SPA who have at least one private pension from which they are yet to draw an income. Sample size is 659 men and 379 women. All figures are weighted using cross-sectional weights.
Source: English Longitudinal Study of Ageing 2010–11.

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[18] We express ranges as a percentage of the maximum figure, rather than the minimum, because where the minimum reported figure is £0 the range as a percentage of the minimum is undefined.

Figure 4.2

How wide is the range between the minimum and maximum expected private pension income? (Mean range for total annual private pension income, by age and sex): percentage of expected maximum
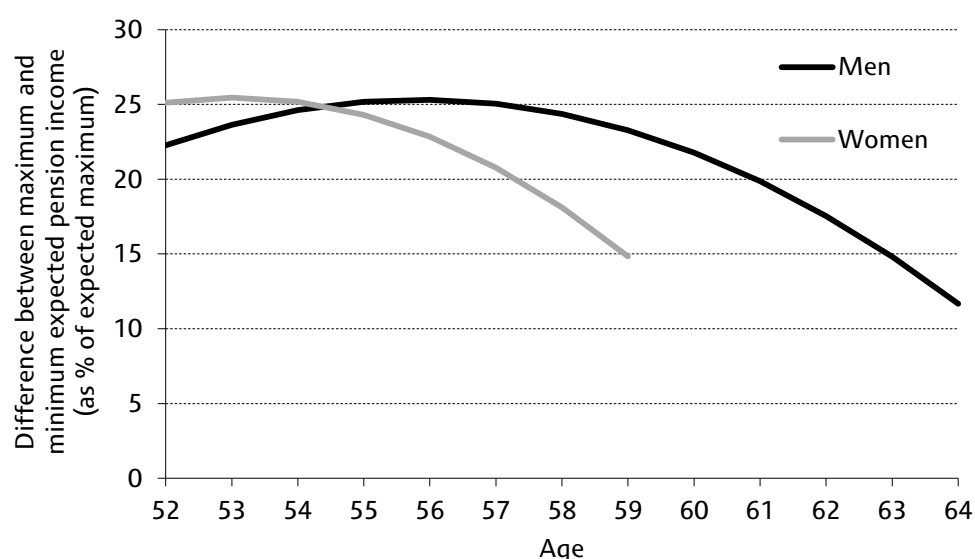


Notes: Figures shown are coefficients estimated in a regression of range on age and age squared. Full regression results, detailing the other variables also included in the model, are provided in Table 4.5. Sample is those aged between 52 and SPA who have at least one private pension from which they are yet to draw an income. Sample size is 641 men and 368 women. All figures are weighted using cross-sectional weights.
Source: English Longitudinal Study of Ageing 2010–11.

The age pattern shown in Figure 4.2 is broadly similar to that shown in Figure 4.1, with diminishing uncertainty at older ages. However, there are much smaller differences in uncertainty by sex than shown in Figure 4.1. Both men and women report a minimum that is around 20–25% lower than their expected maximum on average in their early to mid-50s. This suggests that, while a smaller proportion of women than men are able to report a range for their expected pension income (shown in Table 4.2), those who do report such a range are on average similarly certain about their pension income prospects.

The association between the size of the range in expected pension income (expressed as a percentage of expected income) and other individual characteristics (estimated using multivariate analysis) is reported in Table 4.5. An equivalent table for the association between characteristics and the range expressed in pounds sterling is provided in Table C.4 in Appendix C. The most important association with the size of the reported range for men is pension type: men with only a DB pension on average report a minimum that is 17 percentage points narrower than men with only a DC pension.

Among men, those with more than one pension report on average a range 4–6 percentage points narrower than those with only one current or retained pension, while those with only a retained DC pension report on average a range 9 percentage points narrower than those who only have a current DC pension. It is not clear whether we would expect people to be more certain about current or retained pensions. On the one hand, people may be more engaged with their current pension schemes and aware of their current fund value; on the other hand, people face some uncertainty about how much they might contribute to their current pension in future, whereas they are certain

Table 4.5
Regression of expected private pension income range, as a percentage of expected maximum

|  | Men | | Women | |
|---|---|---|---|---|
|  | *Coefficient* | *p value* | *Coefficient* | *p value* |
| Single | ref. | ref. | ref. | ref. |
| In a couple | 2.768 | 0.294 | 5.603* | 0.062 |
| Age–50 | 2.030 | 0.237 | 0.683 | 0.896 |
| $(Age–50)^2$ | –0.182* | 0.060 | –0.220 | 0.592 |
| *Education level* |  |  |  |  |
| Left school at or before CSL | 3.965* | 0.078 | –1.866 | 0.573 |
| CSL–18 | ref. | ref. | ref. | ref. |
| 19+ | 0.994 | 0.656 | –1.407 | 0.612 |
| *Numeracy* |  |  |  |  |
| Worst | 0.710 | 0.915 | 1.138 | 0.843 |
| 2 | 0.527 | 0.891 | 1.890 | 0.614 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | 2.661 | 0.330 | 2.691 | 0.394 |
| Best | 2.933 | 0.293 | –3.380 | 0.381 |
| *Work status* |  |  |  |  |
| Working full-time | –2.031 | 0.531 | –0.961 | 0.801 |
| Working part-time | –5.169 | 0.164 | 0.432 | 0.908 |
| Not working | ref. | ref. | ref. | ref. |
| *Income quintile* |  |  |  |  |
| Poorest | 3.568 | 0.336 | –8.315* | 0.089 |
| 2 | 3.276 | 0.422 | –2.966 | 0.522 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | 3.145 | 0.273 | 0.060 | 0.987 |
| Richest | 3.579 | 0.210 | –1.946 | 0.600 |
| *Total wealth quintile* |  |  |  |  |
| Poorest | –0.548 | 0.908 | 4.870 | 0.381 |
| 2 | 0.028 | 0.993 | –2.947 | 0.507 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | –3.017 | 0.273 | –6.645* | 0.071 |
| Richest | –3.998 | 0.159 | –12.116*** | 0.002 |
| *Private pension holdings* |  |  |  |  |
| Current DC only | ref. | ref. | ref. | ref. |
| Retained DC only | –8.764*** | 0.002 | –1.149 | 0.801 |
| Current and retained DC | 5.899* | 0.093 | 5.124 | 0.395 |
| DB only | –17.123*** | 0.000 | –3.170 | 0.329 |
| DC & DB | –5.093 | 0.110 | 1.398 | 0.759 |
| 1 current/retained pension | ref. | ref. | ref. | ref. |
| 2 current/retained pensions | –5.816** | 0.013 | –2.466 | 0.409 |
| 3+ current/retained pensions | –4.378 | 0.142 | 5.214 | 0.279 |
| Constant | 25.393*** | 0.004 | 32.106* | 0.073 |
| *Sample size* | *641* | | *368* | |

Notes: Sample is those aged between 52 and SPA who have at least one private pension from which they are yet to draw an income and who are able to report a minimum and maximum expected income from all their private pensions. The top 1% of ranges (expressed as a percentage of maximum) have been excluded. All figures are weighted using cross-sectional weights. CSL is compulsory school leaving age. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level respectively.
Source: English Longitudinal Study of Ageing 2010–11. English Longitudinal Study of Ageing 2008–09 used for defining numeracy.

that no more contributions will be made to any retained scheme. The results presented here suggest that the latter may outweigh the former. Low-educated men report significantly wider ranges than more highly educated men.

Women who are in couples report on average wider ranges than single women, while women with higher levels of total wealth report narrower ranges on average than mid- and low-wealth women.

## 4.3 Implied 'expected annuity rates'

The previous two sections have presented evidence that suggests that DC scheme members find it harder to estimate how much income they will receive from their pension in retirement than DB scheme members do. However, a significant minority of DC scheme members are very certain about what they will get. But are they accurate in their expectations? In this section, we focus on how DC scheme members' reported expectations of future income compare with their current DC fund values to provide some indication of how likely their expectations are to be realised. In Section 4.4, we examine how expectations compare with outcomes for the subset of individuals observed to move from the accrual phase to the decumulation phase of their pension saving.

It is important to bear in mind from the start that the group who report precise values for both their current DC fund size and their expected future annual pension income are a very selected sample of DC pension holders: across the five waves of ELSA, both a fund value and an expected income are reported for just one-in-six of all DC funds to which contributions are being made. Table C.5 in Appendix C examines which individual characteristics are associated with being more likely to be in this selected subsample. This analysis suggests that older individuals are significantly more likely to be able to report both these figures precisely, as are the most numerate DC pension holders and those with higher family wealth.

With this important caveat in mind, Table 4.6 shows how expected future annual incomes compare with current fund values, with figures expressed in percentage terms. The figures reported in Table 4.6 would amount to expected annuity rates if: (i) individuals expected their fund to be worth the same at retirement as it currently is and (ii) individuals did not expect to take a lump sum from their pension scheme. For example, the top row of Table 4.6 indicates that, among the pensions for which both an expected income and a current fund value are reported, the median ratio of expected income to fund value is 11.8%. The median is higher among women than among men (14.3% compared with 11.0%) and higher among singles than among couples (18.0% compared with 11.2%).

The medians shown in Table 4.6 are clearly higher than standard market annuity rates during the period covered by the ELSA data (2002 to 2011).[19] However, this is in many ways not terribly surprising since these individuals were being asked about how much they expected from their pension *in future* and thus their answers are likely to factor in both expected future contributions and investment returns. Indeed, the median ratio of expected income to fund value reported declines with age – from 22.7% among scheme holders aged 50–54 to 9.5% among scheme holders aged 60–64.

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[19] For example, figures reported in Cannon and Tonks (2010) show that average rates for level annuities at age 65 for men, with no guarantee, were around 7% between 2002 and 2009.

Table 4.6
Comparing individuals' ratio of expected DC pension income to current fund values – implied 'expected annuity rates'

| (%) | 25th percentile | Median | 75th percentile | % expecting zero income | Sample size |
|---|---|---|---|---|---|
| All | 6.1 | 11.8 | 44.4 | 0.1 | 944 |
| Men | 6.0 | 11.0 | 40.0 | 0.0 | 661 |
| Women | 6.7 | 14.3 | 66.7 | 0.4 | 283 |
| Singles | 6.5 | 18.0 | 100.0 | 0.0 | 139 |
| Couples | 6.0 | 11.2 | 41.7 | 0.1 | 805 |
| Age 50–54 | 10.0 | 22.7 | 100.0 | 0.0 | 245 |
| Age 55–59 | 5.6 | 10.0 | 33.3 | 0.2 | 424 |
| Age 60–64 | 5.3 | 9.5 | 25.0 | 0.0 | 203 |

Notes: Sample is pension funds observed in any of the first five waves of ELSA for which the fund holder was able to report an exact current fund value and an exact expected future pension income. 'Expected annuity rates' calculated by dividing expected annual income by current fund value; in other words, figures assume individuals annuitise all of their pension fund, rather than taking any of it as a lump sum. Unweighted.
Source: English Longitudinal Study of Ageing, waves 1–5 (2002–03 to 2010–11).

Table 4.7
What additional saving would individuals need to do to achieve their expected income?

| | 25th percentile | Median | 75th percentile | Sample size |
|---|---|---|---|---|
| *£ extra* | | | | |
| All | −900 | 20,200 | 60,000 | 944 |
| Men | −3,000 | 18,700 | 61,100 | 661 |
| Women | 1,600 | 23,600 | 58,200 | 283 |
| Singles | 0 | 31,300 | 81,300 | 139 |
| Couples | −1,300 | 18,900 | 56,900 | 805 |
| Age 50–54 | 12,700 | 37,400 | 75,600 | 245 |
| Age 55–59 | −2,200 | 11,900 | 55,600 | 424 |
| Age 60–64 | −4,800 | 7,200 | 47,700 | 203 |
| *% fund growth* | | | | |
| All | −4 | 77 | 563 | 944 |
| Men | −12 | 55 | 457 | 661 |
| Women | 13 | 155 | 960 | 283 |
| Singles | 0 | 168 | 1,180 | 139 |
| Couples | −8 | 67 | 504 | 805 |
| Age 50–54 | 52 | 244 | 1,169 | 245 |
| Age 55–59 | −12 | 49 | 398 | 424 |
| Age 60–64 | −22 | 39 | 287 | 203 |

Notes: Sample is pension funds observed in any of the first five waves of ELSA for which the fund holder was able to report an exact current fund value and an exact expected future pension income. 'Additional saving required' is calculated by dividing expected income by the average gender- and age-specific level annuity rate prevailing at the time of interview, and comparing this figure with fund value at the time of interview; this method assumes that individuals annuitise retirer entire pension fund (i.e. they do not take a lump sum). Unweighted.
Source: English Longitudinal Study of Ageing, waves 1–5 (2002–03 to 2010–11).

Another way of thinking about how 'accurate' these expectations are is to estimate how large future contributions and/or returns would need to be to achieve the annual income expected. To provide an indication of this, we have calculated how much larger individuals' funds would need to be (than they were when reported in ELSA) to provide the level of annual income that respondents were expecting, assuming that respondents used their entire pension fund to buy a gender-specific level annuity at the average rates prevailing in the market at the time they were interviewed – that is, we assume they do not take any lump sum in addition to the annual income stream. The results of this analysis are shown in Table 4.7. The top half of the table shows how much larger funds would need to be in pounds terms; the bottom half provides some indication of the extent to which this growth might be achievable through investment returns by expressing the growth required as a percentage of the current fund value.

A large proportion of individuals would need to see very large amounts of additional saving before retirement if they are to achieve their expected income at prevailing annuity rates. The median individual would need to save an additional £20,200, and 25% of individuals would need to save an additional amount in excess of £60,000. These sums would also represent very large proportionate increases on existing fund sizes – for example, the median individual would need to increase their total fund by over three-quarters in order to achieve their expected income. The additional saving required is smaller for older individuals – a median of just £7,200 for those aged 60–64, compared with £37,400 for those aged 50–54.

## 4.4 How accurate are individuals' expectations?

For a subsample of ELSA respondents who are observed making the transition from the accrual phase to the decumulation phase of pension saving (in other words, who are observed with a pension that is current or retained in one wave of ELSA, and from which they are drawing a pension income in a subsequent wave of ELSA), we observe their expected income from that pension and their subsequent annual pension income (as well as any lump sum they might have taken). For this set of individuals, we can get some indication of how accurate their expectations over their future pension income were.

Unfortunately, these two pieces of information are only available for 114 of the 690 individuals who are observed to annuitise a DC fund between 2002–03 and 2010–11. For this select sample of individuals, realised pension income at the median equates to 80% of the amount that individuals reported expecting to get prior to annuitisation. In other words, at least for this small subsample of DC pension annuitants, final pension income from DC schemes seems, on average, to fall short of individuals' expectations. Put another way, individuals would have needed a pension fund that was 25% larger in order to achieve the level of income they previously reported expecting. The ratio between actual and expected income was, on average, lower among those who took a lump sum from their DC fund when they annuitised than among those who did not; among those who took a lump sum, the median ratio was just 68.9%.[20] Our calculations suggest that, had these individuals instead used this lump sum to purchase an annuity, at the median their total annuity income would have been 96% of the figure they previously reported.[21]

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[20] The median ratio among those who did not take a lump sum is not cited here, as it is based on fewer than 30 observations.

[21] We only have historic data on average annuity rates for four specific ages (60, 65, 70 and 75). Therefore these calculations are based on assuming individuals were able to annuitise their lump sums at the average gender-specific annuity rate for the age closest to their true age of annuitisation.

We can carry out a similar comparison for people who start to receive income from a defined benefit pension scheme. During the ELSA survey period, 1,046 such schemes start to be paid out. Of these, 356 are held by people who reported a precise expected annual pension income in the immediately preceding wave of the survey. For this sample of pensions, the median ratio between actual pension income and previously reported expected pension income is 92%; that is, higher than for defined contribution schemes. Furthermore, the range of discrepancy between what people expected to get and what they ended up getting is narrower for DB schemes than for DC schemes: half of DB scheme holders received an income that was between 75% and 111% of their previously expected level, while the equivalent (interquartile) range for DC schemes was between 44% and 113%.

## 4.5 Summary

Overall, in 2010–11, about half (50.2%) of pension schemes were held by individuals aged 52 and over who were able to estimate an exact amount that they expect to get from the pension scheme when they retire. If anything, this figure may understate true uncertainty about pension values because survey respondents were specifically asked to gather any pension statements they had in preparation for the interview. This figure was considerably lower for DC schemes (44.8%) than for DB schemes (58.9%). One-in-three pension schemes were held by members who were unable to provide even a range within which they expect their income from the pension at retirement to lie.

Even after controlling for a number of other differences in characteristics between DB and DC scheme members, we find that men who belong only to DB schemes are nearly three times as likely to be able to provide a point estimate of the total amount they will get from all their pensions at retirement as those with only a DC pension scheme. Furthermore, among those who are able to provide some estimate of how much they will get from all their pensions, those with DB schemes on average have more precise expectations than DC scheme members: men with only a DB pension on average report a range between their minimum and maximum expected incomes that is 17 percentage points narrower than that for men with only a DC pension. Similar patterns are apparent among women but the differences between DB and DC scheme members are not statistically significant.

Among the minority of DC scheme members who are certain about what income they will get from their pension in retirement and who are also able to estimate their current DC fund value, reported expected income suggests scheme holders are on average either anticipating significant fund growth (through investment returns and/or further contributions) before they retire or being unduly optimistic about the income they will actually receive from their pensions. In order to achieve the income they are expecting, assuming they use their entire fund to purchase a level annuity at prevailing gender-specific rates, the median increase in fund size required among these DC pension scheme members is £20,200 (or 77% growth in the fund).[22]

Among the select group for whom the necessary data are available, at the median the income that DC pension annuitants received from their pension funds was equal to 80% of the figure they previously reported expecting to receive. On the face of it, this suggests that, on average, DC pension holders either overestimate their future pension

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[22] To put this figure in perspective, evidence presented by Crawford and Tetlow (2012b) suggests that DC pension holders contribute on average between £2,500 and £3,000 a year to their DC pensions in the years leading up to retirement (where retirement is defined as leaving full-time paid work).

contributions and/or fund returns or underestimate the price of annuities. However, some of these individuals have also taken a lump sum from their scheme. Our calculations suggest that, had they instead used this lump sum to purchase an annuity, at the median their total annuity income would have been 96% of the figure they previously reported. For people who started drawing DB pensions, at the median, pension income amounts to 92% of the income they previously reported expecting to get; this is in addition to any lump sum they also received from the scheme. This suggests that DC pension holders are perhaps more likely to overestimate how much income their pension will generate than are DB scheme members.

# CHAPTER 5
# Annuitisation behaviour and outcomes

How individuals engage with annuity markets and what products they might find attractive will depend not only on their expectations of retirement (as discussed in Chapter 2) but also on their characteristics and previous experience: do they have impaired life expectancy, are they financially literate, do they have previous experience of interacting with complex financial products?

This chapter examines the behaviour and characteristics of people who have annuitised DC pension funds over the last decade. In particular, we examine how annuitisation of pension funds relates to other elements of the progression from work to retirement and whether individuals seem to get a good deal from their annuities – as indicated by whether they bought an annuity product from an external provider.

The analysis in this chapter focuses on the sample of people who are observed with a DC pension in consecutive waves of ELSA and, in particular, on those who are observed with an unannuitised DC pension fund in one wave and an income stream from that pension in a subsequent wave (in other words, those who are observed annuitising).

## 5.1 When do people annuitise?

Unlike the state pension or DB pension schemes, individuals with DC pensions are largely unconstrained as to when they choose to annuitise their pension fund and start to draw a pension income. UK law only dictates that individuals must be aged over the *minimum pension age* (which was 50 until April 2010, and is now 55) and, until recently, that they must annuitise before turning 75.[23]

Despite this flexibility, the ELSA data (shown in Figure 5.1) suggest that there is a spike in annuitisation at around age 65 for men and at around age 60 for women. This is perhaps unsurprising given the focal nature of the State Pension Age (which is 65 for all men and 60 for almost all women in this sample). Furthermore, until recent legislative changes outlawed the practice, many employers and pension schemes imposed default retirement ages, which were typically also at age 60 or 65. However, it is also worth noting that a significant proportion of people who are observed annuitising a pension fund are either older or younger than this.[24]

Table 5.1 describes the prevalence of annuitisation among people who experience certain changes. The prevalence of annuitisation among those who experience a health shock themselves or whose partner experiences a health shock (8.6% and 10.2% respectively) is not particularly different from the prevalence among the population of potential annuitants as a whole (7.8%), suggesting that these are not major incentives to annuitise non-employer DC pension funds.

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[23] Recent legislative changes have removed the requirement to annuitise at age 75 and have provided complete freedom about how to withdraw funds from DC pensions for those who can demonstrate that they already have at least £20,000 a year of income secured for the rest of their lives (see Appendix A for more detail). However, the data we analyse here pre-date these reforms.

[24] Data from the Association of British Insurers (ABI) indicate that of pension annuities sold by their members in 2009, 17% were sold to individuals aged 54 and under, 17% to individuals aged 55–59, 37% to individuals aged 60–64, 25% to individuals aged 65–69 and 4% to individuals aged 70 and over. Figure 5.1 shows a broadly similar age pattern, although does not capture the high propensity of annuitisation at younger ages due to the age of the ELSA sample. However, it is worth noting that from April 2010, individuals had to be 55 before they could purchase an annuity, and therefore it is likely that the high proportion of annuities sold in 2009 to individuals aged under 55 is in part an anticipation effect.

Figure 5.1

Age at which DC pension pots are annuitised, by sex
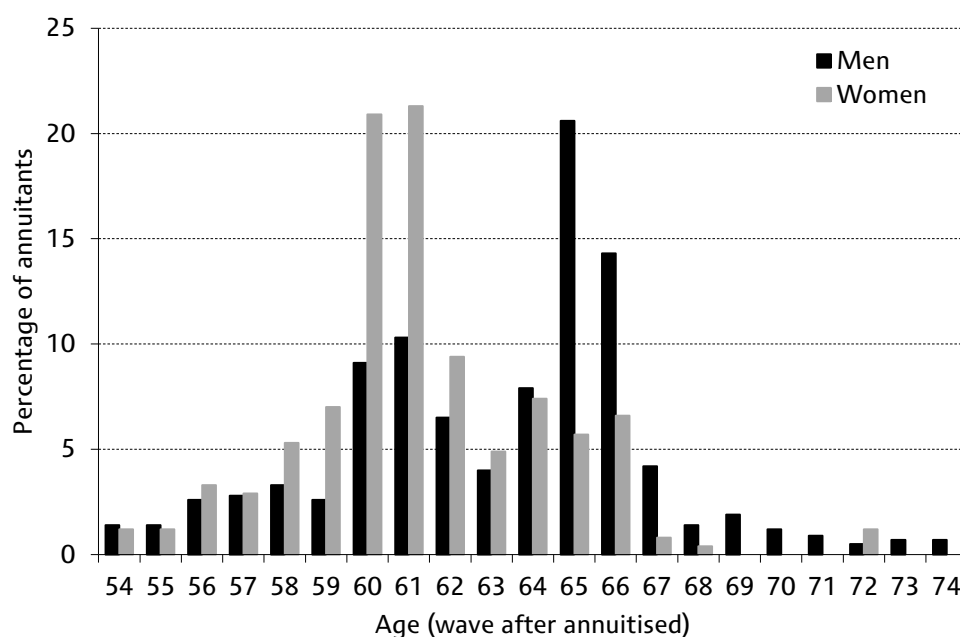


Notes: Sample is all DC pensions that were converted into an income stream by purchasing an annuity between 2002–03 and 2010–11. Analysis is presented at the 'pension' level; some individuals may be counted twice. Sample size= 244 pensions held by women and 428 pensions held by men.
Source: English Longitudinal Study of Ageing, waves 1–5 (2002–03 to 2010–11).

Table 5.1

Prevalence of annuitisation among people who experience certain changes

| (%) | Do not annuitise | Annuitise | Sample size |
|---|---|---|---|
| *Changes in work status* | | | |
| Full-time to Full-time | 97.0 | 3.0 | *4,705* |
| Full-time to Part-time | 90.6 | 9.4 | *605* |
| Full-time to Not working | 73.0 | 27.0 | *430* |
| Part-time to Part-time | 93.6 | 6.4 | *1,419* |
| Part-time to Not working | 68.0 | 32.0 | *278* |
| Not working to Not working | 80.6 | 19.4 | *900* |
| Partner retires | 85.1 | 14.9 | *700* |
| Individual experiences major health shock | 91.4 | 8.6 | *152* |
| Partner major health shock | 89.8 | 10.2 | *118* |
| All | 92.2 | 7.8 | *8,806* |

Notes: 'Potential annuitants' are all DC pensions – both those that were currently active and retained pots. Analysis is presented at the 'pension' level; some individuals may be counted twice. Changes in work status are defined over a two-year period. A 'major health shock' encompasses onset of cancer, stroke, heart attack, lung disease, angina and congestive heart failure.
Source: English Longitudinal Study of Ageing, waves 1–5 (2002–03 to 2010–11).

Figure 5.2
Labour market changes around the point of annuitisation
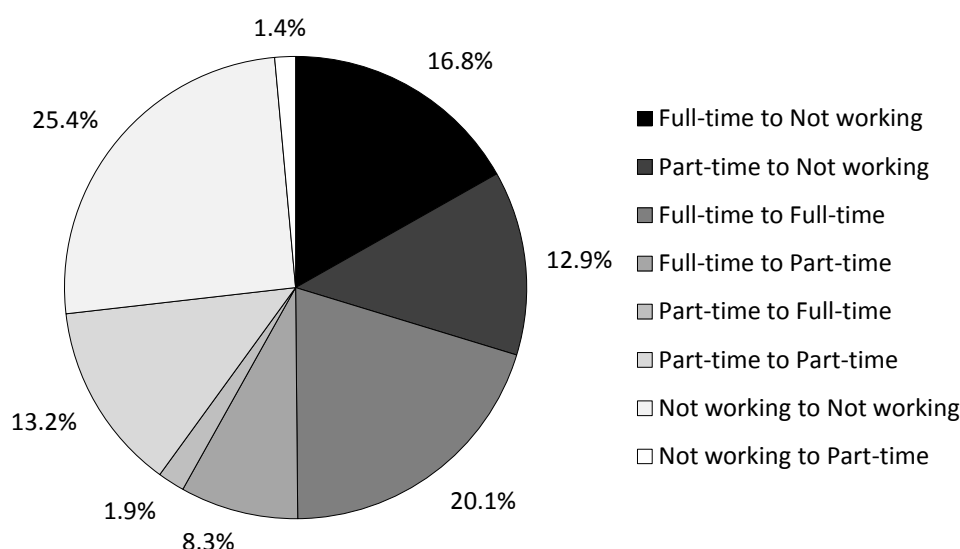


Notes: The sample is DC pensions that are observed making the transition from a currently active or retained pot to a pension in receipt between two consecutive waves of ELSA. Some individuals may be counted twice. Changes in work status are defined over a two-year period. Sample size = 690.
Source: English Longitudinal Study of Ageing, waves 1–5 (2002–03 to 2010–11).

Among potential annuitants who leave paid work from a full-time job, 27.0% annuitise their pension pot at the same time, while 32.0% of those who exit the labour market from part-time work annuitise at that time. Annuitisation is therefore sometimes associated with leaving the labour market. However, this is by no means the norm, as emphasised by Figure 5.2, which describes the labour market changes among individuals who are observed annuitising between two consecutive waves of ELSA. Nearly 30% (29.7%) of those who annuitised also left the labour market at the same time (16.8% from full-time work and 12.9% from part-time work). On the other hand, 43.5% of annuitants remained in employment after having annuitised – therefore 59% of annuitants who were in work before annuitisation remained in work after having annuitised[25] – while 26.8% of those annuitising had already withdrawn from the labour market.

Around one-in-five individuals who are observed to annuitise a DC scheme held more than one unannuitised DC fund. One-in-three of these individuals annuitised all their funds at (about) the same time, with the other two-thirds choosing instead to hold on to at least one of their pots.

## 5.2 Shopping around

The *Open Market Option* (OMO) was introduced in 1978 and gives individuals with a DC pension fund the right to choose the provider from whom they buy their annuity. In other words, individuals do not just have to take the default rate offered by their original pension provider, but can 'shop around' for the best option for converting their pension fund into a retirement income stream. Shopping around is often important to get the best deal on any financial product, but is particularly important for annuities, which are a very

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[25] Calculated as (using figures from Figure 5.2): (20.1+8.3+1.9+13.2)/(100–1.4–25.4) = 59.4%.

unusual financial product in that once they have been purchased they can never be changed.

Despite the clear importance of shopping around, there has been concern in many quarters in recent years that not all individuals are using the OMO. Since 2002, the Financial Services Authority (FSA) has required pension providers to inform individuals of their right to shop around before purchasing an annuity. Despite this, Crouch, Sparham and Barks (2010) suggest that only around two-thirds of recent annuity purchasers reported having considered changing provider, with around half of these actually purchasing an annuity from a provider other than their pension provider. The consequences of these decisions can be significant. Harrison (2012) estimated that each annual cohort of pensioners loses in total between £500 million and £1 billion in lifetime income by not securing themselves the best annuity deal. Meanwhile, the Association of British Insurers (2008) found that for a 65-year-old male buying a conventional single-life level £35,000 annuity with a five-year guarantee, the lifetime gain from buying the highest OMO rate annuity compared with the average 'internal' annuity rate would be £2,647, or £128 per year.

Identifying which types of individuals are not currently taking advantage of the OMO is important if effective policies are to be designed by industry and the government to encourage individuals to use the options available to them. In this section, we make use of ELSA data to investigate *who* shops around and then takes action – more specifically, what characteristics are associated with being more (or less) likely to purchase an annuity from a provider other than the original pension provider.

The ELSA survey asks individuals who report receiving an income from their non-employer pension scheme:[26]

> have you taken your pension as...
> 1) annuity with pension company who originally provided the scheme,
> 2) annuity with a different pension provider,
> 3) income drawdown?

In the analysis that follows, we define as 'buying externally' those who reported that they had bought from a different provider. This will be a subset of those who 'shopped around', since some of those who shop around may decide still to purchase from their original provider.

Our figures, which are derived from survey data, could under- or over-state the number who actually buy externally. First, there is a sizeable minority of individuals who did not know whether they had bought from a different provider or not. To the extent that these individuals did, in fact, buy externally and either did not realise or have forgotten, we will be understating the prevalence of such behaviour. However, arguably those who did actively shop around and buy from an external provider are more likely to know that they did so. The second potential problem relates to 'tied annuities'. Not all pension scheme providers sell annuities, and therefore a pension scheme provider that does not sell annuities will likely offer an annuity from a tied provider. While this annuity is provided by a 'different provider', we would not want to count an individual in this situation as having bought externally because they have not really shopped around or taken advantage of the OMO. Therefore, to the extent that individuals who take 'tied annuities' realise and report that their annuity is with a different provider, we will be overstating the prevalence of buying externally.

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[26] 'Non-employer' pensions are those that an individual does not report as an 'employer pension'. These include private personal pensions, group personal pensions, stakeholder pensions, S226 plans, retirement annuity pensions, self-invested personal pensions and other retirement saving schemes.

Table 5.2
Reported use of the Open Market Option over time

| Date of annuitisation | % bought externally | % either bought externally or who don't know | *Sample size* |
|---|---|---|---|
| 2002–03 to 2004–05 | 20.9 | 33.0 | *115* |
| 2004–05 to 2006–07 | 19.5 | 30.9 | *123* |
| 2006–07 to 2008–09 | 17.8 | 27.8 | *169* |
| 2008–09 to 2010–11 | 28.4 | 37.2 | *183* |
| Pooled | 22.0 | 32.4 | *590* |

Notes: Sample is all non-employer DC pensions that were converted into an income stream by purchasing an annuity between 2002–03 and 2010–11. Analysis is presented at the 'pension' level; some individuals may be counted twice.
Source: English Longitudinal Study of Ageing, waves 1–5 (2002–03 to 2010–11).

The question about how an individual has taken their pension (described above) is only consistently asked in ELSA of those who hold non-employer DC pensions, rather than all DC pension holders.[27] Consequently, our focus in this section is on those with non-employer DC pensions. To the extent that shopping around and buying externally is more prevalent among those with non-employer DC pensions than among those with employer DC pensions, our figures will overstate the prevalence of such activities among all DC pension holders.

Table 5.2 describes the proportion of individuals in ELSA who report having used their non-employer DC fund to buy an annuity from a different provider. Our findings are similar to those of others (including Crouch et al. (2010)), that around 20–30% of individuals bought an annuity from an external provider and that this proportion has increased in recent years.[28]

The relative strength of the ELSA data is not, however, in obtaining another figure for the proportion of individuals who bought an annuity from an external provider, but in identifying the individual characteristics associated with such behaviour. We therefore use multivariate regression analysis to investigate the relationship between individual characteristics and the likelihood of using a non-employer DC fund to buy an annuity from an external provider: the results are shown in Table 5.3. The number of annuitants with these individual characteristics, and the proportion who bought their annuity externally, are described in Table C.6 in Appendix C.

*Notes and Source to Table 5.3*
Notes: Sample is all non-employer DC pensions that were converted into an income stream by purchasing an annuity between 2002–03 and 2010–11. Analysis is presented at the 'pension' level; some individuals may be counted twice. CSL is compulsory school leaving age. 'Major health condition' is defined as either having diabetes, chronic lung disease or chronic heart disease or ever having had cancer. Sample size = 389. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level respectively.
Source: English Longitudinal Study of Ageing, waves 1–5 (2002–03 to 2010–11).

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[27] This question was asked for all DC pension annuitants in the second and third waves but only of those with non-employer DC schemes in the fourth and fifth waves of the data. This question will again be asked of all DC pension annuitants from wave 6 onwards.

[28] Crouch et al. (2010) found that 32% of a sample of individuals purchasing an annuity using a contract-based DC pension in 2010 did not buy the annuity from their original pension provider.

Table 5.3
Multivariate analysis of characteristics associated with buying externally, among annuitants of non-employer DC pension funds

|  | Odds ratio | p value |
|---|---|---|
| *Year of annuitisation* | | |
| 2004–05 | ref. | ref. |
| 2006–07 | 0.480 | 0.308 |
| 2008–09 | 0.403 | 0.198 |
| 2010–11 | 0.753 | 0.685 |
| *Marital status and gender* | | |
| Single man | ref. | ref. |
| Couple man | 3.440* | 0.076 |
| Single woman | 3.082 | 0.182 |
| Couple woman | 3.333 | 0.109 |
| *Age* | | |
| 55–59 | ref. | ref. |
| 60–64 | 0.763 | 0.493 |
| 65–69 | 0.898 | 0.800 |
| 70–74 | 4.152* | 0.066 |
| *Education* | | |
| Left school at or before CSL | 0.811 | 0.498 |
| CSL–18 | ref. | ref. |
| 19+ | 0.660 | 0.247 |
| *Numeracy* | | |
| Worst | 0.579 | 0.517 |
| 2 | 0.168*** | 0.008 |
| 3 | ref. | ref. |
| 4 | 0.888 | 0.725 |
| Best | 0.799 | 0.548 |
| *Work status* | | |
| Not working | ref. | ref. |
| Working full-time | 1.053 | 0.872 |
| Working part-time | 1.212 | 0.581 |
| *Total wealth quintile* | | |
| Poorest | 1.132 | 0.874 |
| 2 | 1.099 | 0.865 |
| 3 | ref. | ref. |
| 4 | 1.401 | 0.410 |
| Richest | 1.898 | 0.128 |
| *Proportion of total wealth held in DC funds* | | |
| Lowest tertile | ref. | ref. |
| Middle tertile | 1.966** | 0.045 |
| Highest tertile | 2.397** | 0.022 |
| No direct holding of shares or unit trusts | ref. | ref. |
| Direct holding of shares or unit trusts | 0.960 | 0.884 |
| Does not use internet and/or email | ref. | ref. |
| Uses internet and/or email | 2.012** | 0.033 |
| Does not currently smoke | ref. | ref. |
| Current smoker | 1.481 | 0.371 |
| No major health condition | ref. | ref. |
| Has a major health condition | 1.350 | 0.423 |

Notes and Source on previous page.

A factor that might be crucial in increasing the likelihood of buying an annuity from an external provider is the importance of the DC pot within the family's overall wealth portfolio. An individual with a DC pension pot that accounts for a large proportion of their total family wealth (a definition that here includes financial resources, pensions and housing) – in other words, whose retirement income will largely depend on that pension rather than other resources – might be expected to take greater care to ensure they get the best annuity deal. We find that the third of annuitants for whom DC wealth is most important (among whom, at the median, DC wealth accounts for 31% of total wealth) are more than twice as likely to buy externally as the third of individuals for whom DC wealth is least important (among whom, at the median, DC wealth accounts for only 2% of total wealth). This is perhaps reassuring, since it indicates that those for whom the choice of annuity could have the greatest proportionate implications for their retirement resources are relatively more likely to take advantage of the OMO.[29]

Shopping around is particularly important for those with serious health conditions as they can often qualify for impaired-life annuities – annuities that pay out more to people with particular health conditions on the basis that they have lower life expectancies than an average individual of their age and sex. These annuities are unlikely to be offered by default by an individual's original pension provider, who may not know about their health status or may not offer impaired-life annuities, and therefore individuals with major health conditions are likely to have even more to gain by taking advantage of the OMO. Individuals with a major health condition (which is defined here as either having diabetes, chronic lung disease or chronic heart disease or ever having had cancer) are found to be 35.0% more likely to buy externally than healthier individuals are, having controlled for other characteristics – but this difference is not statistically significant. However, still only 27.7% of individuals with a major health condition actually do buy externally (Table C.6), suggesting that many might be missing out on the best annuity rate available given their circumstances.

Table 5.3 also shows that those with lower levels of numeracy are less likely to have bought from an external provider. For example, those with the second-lowest level of numeracy are only 16.8% as likely as those with middling levels of numeracy to have bought externally. As Table C.1 showed, those aged 52–64 with the lowest levels of numeracy are less likely to hold a DC pension than more numerate individuals in the same age group. So, currently, few of those with low levels of numeracy need to engage with annuity markets. However, this could change as membership of DC pensions becomes more prevalent.

The other relatively large and statistically significant association shown in Table 5.3 is between buying an annuity externally and whether the individual uses the internet and/or email – those who do are about twice as likely to buy an annuity from an external provider as those who do not. This probably highlights the importance of the internet as the main medium for shopping around, although even amongst annuitants who do report using the internet and/or email, only 28.3% reported buying an annuity from an external provider, compared with 13.3% amongst those who do not use the internet or email (Table C.6).

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[29] Unfortunately, sample sizes are not sufficient to be able to identify an association between buying an annuity externally and the absolute size of DC pension wealth holdings, distinct from the association between buying an annuity and the relative importance of DC pension wealth holdings (since the absolute size and relative importance of DC pension wealth are highly correlated).

## 5.3 What rates do people get?

For a subsample of the individuals in ELSA who are observed to annuitise a DC fund, we observe the fund value when they were interviewed before annuitisation, their annual pension income after annuitisation and the amount of any lump sum they also received from the scheme.[30] For this set of cases, we can get some indication of the annuity rate obtained by comparing the income received and the previous fund value (less the lump sum taken). As in Section 4.3, care should be taken in generalising the results presented here to the population as a whole since it is only for a selected subsample of annuitants that we observe both the required quantities. In particular, while almost all (89.5%) of those who have annuitised are able to report exactly how much income they are now receiving, only half (50.6%) of those who annuitised a current DC scheme reported a precise fund value when interviewed immediately prior to annuitisation. Table C.7 in Appendix C presents the results of a multivariate analysis of the characteristics associated with reporting both a previous fund value and a current income and lump sum taken; this shows that men are more likely than women to report all these figures, as are those with the highest levels of numeracy, but no other individual characteristics that are controlled for are significantly associated with reporting style.

With this caveat about generalisability in mind, Table 5.4 shows how post-annuitisation incomes compare with previously reported fund values. These figures are towards the higher end of prevailing annuity rates during this period: at the median, pension income equates to 7.3% of previous fund value. This figure is higher for men (7.6%) than for women (6.5%), which is consistent with annuity rates for women being

Table 5.4

Current pension income as a percentage of pre-annuitisation fund value

| *(%)* | 25th percentile | **Median** | 75th percentile | *Sample size* |
|---|---|---|---|---|
| All | 4.5 | 7.3 | 11.9 | *168* |
| Men | 4.8 | 7.6 | 12.8 | *112* |
| Women | 4.0 | 6.5 | 8.8 | *56* |
| Singles | (6.4) | (8.6) | (21.3) | *35* |
| Couples | 4.0 | 6.7 | 11.4 | *133* |
| Aged <60 | (4.9) | (7.1) | (11.9) | *34* |
| Aged 60–64 | 3.8 | 6.7 | 10.8 | *94* |
| Aged 65+ | (5.1) | (7.8) | (14.2) | *40* |
| Didn't buy annuity externally | 3.9 | 6.6 | 9.0 | *94* |
| Bought annuity externally | (4.9) | (7.7) | (12.5) | *38* |

Notes: Sample is all DC pension funds that were annuitised between the first and fifth waves of ELSA, and for which we observe both the size of the DC fund before annuitisation and the subsequent pension income (and any lump sum taken). Excludes 26 pensions for which the reported lump sum taken was greater than the previously reported fund value Figures shown are pension income as a percentage of pre-retirement fund value (less the value of any lump sum taken from the scheme). Figures based on sample sizes smaller than 50 are shown in parentheses.
Source: English Longitudinal Study of Ageing, waves 1–5 (2002–03 to 2010–11).

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[30] Fund values were asked of all those who had current DC pension schemes.

on average lower than those for men over this period.[31] It is also higher for older individuals (6.7% for those aged 60–64 compared with 7.8% for those aged 65 and over), which is consistent with annuity rates being higher for older people, who have shorter average life expectancies. Finally, the figures in Table 5.4 also suggest that those individuals who bought an annuity from an external provider on average achieved higher rates: among those who bought an annuity externally, the median level of current income compared with pre-annuitisation fund value was 7.7%, while it was 6.6% among those who did not buy an annuity externally. Unfortunately, with so few observations on annuity purchases, we cannot examine in any greater detail the relationship between behaviour, characteristics and annuity rates obtained.

## 5.4 Summary

Despite the fact that individuals have a huge amount of flexibility about when to purchase an annuity, by far the most common ages at which to annuitise are 60 (particularly for women) and 65 (particularly for men). Leaving work does seem to act as a trigger for some DC pension holders to annuitise: among pension holders who left paid work from a full-time job, 27.0% annuitised their pension fund at the same time, compared with an overall annuitisation rate of 7.8% among the population of DC fund holders as a whole. However, a substantial fraction of annuity purchases happen either before the pension holder leaves work or some years after they have done so. Among all annuity purchases from DC pension funds observed between 2002–03 and 2010–11, 43.5% were made by people who remained in paid work, while 26.8% were made by people who had already been out of work sometime before they bought their annuity.

Household survey data suggest that, between 2008–09 and 2010–11, 28.4% of annuities purchased from non-employer DC pension schemes were bought from an external provider. In a further 8.8% of cases, respondents were unsure whether they had bought from their original provider or from a different provider. Buying from an external provider is more prevalent among certain groups who might be expected to have more to gain from using the Open Market Option. In particular, those for whom DC pension wealth constitutes a larger share of total family wealth are more likely to buy externally, as are those with certain pre-existing major health conditions (including diabetes, chronic heart disease and cancer) – although the latter is not statistically significant after controlling for other differences in characteristics. However, even for these groups, overall rates of external purchasing remain low – for example, only just over a quarter (27.7%) of those with a major health condition reported buying from an external provider.

Among the select sample for whom the necessary data are available, at the median their annuity income equates to 7.3% of the fund value reported prior to annuitisation (after taking account of any lump sum taken). Although sample sizes are small, there is some evidence that this figure is higher among those who bought externally (7.7%) than among those who did not (6.6%); however, in part this raw difference reflects the fact that older annuitants were more likely than younger ones to purchase externally.

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[31] In March 2011, the European Court of Justice ruled that, under European law, gender may no longer be used in insurance pricing. This ruling will come into effect from December 2012.

# CHAPTER 6
# Conclusions

The private pension saving environment in the UK has evolved dramatically over recent decades. Both the number of people with private pensions, and the types that they have, have changed significantly. The introduction of personal pensions in the late 1980s and the declining prevalence of defined benefit (DB) pensions among private sector employees have contributed to the growth in importance of defined contribution (DC) pensions. The relative importance of DC pensions will continue to increase in future years, especially for younger cohorts of retirees – in particular, with the introduction of auto-enrolment from 2012.

For DC schemes, decisions made about converting the pension fund into an income stream can have as significant an effect on the pension income achieved as the decisions made during the accumulation phase (such as how much to contribute and how to invest the fund). This report has presented quantitative analysis to shed light on mandatory annuity purchases in England, focusing in particular on the knowledge, expectations and behaviour of DC pension fund holders aged 50 and over. It is interesting to consider this group – who will mostly not be directly affected by the auto-enrolment policy because they will be too old – as they will comprise much of the market for compulsory annuities over the next decade and a half.

Defined contribution pensions are complicated products, which incorporate a number of types of uncertainty and risk. To form an accurate expectation of future pension income in retirement, an individual needs to know both the future investment return on their pension fund and the rate at which that fund can be converted into an income stream at retirement. In order to convert the pension fund into an income stream, individuals must purchase an annuity or enter into some form of drawdown arrangement. Annuities are relatively complex financial products, and making the best purchase is perhaps made more difficult for individuals by the fact that, in most cases, they will have only one shot at making the decision.

The evidence we have presented here suggests that individuals find it more difficult to predict how much income they will receive from DC pensions than from DB pensions: 37% of DC pension holders are unable to provide even a range within which they expect their future income from the scheme to lie, compared with 28% of DB pension holders. Furthermore, on average, DC pension holders' expectations of incomes appear somewhat optimistic given their accumulated fund sizes. Among those who are observed to purchase an annuity, the median level of income obtained equates to just 80% of the level these individuals reported expecting to get before annuitisation. The equivalent figure for DB scheme members is 92%, which suggests that the increasing shift from DB to DC schemes could lead to more people being disappointed by their pension incomes.

This apparent over-optimism about income from DC funds could in part be due to men and (particularly) women on average appearing to underestimate their life expectancies: among those aged 50–60, men underestimate their life expectancy by around 2 years on average, while women underestimate by around 4 years on average. Furthermore, a large proportion (59%) of those aged between 50 and 64 who have not yet retired say that they have never thought about how many years of retirement they will have to fund. While this figure is slightly lower (57%) for DC scheme members than for the population as a whole, it is still very high. These facts suggest that many individuals may approach annuity markets with limited, and potentially incorrect, information about what prices they will face. With DC pensions becoming more prevalent, there will be an increase in

the number of retirees for whom having accurate information about this will be important.

Annuity rates on offer at any particular time can vary hugely, and shopping around for the best ones can have a significant effect on the pension income achieved, particularly for those with special circumstances such as ill health. However, despite the fact that pension holders have had the right to shop around for the best annuity product since 1978, we find (similar to previous evidence) that only a minority of annuitants report having bought from a provider other than their original pension provider – although the fraction has increased over the last decade. Between 2008–09 and 2010–11, the data we use suggest that 28.4% of those who purchased an annuity did so from an external provider, with a further 8.8% being unsure whether they had bought from their original or a different provider.

Somewhat reassuringly, however, we find that those who potentially have most to gain from shopping around are more likely to do so. For example, individuals whose DC pension assets constitute a greater fraction of their total wealth are more likely to have bought externally. Those with pre-existing medical conditions are also somewhat more likely to buy externally, although the difference between their rates of buying externally and those of individuals in good health is not statistically significant after controlling for other characteristics. The first of these tendencies suggests that shopping around could become more prevalent as younger cohorts, who have accumulated larger fractions of their retirement saving in DC pensions, start reaching retirement. However, at the same time, the composition of DC pension holders is likely to be changing. Among recent annuitants, it is those with the lowest levels of numeracy who are least likely to buy from an external provider. Among older cohorts, this group represents only a small fraction of DC pension holders – smaller than its share of the population as a whole; therefore, most of those having to engage with annuity markets over recent years have been more numerate than average. The introduction of automatic enrolment is likely to change this, however, with DC pension membership likely to increase among lower-income, lower-educated groups. These changes in the composition of future annuitants may act to reduce the prevalence of shopping around, as individuals who perhaps have limited experience of financial products and more limited numerical abilities start to be drawn into this complex market.

Taken together, the evidence presented in this report suggests that individuals find it harder to estimate how much income they will receive from DC pensions than from DB pensions. This on its own would tend to imply that risk-averse individuals would tend to save more, rather than less, for retirement to insure against the downside risk they perceive. However, we also find evidence that individuals may be overly optimistic, on average, about how much income a given DC fund will generate (perhaps because they are, on average, pessimistic about life expectancies). If future cohorts of retirees – who will be more dependent on DC pensions – are over-optimistic about annuity prices, they could end up saving too little.

# APPENDIX A
# Introduction to annuitisation

Individuals with a defined contribution pension accumulate a fund containing their individual and any employer contributions, tax relief from the government and any investment return that has been accrued on the fund, minus all costs and charges levied on the pension pot.

Under current policy, when an individual wants to start to access their pension, they can do so in the following different ways:

- purchasing an *annuity*
- *capped drawdown* [2011–12 onwards]; *unsecure pensions (USPs) / alternatively secured pensions (ASPs)* [prior to April 2011];
- *flexible drawdown* [2011–12 onwards];
- *trivial commutation*.

These methods are described in more detail below. In addition, individuals can take up to 25% of their pension fund as a tax-free lump sum.

Until April 2010, the minimum age at which someone could access their pension fund was 50. The minimum pension age was increased to 55 from April 2010 as part of government policy to extend working lives.

Prior to June 2010, individuals with DC pension funds were required to secure an income stream, either through purchasing an annuity or by entering a drawdown arrangement, before age 75. From June 2010, the government ended this effective requirement to annuitise by age 75, to 'support the Government's objective to re-invigorate private pensions saving, by giving people greater flexibility to choose the retirement options that are best for them' (HM Treasury, 2010, p. 7).

## Purchasing an annuity

An annuity is a financial product that agrees to pay a regular stream of income over the remainder of an individual's life. The annuity rate is defined as the annual stream of income divided by the total fund value. So, for example, an annuity bought with a fund worth £100,000 that committed to paying £5,000 per year would have a rate of 0.05 or 5%. Annuity rates depend on a number of factors, including the age and gender of the purchaser: the longer an individual is expected to receive the income stream for, the lower the annual income for a given price, and therefore the lower the annuity rate. So younger individuals are offered lower annuity rates than older individuals, and women are offered lower annuity rates than men (since they live longer on average). Based on EU Directives, annuities will have to be gender-neutral starting in December 2012. The annuities provided by insurance firms are often backed by UK government bonds, and therefore the prevailing annuity rates available also heavily depend on current long-dated gilt yields.

### Types of annuities

Individuals can choose from many different types of annuities. The main dimensions on which annuities differ are:

- *Single- or joint-life*: Single-life annuities pay the income stream for as long as the individual lives, while a joint-life annuity continues to pay the income to a spouse or partner if the individual dies.

- *Guarantee period*: If an annuity is issued with a guarantee period, then if the individual dies within that period, the income stream will continue to be paid until the end of that period.
- *Level or escalating*: Level annuities provide an income stream that is the same amount each year, and therefore the real value declines over time due to inflation, while escalating annuities provide an income stream that increases each year, either by a certain percentage or with reference to a price index.
- *Investment-linked*: Investment-linked annuities pay an income stream that varies with the performance of investments that were purchased with the pension fund.
- *Enhanced or impaired-life*: Impaired-life annuities are available to individuals who suffer from a range of health conditions (for example, cancer or serious heart conditions) and pay a higher rate on the basis that the individual has a lower-than-average life expectancy. Enhanced annuities work on a similar basis and are based on lifestyle conditions. They are available to smokers and obese individuals.

The vast majority of annuities purchased in the UK are conventional level annuities, and more than half are single-life annuities.[32]

### Open Market Option

The *Open Market Option* (OMO) was introduced in 1978 and gives individuals the right to choose the provider from whom they buy their annuity. Individuals do not just have to take the default rate offered by their pension provider, but can 'shop around' for the best option for converting their pension fund into a retirement income stream. This is particularly important in the context of annuities, as these are very unusual financial products in that once they have been purchased they can never be changed.

Despite the clear importance of shopping around to ensure that individuals get the best possible income in retirement, there is much concern that too few individuals take advantage of this opportunity. Since 2002, the Financial Services Authority (FSA) has required pension providers to inform customers of their right to shop around before purchasing an annuity. More recent industry-led action, such as the Association of British Insurers (ABI)'s 'Code of Conduct on Retirement Choices', is also attempting to increase the proportion of individuals who shop around for the best deal.[33]

## Capped drawdown [Unsecured pensions / Alternatively secured pensions prior to April 2011]

Capped drawdown allows individuals aged over the minimum pension age to draw an income from their pension fund of up to 100% of the amount that an individual of the same sex and age would get from a single-life annuity.

Prior to April 2011:

- Individuals aged between the minimum pension age and age 75 could choose to draw from their pension fund an annual income of up to 120% of the amount an individual of the same age and gender would get from a single-life annuity – known as an 'unsecured pension'.
- From age 75 onwards, individuals who had not purchased an annuity were required to draw from their pension fund an annual income of between 55% and 90% of what

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[32] Association of British Insurers (2008) found from a survey of annuity contracts that in 2006 87% of annuities issued were conventional level annuities and 64% of annuities were single-life annuities.

[33] For more information, see Association of British Insurers (2012).

an individual of the same sex but aged 75 would get from a single-life annuity – known as an 'alternatively secured pension'.

## Flexible drawdown

From April 2011, individuals who are no longer actively saving in a pension and who have a secure pension income of at least £20,000 a year (and who must, therefore, also be aged over the minimum pension age) can choose to draw unlimited amounts from their pension funds whenever they choose to.

## Trivial commutation

Individuals aged over 60 may have the option to take their pension rights as a lump-sum payment if the sum of *all* their pension rights is below a certain level. Before April 2012, the level was 1% of the 'lifetime allowance' (the maximum pension fund an individual could accumulate before incurring a tax liability). From 2012–13 onwards, the level is set in cash terms. In 2012–13, the limit is £18,000.

There are some exemptions to the criterion that total pension rights must be below this level. For example, occupational and public sector pension schemes worth less than £2,000 can be cashed in under trivial commutation rules even if this criterion is not met. From April 2012, similar rules apply to other types of pensions (including personal pensions and stakeholder pensions), although a maximum of two such pensions can be cashed in in this way.

Prior to April 2011, individuals had to take advantage of trivial commutation before age 75, though this upper age limit has now been removed along with the effective requirement to annuitise by age 75.

# APPENDIX B
# Data sources

## English Longitudinal Study of Ageing (ELSA)

The English Longitudinal Study of Ageing is a biennial longitudinal data set, broadly representative of the household population of England aged 50 and over. It began in 2002–03 with a sample of around 12,000 individuals, and there are now four subsequent 'waves' of data also available (collected in 2004–05, 2006–07, 2008–09 and 2010–11).

For most of the analysis in this report that uses ELSA data, we focus on the cross-section of individuals who responded to ELSA in 2010–11, drawing on their observed characteristics in previous waves where necessary and possible. However, in Chapters 4 and 5, we pool all five waves of ELSA together and conduct analysis using the sample of pensions that were converted into an income stream by purchasing an annuity between 2002–03 and 2010–11.

Table B.1

Common definitions

| Characteristic | Definition |
|---|---|
| *Education* | Individuals are divided into three categories: those who left full-time education at or below the compulsory school leaving age (CSL); those who left full-time education after the CSL but before age 19; and those who left full-time education at or above age 19. |
| *Numeracy* | Individuals are divided into five numeracy categories according to whether or not they gave correct answers to the five or six mathematical questions they were asked as part of the ELSA survey. For more details, see Banks and Oldfield (2007). These questions were only asked in the first (2002–03) and fourth (2008–09) waves of ELSA. |
| *Full-time work* | Individuals are defined as being in full-time work if they report working 35 or more hours per week. |
| *Total (non-pension) wealth* | Measured at the family level, this is the sum of net primary housing wealth, net physical wealth (other property wealth, business wealth and other physical assets) and net financial wealth. |
| *Current pension* | A current pension is defined as a private pension to which an individual (or their employer) is contributing or to which they could contribute if they wanted. |
| *Retained pension* | A retained pension is defined as a private pension in which an individual has accumulated rights but to which they can no longer make contributions and from which they have not yet started drawing an income. |
| Employer pension | An employer pension is a private pension that an individual reported to be provided by their employer. |
| Non-employer pension | A non-employer pension is a private pension that an individual does not report as an 'employer pension'. These include private personal pensions, group personal pensions, stakeholder pensions, S226 plans, retirement annuity pensions, self-invested personal pensions and other retirement saving schemes. |

The ELSA survey collects a large quantity of information on demographics, labour market circumstances, and subjective and objective measures of health, and detailed information on the components of financial and housing wealth held by individuals and households. A number of common individual characteristics and pension characteristics used throughout the report are defined in Table B.1.

### *Private pension wealth*

The ELSA survey contains sufficiently detailed questions on individuals' pension membership, their pension scheme rules, and their accrued entitlements to date for a reasonable estimate of private pension income in retirement to be calculated. This future pension income is estimated on the basis of current accrued entitlements, and does not take into account any potential future accrual of pension rights either from additional years of tenure in defined benefit schemes or additional contributions to defined contribution funds (although existing DC funds are assumed to accrue an investment return until an individual's retirement).

Estimates of pension wealth, which are described in Chapter 3 and that underlie the total family wealth quintiles used throughout the report, are calculated as the discounted sum of the stream of income that the individual (or family) is expected to receive from a pension over their lifetime.

In the case of unannuitised DC pensions, the estimated value of pension wealth will be different from simply the accrued fund value to date. This is because the estimate of pension wealth takes into account the likely fund return in the intervening time before retirement, and the fact that an annuity must be purchased to provide an income in retirement (and annuity rates may be less than actuarially fair – meaning that the amount expected to be received in pension income might be less than the individual would have been able to provide themselves with had they simply drawn down their own fund). While this may seem a potentially confusing way to treat unannuitised DC pension wealth, it is necessary in order to make measures of such wealth comparable to measures of DB pension wealth or measures of wealth held in pensions that are already in receipt (which are both calculated as the discounted sum of the stream of future pension income). For a description of unannuitised DC pension wealth just measured by the value of the accumulated DC funds, see Crawford and Tetlow (2012a).

### *Wording of pensions expectations questions*

The exact wording of the questions underlying the analysis in Section 4.2 is as follows:

> There may be a lot of uncertainty about how much income you will receive from your pension in future, for example because of changes made by your pension provider or changes to government pension policy. But many people still have some idea of the lowest and highest income they could possibly get. If you added together your expected income from any occupational or personal pensions, but not your state pension, what is...
> - ...the most income you could expect to receive at state pension age in the best case scenario?
> - ...the least income you could expect to receive at state pension age in the worst case scenario?

Respondents could report an amount with any periodicity they liked (for example, weekly income, calendar-month income, annual income), but were encouraged to think of a yearly figure if they were unsure.

### Wealth and Assets Survey (WAS)

The Wealth and Assets Survey is a biennial panel survey that is broadly representative of the household population of Great Britain. The first wave of WAS data, which was collected between July 2006 and June 2008, is used for this work.[34] The first wave covers a sample of over 70,000 individuals from around 30,000 households. The WAS data can be weighted in order to adjust for sampling biases, and all the results in this report are presented after this weighting has been applied.

The WAS collects very detailed information about the size and composition of individuals' asset holdings and liabilities, as well as basic demographic and socio-economic information. WAS respondents are also asked a number of questions about their financial attitudes and their expectations of the future – these latter responses are used in the analysis in Chapter 2.

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[34] Office for National Statistics, Social Survey Division, *Wealth and Assets Survey, Wave 1, 2006-2008: Special Licence Access* [computer file]. *6th Edition.* Colchester, Essex: UK Data Archive [distributor], April 2011. SN: 6415, http://dx.doi.org/10.5255/UKDA-SN-6415-1.

# APPENDIX C
# Additional tables

Table C.1
DC pension holding, by characteristics

| Percentage with: | Any DC pension | Unannuitised DC pension fund(s) | Any DB pension | Any pension | Sample size |
|---|---|---|---|---|---|
| All | 44.7 | 32.3 | 43.0 | 73.3 | 3,926 |
| Single men | 46.6 | 36.0 | 32.9 | 68.0 | 334 |
| Single women | 32.5 | 19.3 | 40.2 | 61.8 | 569 |
| Men in couples | 57.4 | 44.3 | 48.3 | 86.6 | 1,425 |
| Women in couples | 35.0 | 23.2 | 40.9 | 64.7 | 1,598 |
| *Age* | | | | | |
| 52–54 | 44.5 | 41.4 | 39.1 | 69.6 | 215 |
| 55–59 | 45.9 | 39.7 | 43.4 | 74.4 | 1,747 |
| 60–64 | 43.2 | 22.3 | 43.3 | 72.6 | 1,964 |
| *Education* | | | | | |
| Left school at or before CSL | 42.5 | 28.5 | 30.1 | 63.6 | 1,426 |
| CSL–18 | 45.2 | 33.4 | 45.3 | 75.7 | 1,597 |
| 19+ | 47.6 | 37.2 | 62.0 | 86.3 | 903 |
| *Numeracy* | | | | | |
| Worst | 23.3 | 15.3 | 18.7 | 39.9 | 253 |
| 2 | 39.0 | 27.4 | 31.5 | 61.5 | 616 |
| 3 | 46.2 | 32.8 | 39.6 | 72.5 | 726 |
| 4 | 49.3 | 34.8 | 50.1 | 81.7 | 1,215 |
| Best | 50.8 | 40.4 | 58.6 | 88.7 | 828 |
| *Work status* | | | | | |
| Working full-time | 61.8 | 55.3 | 46.1 | 88.8 | 1,293 |
| Working part-time | 43.2 | 31.4 | 48.3 | 76.7 | 874 |
| Not working | 31.7 | 12.6 | 39.0 | 60.0 | 1,586 |
| *Income quintile* | | | | | |
| Poorest | 35.2 | 23.7 | 22.7 | 51.4 | 671 |
| 2 | 40.2 | 25.0 | 32.5 | 62.1 | 505 |
| 3 | 42.4 | 30.5 | 43.6 | 73.9 | 668 |
| 4 | 48.8 | 35.6 | 45.4 | 79.9 | 875 |
| Richest | 50.6 | 39.1 | 59.1 | 87.0 | 1,124 |
| *Total wealth quintile* | | | | | |
| Poorest | 25.4 | 17.3 | 10.5 | 34.1 | 650 |
| 2 | 46.6 | 33.0 | 29.8 | 66.5 | 782 |
| 3 | 51.4 | 35.2 | 40.4 | 78.4 | 690 |
| 4 | 48.6 | 36.0 | 55.1 | 85.6 | 813 |
| Richest | 47.8 | 36.0 | 63.9 | 89.1 | 908 |
| Currently smoke | 36.3 | 26.3 | 32.7 | 60.0 | 681 |
| Used to smoke | 49.0 | 35.1 | 45.0 | 78.0 | 1,710 |

Notes: Sample is individuals aged 52–64. CSL is compulsory school leaving age.
Source: Authors' calculations using ELSA 2010–11. English Longitudinal Study of Ageing 2008–09 used for defining numeracy.

Table C.2
Multivariate analysis of relationship between reporting an exact expected income figure and characteristics – expectations of future income from DC and DB pensions

| | Report exact figure | |
| --- | --- | --- |
| | *Odds ratio* | *p value* |
| Women | 0.902* | 0.065 |
| Men | ref. | ref. |
| *Marital status* | | |
| Single | ref. | ref. |
| In a couple | 1.009 | 0.882 |
| *Age* | | |
| 50–54 | ref. | ref. |
| 55–59 | 1.350*** | 0.000 |
| 60–64 | 1.421*** | 0.000 |
| 65–69 | 1.346* | 0.050 |
| 70–74 | 1.175 | 0.623 |
| *Education* | | |
| Left school at or before CSL | 0.921 | 0.157 |
| CSL–18 | ref. | ref. |
| 19+ | 0.965 | 0.548 |
| *Numeracy* | | |
| Worst | 0.767** | 0.035 |
| 2 | 0.947 | 0.502 |
| 3 | ref. | ref. |
| 4 | 1.095 | 0.150 |
| Best | 1.199** | 0.010 |
| *Work status* | | |
| Working full-time | 0.865* | 0.098 |
| Working part-time | 0.858 | 0.100 |
| Not working | ref. | ref. |
| *Income quintile* | | |
| Poorest | 0.974 | 0.789 |
| 2 | 0.866 | 0.134 |
| 3 | ref. | ref. |
| 4 | 1.058 | 0.431 |
| Richest | 1.165** | 0.033 |
| *Total wealth quintile* | | |
| Poorest | 0.844 | 0.178 |
| 2 | 1.077 | 0.354 |
| 3 | ref. | ref. |
| 4 | 1.189** | 0.011 |
| Richest | 1.252*** | 0.002 |
| Current DC | ref. | ref. |
| Retained DC | 1.878*** | 0.000 |
| Current DB | 2.488*** | 0.000 |
| Retained DB | 2.361*** | 0.000 |
| *N* | *10,206* | |

Notes: Sample is all pension schemes observed across the first five waves of ELSA to which contributions were being made (or could have been made) at the time of interview. CSL is compulsory school leaving age. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level respectively.
Source: English Longitudinal Study of Ageing, waves 1–5 (2002–03 to 2010–11).

Table C.3

Univariate relationship between characteristics and expectations of future private pension income

| (%) | No min &/or max | Min & max (not equal) | Point expectation | *Sample size* |
|---|---|---|---|---|
| All | 31.9 | 45.8 | 22.2 | *1,700* |
| Single men | 39.7 | 41.0 | 19.3 | *171* |
| Single women | 37.6 | 40.9 | 21.5 | *162* |
| Men in couples | 27.4 | 49.7 | 22.9 | *870* |
| Women in couples | 35.9 | 41.8 | 22.3 | *497* |
| *Age* | | | | |
| 52–54 | 43.3 | 42.1 | 14.6 | *142* |
| 55–59 | 32.2 | 46.5 | 21.3 | *1148* |
| 60–64 | 25.9 | 45.4 | 28.7 | *410* |
| *Education* | | | | |
| Left school at or before CSL | 39.0 | 41.5 | 19.5 | *495* |
| CSL–18 | 31.2 | 46.7 | 22.1 | *715* |
| 19+ | 24.9 | 49.5 | 25.6 | *490* |
| *Numeracy* | | | | |
| Worst | 43.5 | 37.0 | 19.5 | *55* |
| 2 | 45.8 | 36.3 | 17.9 | *217* |
| 3 | 34.8 | 40.8 | 24.5 | *294* |
| 4 | 28.1 | 49.7 | 22.2 | *577* |
| Best | 23.4 | 52.8 | 23.8 | *457* |
| *Work status* | | | | |
| Working full-time | 35.6 | 42.6 | 21.7 | *399* |
| Working part-time | 30.5 | 40.1 | 29.4 | *249* |
| Not working | 30.1 | 49.1 | 20.8 | *998* |
| *Income quintile* | | | | |
| Poorest | 37.0 | 35.1 | 27.9 | *224* |
| 2 | 41.3 | 39.6 | 19.1 | *164* |
| 3 | 34.6 | 45.9 | 19.4 | *269* |
| 4 | 32.2 | 46.3 | 21.4 | *407* |
| Richest | 24.9 | 51.6 | 23.5 | *600* |
| *Total wealth quintile* | | | | |
| Poorest | 47.2 | 35.1 | 17.7 | *136* |
| 2 | 45.1 | 37.0 | 17.9 | *237* |
| 3 | 34.8 | 47.5 | 17.7 | *303* |
| 4 | 25.6 | 50.7 | 23.6 | *421* |
| Richest | 23.7 | 48.4 | 27.8 | *567* |
| *Private pensions yet to be drawn* | | | | |
| DC only | 35.4 | 45.6 | 19.0 | *826* |
| DB only | 24.9 | 44.6 | 30.5 | *529* |
| DC & DB | 26.4 | 57.8 | 15.8 | *257* |

Notes: Sample is those aged between 52 and SPA who have at least one private pension from which they are yet to draw an income. CSL is compulsory school leaving age.
Source: English Longitudinal Study of Ageing 2010–11. English Longitudinal Study of Ageing 2008–09 used for defining numeracy.

Table C.4

Regression of expected private pension income range, in £ per year

| | Men | | Women | |
|---|---|---|---|---|
| | *Coefficient* | *p value* | *Coefficient* | *p value* |
| Single | ref. | ref. | ref. | ref. |
| In a couple | 2,353.5 | 0.538 | −1,005.6* | 0.054 |
| Age−50 | −789.4 | 0.754 | −575.9 | 0.536 |
| (Age−50)$^2$ | 17.5 | 0.902 | 20.3 | 0.780 |
| *Education* | | | | |
| Left school at or before CSL | −4,593.3 | 0.164 | −251.1 | 0.665 |
| CSL−18 | ref. | ref. | ref. | ref. |
| 19+ | −1,868.6 | 0.569 | 817.9* | 0.094 |
| *Numeracy* | | | | |
| Worst | −6,021.7 | 0.531 | −745.5 | 0.456 |
| 2 | −6,476.8 | 0.257 | 310.8 | 0.639 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | −5,020.5 | 0.207 | −107.0 | 0.847 |
| Best | −3,830.0 | 0.347 | −1,453.9** | 0.034 |
| *Work status* | | | | |
| Working full-time | −4,898.9 | 0.292 | 1,138.5* | 0.090 |
| Working part-time | −6,449.5 | 0.233 | 144.9 | 0.826 |
| Not working | ref. | ref. | ref. | ref. |
| *Income quintile* | | | | |
| Poorest | 1,249.4 | 0.814 | −711.7 | 0.400 |
| 2 | −707.0 | 0.905 | 83.8 | 0.917 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | −1,293.3 | 0.759 | 183.1 | 0.780 |
| Richest | 6,318.7 | 0.131 | 197.6 | 0.759 |
| *Total wealth quintile* | | | | |
| Poorest | −10,045.2 | 0.128 | −507.9 | 0.592 |
| 2 | −6,872.1 | 0.171 | −807.7 | 0.302 |
| 3 | ref. | ref. | ref. | ref. |
| 4 | −7,796.7* | 0.054 | 326.3 | 0.609 |
| Richest | −6,948.8* | 0.098 | 584.1 | 0.392 |
| *Private pension holdings* | | | | |
| Current DC only | ref. | ref. | ref. | ref. |
| Retained DC only | −8,060.3* | 0.050 | 551.2 | 0.486 |
| Current and retained DC | −1,972.2 | 0.703 | 1,994.2* | 0.063 |
| DB only | −8,980.8** | 0.015 | 467.9 | 0.415 |
| DC & DB | −4,665.5 | 0.319 | 614.9 | 0.445 |
| 1 current/retained pension | ref. | ref. | ref. | ref. |
| 2 current/retained pensions | −5,352.4 | 0.117 | −397.1 | 0.450 |
| 3+ current/retained pensions | −5,049.5 | 0.246 | 206.2 | 0.808 |
| Constant | 30,729.2** | 0.017 | 4,456.4 | 0.160 |
| Sample size | *659* | | *379* | |

Notes: Sample is those aged between 52 and SPA who have at least one private pension from which they are yet to draw an income and who are able to report a minimum and maximum expected income from all their private pensions. CSL is compulsory school leaving age. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level respectively.
Source: English Longitudinal Study of Ageing 2010–11. English Longitudinal Study of Ageing 2008–09 used for defining numeracy.

Table C.5
Multivariate analysis of relationship between reporting both a fund value and an expected income and characteristics, among current DC pension holders

|  | **Odds ratio** | **p value** |
|---|---|---|
| Sex | | |
| Women | 0.878 | 0.217 |
| Men | ref. | ref. |
| *Marital status* | | |
| Single | ref. | ref. |
| In a couple | 1.008 | 0.944 |
| *Age* | | |
| 50–54 | ref. | ref. |
| 55–59 | 1.238** | 0.027 |
| 60–64 | 1.297** | 0.023 |
| 65–69 | 1.597* | 0.083 |
| 70–74 | 3.293*** | 0.008 |
| *Education* | | |
| Left school at or before CSL | 1.015 | 0.886 |
| CSL–18 | ref. | ref. |
| 19+ | 1.072 | 0.518 |
| *Numeracy* | | |
| Worst | 0.710 | 0.158 |
| 2 | 0.790 | 0.109 |
| 3 | ref. | ref. |
| 4 | 1.067 | 0.554 |
| Best | 1.287** | 0.039 |
| *Work status* | | |
| Working full-time | 0.845 | 0.283 |
| Working part-time | 0.846 | 0.333 |
| Not working | ref. | ref. |
| *Income quintile* | | |
| Poorest | 0.994 | 0.971 |
| 2 | 0.733* | 0.069 |
| 3 | ref. | ref. |
| 4 | 0.847 | 0.194 |
| Richest | 1.159 | 0.249 |
| *Total wealth quintile* | | |
| Poorest | 0.999 | 0.998 |
| 2 | 1.143 | 0.312 |
| 3 | ref. | ref. |
| 4 | 1.274** | 0.046 |
| Richest | 1.460*** | 0.004 |
| *Sample size* | *5,360* | |

Notes: The sample is all cross-sectional observations on private pension schemes held by individuals aged 50 and over from which an income is not already being drawn. Unweighted.
Source: English Longitudinal Study of Ageing, waves 1–5 (2002–03 to 2010–11).

Table C.6
Reported use of the Open Market Option for annuitising non-employer DC pension funds, by individual characteristics

| | % bought externally | % bought externally or don't know | *Sample size* |
|---|---|---|---|
| All | 22.0 | 32.4 | *590* |
| Year of annuitisation: 2004–05 | 20.9 | 33.0 | *115* |
| 2006–07 | 19.5 | 30.9 | *123* |
| 2008–09 | 17.8 | 27.8 | *169* |
| 2010–11 | 28.4 | 37.2 | *183* |
| Single men | 13.5 | 18.9 | *37* |
| Men in couples | 25.5 | 35.2 | *341* |
| Single women | 13.2 | 30.2 | *53* |
| Women in couples | 19.5 | 32.1 | *159* |
| Aged 52–54 | – | – | *21* |
| Aged 55–59 | 20.5 | 33.7 | *83* |
| Aged 60–64 | 19.8 | 30.2 | *278* |
| Aged 65–69 | 25.1 | 34.4 | *183* |
| Aged 70–74 | – | – | *18* |
| Left school at or before CSL | 17.0 | 28.1 | *288* |
| CSL–18 | 26.7 | 36.4 | *195* |
| 19+ | 27.1 | 39.3 | *107* |
| Worst numeracy | – | – | *24* |
| 2 | 8.4 | 21.7 | *83* |
| 3 | 22.2 | 31.9 | *144* |
| 4 | 26.2 | 37.4 | *195* |
| Best numeracy | 29.1 | 35.4 | *127* |
| Not working | 24.7 | 37.3 | *166* |
| Working full-time | 18.3 | 29.6 | *257* |
| Working part-time | 25.1 | 33.5 | *167* |
| Lowest total wealth | – | – | *28* |
| 2 | 12.9 | 34.3 | *70* |
| 3 | 17.5 | 27.5 | *120* |
| 4 | 22.7 | 31.2 | *141* |
| Highest total wealth | 30.5 | 39.6 | *197* |
| *Proportion of total wealth held in DC funds* | | | |
| Lowest tertile | 19.1 | 29.8 | *141* |
| Middle tertile | 25.5 | 33.7 | *184* |
| Highest tertile | 26.8 | 39.4 | *127* |
| No direct holding of shares or unit trusts | 18.2 | 30.2 | *341* |
| Direct holding of shares or unit trusts | 27.3 | 36.5 | *249* |
| Does not use internet and/or email | 13.3 | 24.6 | *211* |
| Uses the internet and/or email | 28.3 | 38.7 | *346* |
| Does not currently smoke | 22.4 | 32.2 | *500* |
| Currently smoker | 20.0 | 36.7 | *90* |
| No major health condition | 21.1 | 32.0 | *507* |
| Has major health condition | 27.7 | 38.6 | *83* |

Notes: Sample is all non-employer DC pensions that were converted into an income stream by purchasing an annuity between 2002–03 and 2010–11. Analysis is presented at the 'pension' level; some individuals may be counted twice. CSL is compulsory school leaving age. 'Major health condition' is defined as either having diabetes, chronic lung disease or chronic heart disease or ever having had cancer. Percentages have not been given where sample size is less than 30.
Source: English Longitudinal Study of Ageing, waves 1–5 (2002–03 to 2010–11).

Table C.7

Multivariate analysis of characteristics associated with reporting both a prior fund value and current income and lump sum taken from a newly annuitised pension fund

| | Odds ratio | p value |
|---|---|---|
| *Sex* | | |
| Women | 0.563** | 0.020 |
| Men | ref. | ref. |
| *Marital status* | | |
| Single | ref. | ref. |
| In a couple | 0.670 | 0.171 |
| *Age* | | |
| 50–54 | ref. | ref. |
| 55–59 | 1.832 | 0.411 |
| 60–64 | 1.654 | 0.477 |
| 65–69 | 1.232 | 0.779 |
| 70–74 | 2.245 | 0.435 |
| *Education* | | |
| Left school at or before CSL | 1.064 | 0.807 |
| CSL–18 | ref. | ref. |
| 19+ | 1.584 | 0.170 |
| *Numeracy* | | |
| Worst | 0.599 | 0.343 |
| 2 | 0.855 | 0.653 |
| 3 | ref. | ref. |
| 4 | 1.190 | 0.553 |
| Best | 1.866* | 0.080 |
| *Work status* | | |
| Working full-time | 1.166 | 0.644 |
| Working part-time | 0.906 | 0.723 |
| Not working | ref. | ref. |
| *Income quintile* | | |
| Poorest | 0.778 | 0.581 |
| 2 | 0.699 | 0.340 |
| 3 | ref. | ref. |
| 4 | 0.936 | 0.840 |
| Richest | 1.026 | 0.940 |
| *Total wealth quintile* | | |
| Poorest | 0.745 | 0.573 |
| 2 | 0.909 | 0.804 |
| 3 | ref. | ref. |
| 4 | 0.963 | 0.907 |
| Richest | 1.074 | 0.842 |
| *Sample size* | *386* | |

Notes: Sample is all those who are observed to annuitise a 'current' DC pension between ELSA waves 1 and 5. CSL is compulsory school leaving age. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level respectively.

Source: English Longitudinal Study of Ageing, waves 1–5 (2002–03 to 2010–11).

# References

Association of British Insurers (2008), *Pension Annuities: Pension Annuities and the Open Market Option*, ABI Research Paper 8, by D. Gunawardena, C. Hicks and D. O'Neill, http://www.abi.org.uk/Publications/24979.pdf.

Association of British Insurers (2012), *Consumers in the Retirement Income Market: Code of Conduct on Retirement Choices*, http://www.abi.org.uk/publications/61144.pdf.

Banks, J. and Oldfield, Z. (2007), 'Understanding pensions: cognitive function, numerical ability and retirement saving', *Fiscal Studies*, vol. 28, pp. 143–70.

Cannon, E. and Tonks, I. (2010), 'Compulsory and voluntary annuities markets in the UK', University of Exeter, Working Paper no. 10/01.

Clery, E., Humphrey, A. and Bourne, T. (2010), *Attitudes to Pensions: The 2009 Survey*, Department for Work and Pensions Research Report no. 701, http://research.dwp.gov.uk/asd/asd5/rports2009-2010/rrep701.pdf.

Crawford, R. and Tetlow, G. (2012a), 'Fund holdings in defined contribution pensions', Institute for Fiscal Studies (IFS) Briefing Note no. 127, http://www.ifs.org.uk/bns/bn127.pdf.

Crawford, R. and Tetlow, G. (2012b), 'The evolution of pension wealth and contribution dynamics', in J. Banks, J. Nazroo and A. Steptoe (eds), *The Dynamics of Ageing: Evidence from the English Longitudinal Study of Ageing 2002–10*, Institute for Fiscal Studies, http://www.ifs.org.uk/ELSA/publicationDetails/id/6367.

Crouch, K., Sparham, I. and Barks, D. (2010), *Annuity Purchasing Behaviour*, Association of British Insurers (ABI) Research Report no. 23, http://www.abi.org.uk/content/contentfilemanager.aspx?contentid=50201.

Harrison, D. (2012), *Treating DC Scheme Members Fairly in Retirement?*, NAPF and Pensions Institute Research Report, http://pensions-institute.org/reports/TreatingDCMembersFairly.pdf.

HM Treasury (2010), 'Removing the requirement to annuitise by age 75', HM Treasury consultation document, http://www.hm-treasury.gov.uk/d/consult_age_75_annuity.pdf.

Silcock, D., Redwood, D. and Adams, J. (2011), 'Retirement income and assets: the implications of ending the effective requirement to annuitise by age 75', Pensions Policy Institute, Discussion Paper, https://www.pensionspolicyinstitute.org.uk/uploadeddocuments/2011/20110414_RIA5_-_the_implications_of_ending_the_effective_requirement_to_annuitise_by_age_75.pdf.