

Retirement expectations, attitudes and saving behaviour: how have these changed during a decade of pension reforms?

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Preface

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Executive summary

The last decade has been one of substantial reform to the UK retirement savings environment: the state pension age for men and women has increased, the 'new state pension' was introduced, automatic enrolment into workplace pensions has been rolled out for employees, pension freedoms were introduced and there have been reforms to public sector pension schemes.

In this report, we examine how individuals' retirement expectations, attitudes and saving behaviour have changed over the period 2006 to 2017 using data from the Wealth and Assets Survey. The outcomes we consider are not only of direct interest, but may also give a sense of how these reforms will affect individuals' behaviour and retirement outcomes well into the future.

Key findings

Private pensions are increasingly expected by employees to play a role in providing retirement incomes.

- There has been a sizeable increase in the proportion of private sector employees expecting to get any income from a private pension in retirement – from 63% in 2013 to 78% in 2017. This suggests that the increase in private pension membership (from 52% to 74% among the same sample over the same period), driven by the introduction of automatic enrolment, does not simply reflect a 'timing effect' of individuals being brought into pension saving earlier than they would otherwise have been.
- The increase in the proportion of private sector employees who expect a private pension to be their largest income source in retirement has been smaller (+6 percentage points between 2013 and 2017). This suggests that many new members are expecting to receive less from a workplace pension than from at least one other source, such as the state pension, in retirement. Among the self-employed, in contrast, there has been a decline in the proportion expecting to receive any income in retirement from a private pension. This mirrors the decline in private pension membership among the self-employed, which is a trend of ongoing policy concern.

Confidence in retirement incomes has increased in recent years, but levels of understanding of pensions and confidence in the adequacy of retirement incomes remain low.

- Only around half of individuals report that they understand enough about pensions to make decisions about saving for retirement. This low level of self-reported understanding has been persistent over the last decade, despite major pension reforms and consequent discussion of pensions in the media.
- The proportion of individuals who are confident that their income in retirement will give them the standard of living they hope for increased by 11 percentage points between 2008 and 2017. Despite this, confidence in the adequacy of retirement incomes remains low, at only 53% in 2017.

- A similar pattern of increased confidence in retirement income adequacy is observed across both men and women, those working and not working, and those working in the public and private sectors. This suggests it is not the direct result of recent pension reforms (such as automatic enrolment), which would have affected different groups differently. Instead, it could be driven by rising real incomes and general consumer confidence, which both improved over this period.

Saving outside of pensions has become more common since 2012, having fallen between 2008 and 2012. This is likely driven by changes in economic conditions – in particular, increases in household incomes and general levels of confidence.

- The proportion of individuals reporting having saved outside of pensions in the last two years increased from 46% to 56% between 2012 and 2017, following a small decline between 2008 and 2012. This U-shaped pattern is slightly more pronounced among groups with lower saving rates, who are more likely to be shifted from saving to not saving by a deterioration in their financial circumstances.
- The proportion of those who have not saved for reasons related to affordability has declined since 2012, while the proportion not saving because they ‘did not want to’ or ‘did not need to’ has been relatively unchanged. This suggests that the increased propensity of individuals to save is likely driven by improving economic conditions, higher household incomes and rising confidence over this latter part of the decade.
- Individuals’ ‘preferences for saving’ – as measured by various indicators of willingness to give up income today in order to enjoy a better standard of living in the future – have been relatively stable over the past decade. This further supports the suggestion that changes in saving rates are driven by changes in economic circumstances rather than by changes in how people trade-off current and future spending.

The average age at which men and women expect to retire has increased by more than 2 years in a decade, but expected retirement length is broadly unchanged.

- When asked when they will retire, individuals aged 40–54 in 2006–08 responded with very rounded numbers: only 8% responded with an age that was not a multiple of five. By 2016–18, responses among equivalently aged individuals were much more varied: 29% reported expecting to retire at 66, 67 or 68.
- Over the last decade, the average age at which men and women in their 40s and early 50s expect to retire has increased significantly. For men, the average expected retirement age increased from 62.9 to 65.0 between 2006 and 2017. The increase was slightly larger for women, from 61.7 to 64.2, but women in this age group still expect to retire more than half a year earlier than men (despite having the same state pension age).
- The increases in the average expected retirement age between 2006 and 2017 were greater than the increases in the state pension age. Between 2006 and 2017, the average SPA increased by 1.5 years for men aged 40–54 and by 1.8 years for women, while the average expected retirement age increased by 2.1 years for men and 2.4 years for women. The increase in expected retirement ages is similar across those with

different levels of education, those working in different sectors, those with different levels of health and those with different private pension arrangements.

- Expected retirement length has, on average, remained broadly unchanged over this period, at around 21 years for men and 22 years for women, despite the later expected retirement ages. On average, 40% of men and 34% of women aged 40–54 in 2006 stated that they had thought about how long a retirement they might need to fund, and this proportion remained fairly stable over the subsequent decade.

1. Introduction

The last decade has been one of substantial reform to the UK retirement savings environment. There have been reforms to the state pension: the state pension age has increased for the first time since 1948 for both men and women, and further increases are planned for coming decades. The 'new state pension' was introduced, moving to a near-universal state pension, set at a flat rate, for those who have spent most of their working lives in the UK. There have also been big reforms in private provision: automatic enrolment has been introduced, increasing the availability of, and participation in, workplace pensions. The requirement to annuitise accumulated defined contribution pension wealth has been lifted, considerably increasing the set of choices available to those with such pension wealth. There have also been reforms to pension schemes provided to public sector employees: increases in the normal retirement age, changes in contribution rates, a shift from calculating pension rights on final salary to calculating them on career average earnings, and a switch to indexing pension payments to the Consumer Prices Index rather than the (typically higher, and flawed) Retail Prices Index.

Many of these reforms have been introduced with the objective (at least in part) of improving individuals' financial security in retirement in the face of increasing life expectancies. By encouraging people to work longer, the amount of time individuals will be reliant on pension income is reduced and the length of working life over which individuals can save for retirement is increased. By simplifying state pension provision and reducing the role of means-tested elements, the ability of individuals to understand what they will get from the state and what they therefore might want to save privately should be improved. And by automatically enrolling employees into private pensions, the expectation is that people will save earlier, and save more, thus improving their living standards in retirement.

The effect of these reforms on individuals' behaviour is therefore important. Some intermediate evidence is available. It is already known that automatic enrolment has vastly increased workplace pension coverage among private sector employees¹ and that the increase in the state pension age for women has increased labour market participation of women in their early 60s.² Researchers inside and outside of government have also produced projections of future retirement income adequacy in the 'post-AE' world.³ However, it will be many years before the retirement *outcomes* of many of those affected by the reforms of the past decade will be observed – since younger working-age individuals, in particular, remain many years from retirement.

To provide an early indication of the potential effect of these reforms, in this report we examine how individuals' retirement expectations, attitudes and saving behaviour have changed over the past decade. We do so using data from the Wealth and Assets Survey (WAS), a panel survey of households in Great Britain.⁴ In the first 'wave' (which ran from

¹ For example, Cribb and Emmerson (2019).

² Cribb, Emmerson and Tetlow, 2016; Amin-Smith and Crawford, 2018.

³ For example, Pensions Policy Institute (2019).

⁴ The Wealth and Assets Survey is run by the Office for National Statistics, funded by a consortium of government departments, and is described in more detail at <https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/wealthingreatbritainwave5/2014to2016>.

July 2006 to June 2008), over 70,000 individuals in over 30,000 households were surveyed. Where possible, the same individuals have been interviewed every two years subsequently (with new respondents added to keep the sample size at around 20,000 households per wave). The analysis in this report uses six waves of data, covering the period July 2006 to March 2018. The survey is designed to collect detailed information about household wealth, but also collects information about individual and household characteristics as well as savings-related attitudes measures. In our analysis, we weight the data to ensure that it is representative of the population of Great Britain.

In Chapter 3, we examine individuals' expectations over their retirement incomes – specifically, the sources of income they expect, whether they expect their retirement resources to be adequate, and their self-reported understanding of pensions. In Chapter 4, we examine more general saving attitudes and self-reported saving outside of pensions. In Chapter 5, we describe how expected retirement ages have changed over the past decade. In Chapter 6, we draw together the findings and conclude with a discussion of implications for policy.

In the main body of this report, we do not attempt to estimate the causal impact of particular reforms. Given the quantity of reforms that have occurred over the past decade, and uncertainty around the extent and timing of individuals' awareness and understanding of these reforms, this would be a challenging exercise. However, by examining how changes in expectations differ between different groups, we provide some suggestions as to mechanisms that may or may not be at play. The exception to this is automatic enrolment: in Appendix B, we examine specifically the potential causal effect of this policy on saving behaviours and expectations about income in retirement. Our results are imprecisely estimated, but we nonetheless document them here, along with our methodology, for future researchers to build upon.

It is important to acknowledge from the outset that the past decade has been a very unusual one, even aside from the quantity of reforms affecting retirement saving incentives. The economic context is one dominated by the financial crisis in 2008, the associated recession and its aftermath: the ensuing period of weak economic and disposable income growth. Median incomes fell by an average of 0.6% per year from 2007–08 to 2011–12, before growing by 1.6% per year on average up to 2016–17.⁵ Average house prices fell by 21% in real terms between 2007 and 2012, and only just recovered to around pre-crisis levels by 2017.⁶ In addition, long-run trends such as increases in healthy life expectancy, falling homeownership at younger ages, rising female labour force participation and the rise of self-employment have continued to play out over this period. All of these factors may affect retirement expectations, attitudes and saving behaviours. We provide a more detailed overview of this context in Chapter 2.

⁵ Bourquin et al., 2019.

⁶ Cribb and Simpson, 2018.

2. Economic and policy context

This report looks at how retirement savings-related expectations, attitudes and behaviours evolved between 2006 and 2018. This was a time of big changes in the pension policy environment and a turbulent time for the UK economy. This chapter gives background information about the pension policy reforms and economic environment, providing important context for the trends described in the rest of this report.

2.1 Pension reforms

Over the last decade, there have been several major reforms to pension policy in the UK.

- *Increases in the state pension age:*⁷ The state pension age (SPA) is the earliest age at which people can receive income from the state pension. The 1995 Pensions Act legislated for an increase in the SPA to 65 for women born in April 1950 onwards, bringing it in line with the SPA for men. The increases started coming into effect in 2010 and were due to be complete by 2020. The 2007 Pensions Act legislated for further increases in the SPA to 66, 67 and 68 for future cohorts of retirees (both male and female) – reflecting increases in life expectancy and pressure on the public finances. In 2010, the government announced that the increases in the female SPA to 65 and the increase in the male and female SPAs to 66 would be brought forward, with the increase to 66 to be achieved by October 2020 (with legislation to that effect passed in 2011). In 2011, it was announced (legislated in 2014) that the increase in the SPA to 67 would be brought forwards as well. The government has announced, but has yet to legislate, an acceleration of the increase in the SPA to 68 relative to what was legislated in 2007.
- *Introduction of the new state pension:* The introduction of the ‘new state pension’ for those reaching SPA from 6 April 2016 onwards (men born from 6 April 1951 and women born from 6 April 1953) has simplified accrual to future state pension income from 2016.⁸ Previously accrual to one component of the state pension (the additional pension) was related to earnings, but under the new state pension all individuals accrue the same amount for each year of activity from 2016 onwards. In the long run, the amount of state pension individuals will be entitled to will depend only on years of activity, and full entitlement is expected to be near universal among those who have spent the bulk of their working life in the UK.
- *Pension freedoms:* In 2014, the government announced a surprise end to the effective requirement to purchase an annuity with accumulated defined contribution pension saving. Since April 2015 onwards, individuals have been able to access their entire pension wealth as cash withdrawals whenever they choose after age 55, with these withdrawals being subject to income tax alongside any other forms of income. To assist individuals with navigating the wider range of choices available to them, the

⁷ For more detail, see Crawford and Emmerson (2019).

⁸ The new state pension was legislated in 2014, following a Green Paper consultation (Department for Work and Pensions, 2011) and a White Paper proposal (Department for Work and Pensions, 2013). For further discussion of the impacts of the reform, see Crawford and Tetlow (2016), for example.

government also set up a new guidance service for people aged 50 and over – Pension Wise – though take-up of this service has been low.⁹

- *Automatic enrolment:* In 2008, the UK government introduced legislation mandating private sector employers to enrol their ‘eligible employees’ automatically into a workplace pension scheme and to make a minimum level of pension contributions for each employee who did not choose to opt out. ‘Eligible employees’ are those aged 22 or above, earning above a given earnings level (in December 2019, this was set at £10,000) and who have been employed by the employer for more than three months. Automatic enrolment was rolled out by employer size – the largest employers had a ‘staging date’ of October 2012 whilst the smallest had a ‘staging date’ of April 2017. The minimum total (employer and employee) default contribution was initially set at 2% of qualifying gross earnings, of which a minimum 1% contribution had to be made by the employer. This was increased in April 2018 to a minimum total contribution of 5% (with at least 2% from the employer) and in April 2019 to 8% (with at least 3% from the employer).
- *Public service pension reforms:* Since 2010, there have been large changes to the pension entitlements of public sector employees. Moving from RPI to CPI indexation of pensions in deferral or payment represents a substantial reduction in generosity. Other important reforms include: the end of contracting out; increases in employee contributions; and (for most employees) increased normal pension ages and a shift from ‘final salary’ to ‘career average’ schemes.¹⁰

The cumulative effect of these policies has been to reduce the generosity of state support available to higher-earning retirees and public sector workers and to give individuals more responsibility over how much to save for retirement (accompanied by a ‘nudge’ for private sector employees to enrol in a workplace pension) and how to use their accumulated wealth once in retirement.

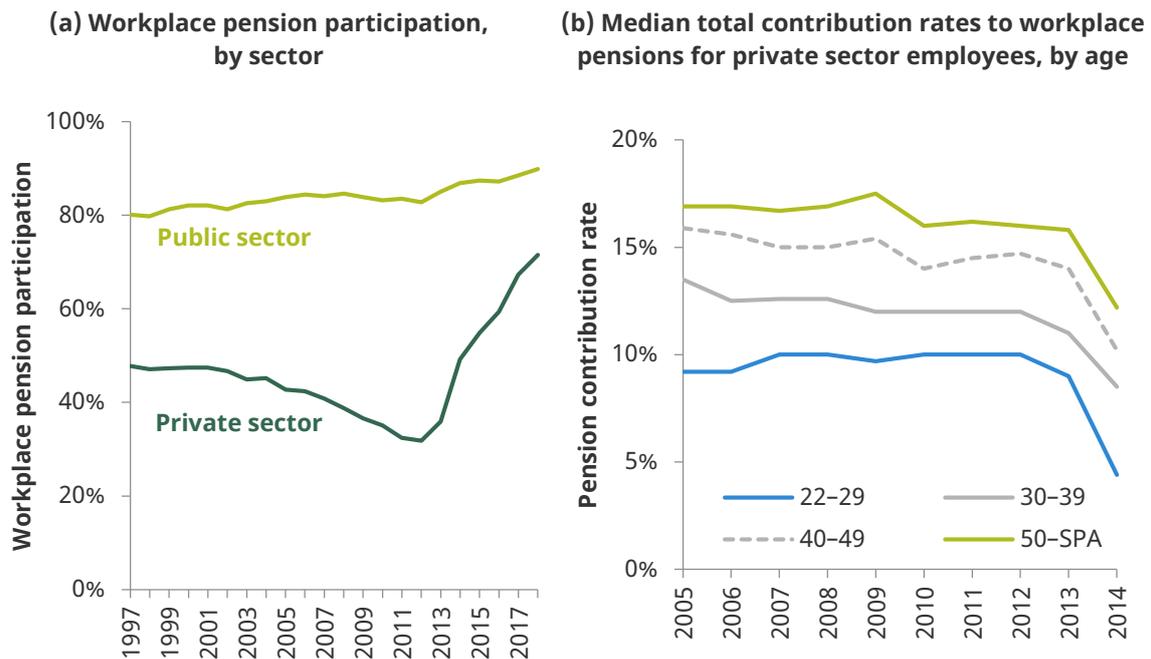
2.2 Retirement saving

In the context of these reforms, how has pension saving changed? Since the mid 1990s, workplace pension membership amongst public sector employees has been gradually increasing (as shown in Figure 2.1a). By contrast, workplace pension membership in the private sector fell from 48% in 1997 to a trough of 32% in 2012. However, from 2012 this trend among employees abruptly reversed, with pension membership increasing to reach 72% in 2018, as a consequence of the introduction of automatic enrolment.¹¹ The public-private sector workplace pension membership gap was narrower in 2018 (at 18 percentage points) than at any point in the preceding two decades.

⁹ Thurley, 2018.

¹⁰ Cribb and Emmerson, 2016.

¹¹ Cribb and Emmerson, 2019.

Figure 2.1. Trends in workplace pension membership and contributions

Source:

(a) Cribb, Davenport and Zaranko, 2019.

(b) Office for National Statistics, Annual Survey of Hours and Earnings pension tables,

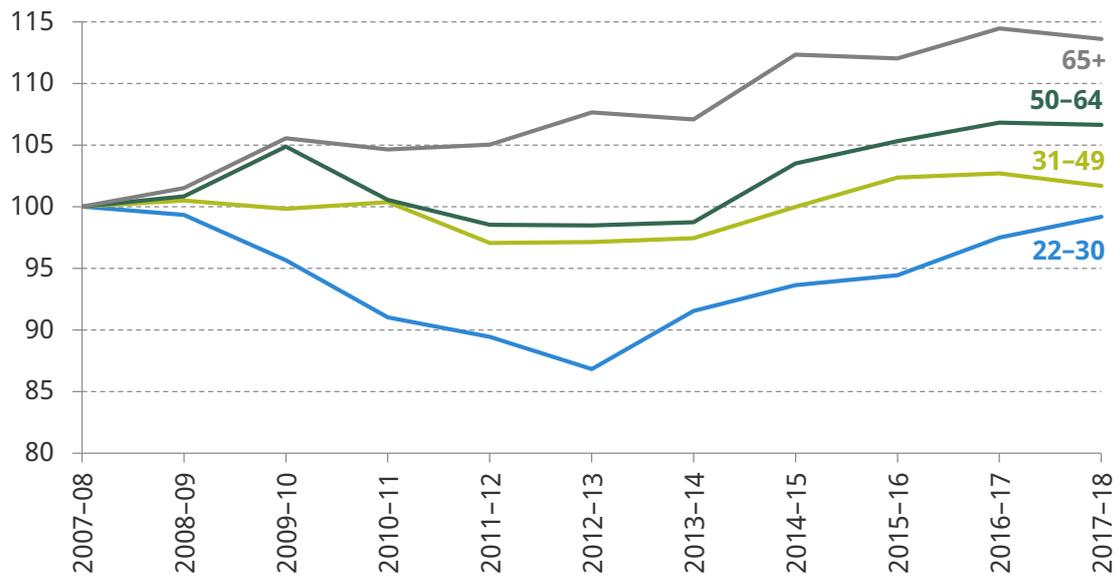
<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/pensionssavingsandinvestments/bulletins/pensionsshortstories/latest>.

The average pension contribution rate (from employer and employee contributions combined) among private sector employees fell gradually between 2005 and 2012 among all but the youngest pension members (as shown in Figure 2.1b). Since 2012, there has been a dramatic fall in average contribution rates among those who are members of a pension. This is due to automatic enrolment increasing pension membership and the minimum default contribution rates – adopted by many new pension members – being much lower than the previous average contribution rate among members. This effect was largest for the youngest employees (aged 22–29) – the same group that experienced the biggest increase in pension membership as a result of automatic enrolment.¹²

2.3 Economic environment

Planning for retirement is one of the biggest financial decisions households make. Making appropriate choices involves forming expectations about their income and costs over the rest of their life, and taking into account constraints they face in the present (and might face in future). As a result, saving attitudes, expectations and behaviour are likely to reflect the current economic context, including both short- and long-run trends in incomes and investment returns.

¹² Cribb and Emmerson, 2019; Bourquin. Cribb and Emmerson, 2020.

Figure 2.2. Real median income by age, indexed to 2007–08 = 100

Note: Incomes here are reported before housing costs (BHC).

Source: Bourquin et al., 2019.

The biggest factor to take into account, when thinking about saving, is what has been happening to incomes. Figure 2.2 shows how real incomes changed between 2007–08 and 2017–18, split into four age groups: 22–30, 31–49, 50–64, and 65 and over. In the years following the financial crisis, real incomes of the youngest adults shown here were hit hardest – the median fell by 13% between 2007–08 and 2012–13. They have since recovered to just below their 2007–08 level. Older adults of working age experienced a smaller dip in their incomes, and by 2017–18 had incomes around 2% and 7% (for 31- to 49-year-olds and 50- to 64-year-olds respectively) above their 2007–08 levels. In stark contrast, real incomes for adults aged 65 and over have grown consistently over this decade (with the exception of the most recent year in Figure 2.2), partly reflecting the ‘triple lock’ which has boosted the value of state pension payments.

Over the same period, the return on saving has been falling (a continuation of long-run trends). The nominal return on 10-year government bonds fell from 5% in 2007 to 1.3% in 2016 (negative in real terms).¹³ Real investment returns have been falling over a longer period – the annual return on equities (based on the Barclays Equity Index, which includes both capital gains and investment income) averaged 11% from 1975 to 1985, falling to 10% on average between 1985 and 1995, 5% between 1995 and 2005, and 2.3% between 2005 and 2015.¹⁴ These changes will have affected the current value of individuals’ portfolios as well as their future expected return on investment. This affects individuals’ incentives to save – intuitively, if the return to saving is lower then individuals will choose to spend more of their money today rather than save it for the future.¹⁵

¹³ Bank of England, 2019.

¹⁴ Barclays, 2016.

¹⁵ Crawford and Sturrock, 2019.

Figure 2.3. UK Consumer Confidence Index (January 2007 = 100)

Source: OECD, 2019.

Changes in the housing market are also likely to have affected saving behaviour over this period. Average house prices, which grew an average of 11% per year (in real terms) between 1997 and 2007, fell by 5% per year from 2007 to 2012, before recovering to around their pre-crisis level by 2017.¹⁶ This may have had a large impact on the overall wealth of homeowners, who typically hold a large proportion of their wealth in housing. Over the same period, homeownership amongst younger cohorts has turned out lower than for previous generations, and more households are private renting as the social rented sector has shrunk.¹⁷ It remains to be seen whether younger generations will experience homeownership 'catch-up' – if it does not then this could have big implications for the costs and resources that future generations bring with them into retirement.

With this backdrop in mind, Figure 2.3 shows how the Consumer Confidence Index compiled by the OECD (based on surveys of consumer expectations about future developments in their own financial situation and the wider economy) has evolved between 1990 and the present day. Unsurprisingly, consumer confidence fell sharply following the financial crisis, then recovered temporarily in 2010, before dropping again. A more sustained recovery occurred from 2012 to 2016 (mirroring the confidence results in Section 3.3), although this has been followed by a drop off in confidence, likely reflecting uncertainty around Brexit and wider global economic issues.¹⁸

¹⁶ Cribb and Simpson, 2018.

¹⁷ Cribb, Hood and Hoyle, 2018.

¹⁸ For an overview of these issues, see Chapters 1–3 of Emmerson, Farquharson and Johnson (2019).

3. Expectations of retirement incomes

Key findings

- **Only around half of individuals report that they understand enough about pensions to make decisions about saving for retirement.** This low level of self-reported understanding has been persistent over the last decade, despite major pension reforms and consequent discussion of pensions in the media.
- **There has been a sizeable increase in the proportion of private sector employees expecting to get any income from a private pension in retirement – from 63% in 2013 to 78% in 2017.** This suggests that the increase in private pension membership (from 52% to 74% among the same sample over the same period), driven by the introduction of automatic enrolment, does not simply reflect a ‘timing effect’ of individuals being brought into pension saving earlier than they would otherwise have been.
- **The increase in the proportion of private sector employees who expect a private pension to be their largest income source in retirement has been smaller (+6 percentage points between 2013 and 2017).** This suggests that many new members are expecting to receive less from a workplace pension than from at least one other source, such as the state pension, in retirement.
- **Among the self-employed, in contrast, there has been a decline in the proportion expecting to receive any income in retirement from a private pension.** This mirrors the decline in private pension membership among the self-employed, which is a trend of ongoing policy concern.
- **The proportion of individuals who are confident that their income in retirement will give them the standard of living they hope for increased by 11 percentage points between 2008 and 2017.** Despite this, confidence in the adequacy of retirement incomes remains low, at only 53% in 2017.
- **A similar pattern of increased confidence in retirement income adequacy is observed across both men and women, those working and not working, and those working in the public and private sectors.** This suggests it is not the direct result of recent pension reforms (such as automatic enrolment), which would have affected different groups differently. Instead, it could be driven by rising real incomes and general consumer confidence, which both improved over this period.

In this chapter, we examine individuals' self-reported understanding of pensions, and their expectations about their retirement incomes – specifically, the sources of income they expect to receive and how confident they are that their retirement income will be enough to give them the standard of living they are hoping for. This is informative of how individuals' understanding and overall expectations might have been affected by the collection of pension reforms over the past decade.

3.1 Understanding of retirement saving environment

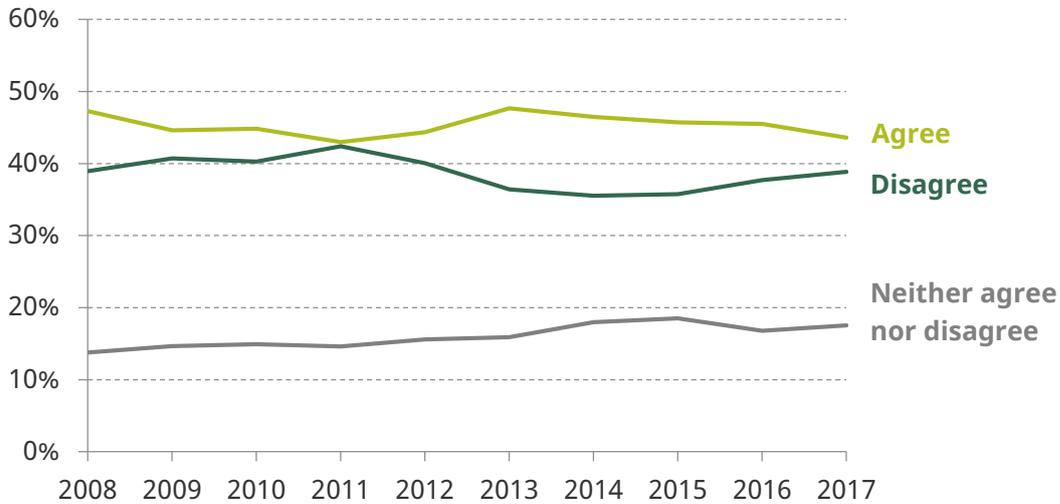
We start by examining individuals' self-reported understanding of pensions. Saving for retirement is complicated – requiring most individuals to make a range of decisions about how much, when and in what forms to save. The government's flagship automatic enrolment policy was designed to compensate for (indeed, to utilise) individuals' low levels of understanding and engagement with pensions.

There are at least three reasons why people's understanding of the retirement saving environment might have changed over the past decade. First, the introduction of 'pension freedoms' has increased the choices available to individuals accessing wealth held in defined contribution (DC) pensions. The increased number of options may mean that individuals' understanding of their options may have declined, or conversely the availability of 'simpler' options than annuitisation may have led to individuals feeling as though their understanding has increased. Alongside this reform, the government also introduced 'Pension Wise', a free guidance service for those approaching retirement with a DC pension, but take-up of the service has been low.¹⁹ Second, the introduction of the new state pension – to which accrual each year from 2016 onwards will depend only on whether someone has undertaken a contributing activity (such as paid work or looking after children) – was intended to provide greater certainty over what each individual could get from the state, which might have increased individuals' understanding. Finally, with all the reforms that have happened and significant associated media coverage, discussion and explainers, individuals may have greater awareness and may have learnt more about pension saving issues. In particular, at least some of those affected directly by automatic enrolment may be provided with more information about retirement saving than previously, and therefore potentially understand more.

Figure 3.1 describes the prevalence of individuals' responses over time to the question 'To what extent do you agree with the statement "*I feel I understand enough about pensions to make decisions about saving for retirement*"?'. Two things are striking from this chart. First, levels of self-reported understanding are low: less than half of people felt that they understood enough to make retirement saving decisions. Second, this low level of self-reported understanding has been persistent over the last decade, despite several important reforms and increased coverage of pensions in the media. The proportion disagreeing with the statement increased around 3 percentage points (ppts) between 2008 and 2011, dropped 7ppts between 2011 and 2014, and then by 2017 had recovered back to its 2008 level. There was a small increase in interviewees responding 'don't know' or 'neither agree nor disagree', which largely offset a small (4ppts) decline in the proportion who agree with the statement. There does not seem to be any particular change in rates of understanding around the time pension freedoms were announced (2014), nor around the roll-out of automatic enrolment (which started in 2012).

¹⁹ Thurley, 2018.

Figure 3.1. 'I feel I understand enough about pensions to make decisions about saving for retirement'



Note: Results for 2008 are based on half a year of data. 'Agree' includes respondents who 'strongly agree' or 'tend to agree'. 'Disagree' includes respondents who 'tend to disagree' or 'strongly disagree'.

Source: Authors' calculations using WAS waves 2-6.

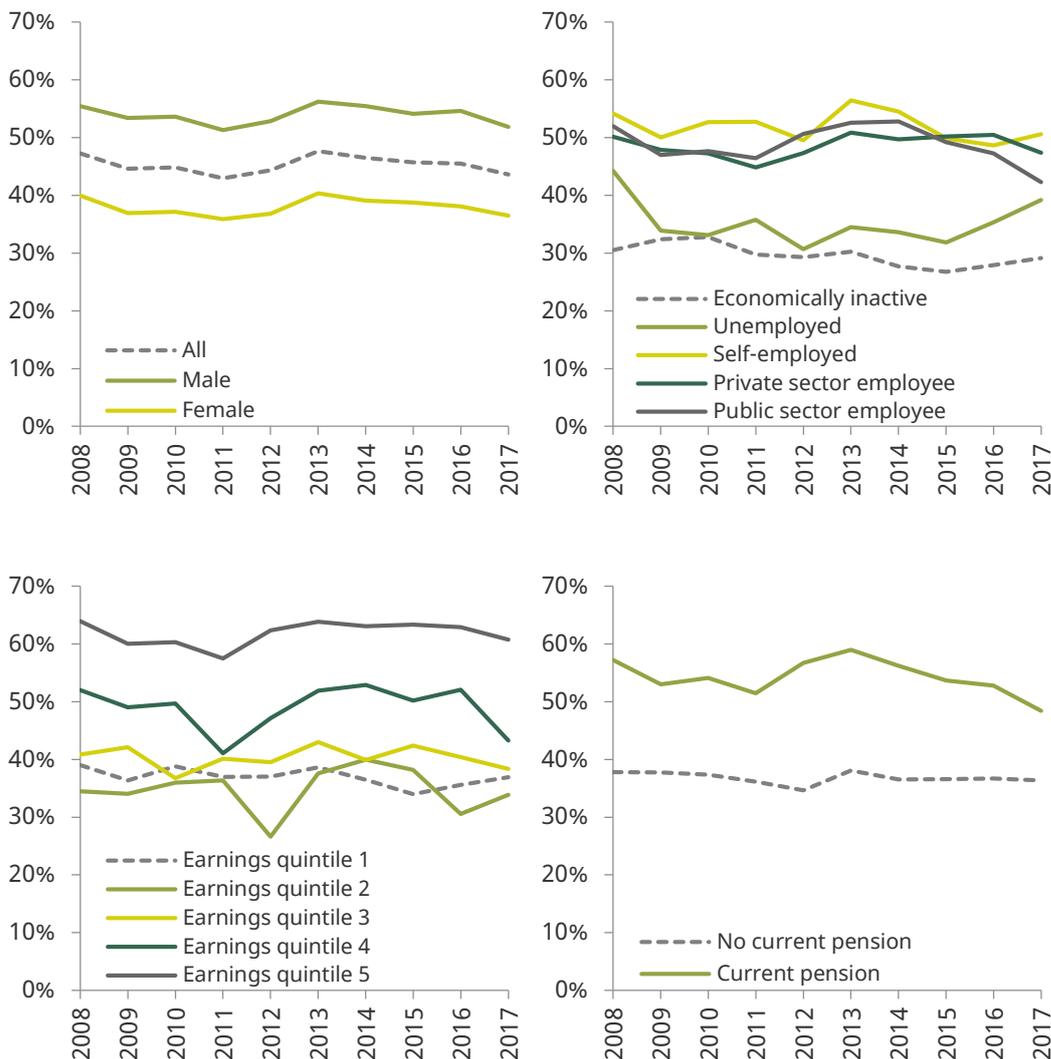
While Figure 3.1 suggests little change in overall levels of understanding, the averages could mask changes that have occurred in specific parts of the population. However, we do not find any statistically significant difference in the trends over time for men compared with women, for those with a degree compared with those without, when comparing people of different ages, or when comparing individuals at different parts of the income or wealth distribution. The top right-hand panel of Figure 3.2 shows how the proportion that (strongly or mostly) agree with the statement 'I feel I understand enough about pensions to make decisions about saving for retirement' has changed over time among those undertaking different economic activities. Overall between 2008 and 2017, there are small declines in understanding among both public and private sector employees, the self-employed and the unemployed. This is contrary to what might be expected if automatic enrolment (which predominantly affects private sector workers) were driving movements in understanding.

The low levels of understanding about pensions therefore seem relatively entrenched and at least largely unaffected by recent reforms. There is a pronounced age gradient in understanding (shown in Figure 3.3): as individuals get older, they are more likely to report understanding enough about pensions to make decisions about saving for retirement. However, even among those in their late 50s, only just over half of individuals report agreeing with the statement. This is concerning, particularly given that individuals are now saving in an age when it is largely up to themselves to decide when, how much and in which form to save for retirement, and when and how to draw on those accumulated resources in later life.

Using multivariate regression, we can look more closely at the sort of individuals who are more likely to report that they understand enough to make retirement saving decisions, and examine the association of particular individual characteristics with 'understanding'

while holding all other characteristics fixed.²⁰ We control for sex, marital status, education, private pension membership, current work status and five-year age band and find that women are (all else equal) 14ppts less likely to agree that they ‘understand enough’ than men. Understanding is positively correlated with socio-economic status: people with a degree are 10ppts more likely to report understanding than those without; those in employment are more likely to report understanding (the self-employed are 10ppts more likely than the economically inactive to report understanding, compared with 9ppts for private sector employees and 6ppts for public sector employees). There is a small but

Figure 3.2. ‘I feel I understand enough about pensions to make decisions about saving for retirement’: percentage that agree, by sex, economic activity, earnings quintile, and existence of current pension

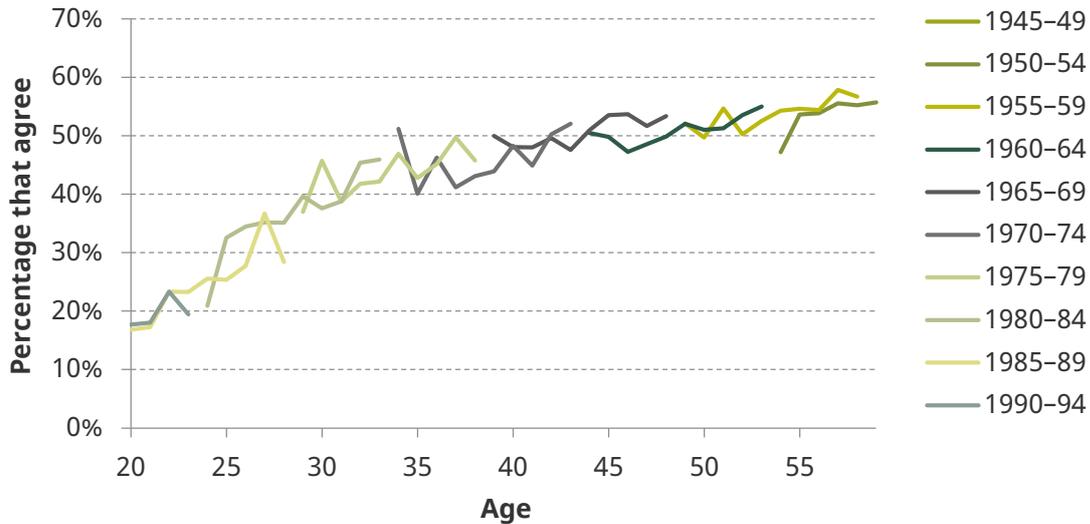


Note: Figures for 2008 are based on half a year of data. Sample is non-retired individuals aged 20–59.

Source: Authors’ calculations using WAS waves 2–6.

²⁰ Results are from a linear probability model regression for WAS survey members aged 20–59, where the dependent variable is agreeing that they understand enough to make retirement saving decisions. Full results are provided in Table A.1 of Appendix A.

Figure 3.3. 'I feel I understand enough about pensions to make decisions about saving for retirement': percentage that agree, by age and birth cohort



Note: Lines drawn for five-year birth cohorts. Figures for 2008 are based on half a year of data. Sample is non-retired individuals aged 20–59.

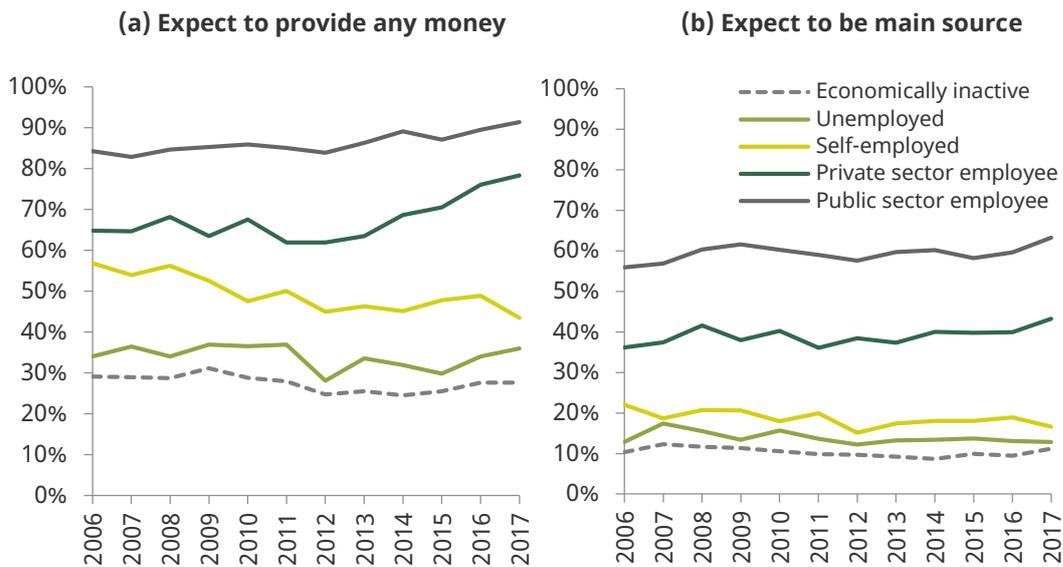
Source: Authors' calculations using WAS waves 2–6.

statistically significant difference between couples and singles: people who are in a couple (either married or cohabiting) are on average 5ppts more likely to report understanding than those who are single. Finally, and perhaps unsurprisingly, individuals who report currently paying into a pension are 10ppts more likely than those who do not have a private pension to say that they understand enough.

3.2 Retirement income sources

We turn now to individuals' expectations about the sources of income that they will rely upon in retirement. Given that automatic enrolment has increased private pension membership amongst private sector employees, it is interesting to examine whether the expected retirement income sources have changed in recent years. In the Wealth and Assets Survey, people who are not yet retired are asked which sources (from a list of options) they expect to use to provide *any* money for their retirement (they can list multiple sources), and which source they expect to be their *main* source of money for retirement.

Figure 3.4 shows the proportion who expect to use a private pension to provide *any* income (left panel) and the proportion who expect a private pension to be their *largest* income source in retirement (right panel) among those of different work statuses. The effect of automatic enrolment is evident: there is a sharp increase in the proportion of private sector employees expecting to use a private pension to provide any income in retirement (from 63% to 78% between 2013 and 2017) compared with only a 5ppt increase among public sector workers, 2ppt increases amongst the economically inactive and the unemployed, and a small decline for the self-employed. (Over the same period, the proportion of private sector employees who were members of a private pension increased from 52% to 74%.) This increase in the proportion of private sector workers expecting to get income from a private pension in retirement is important – it suggests that the well-

Figure 3.4. Percentage who expect to use private pension income in retirement

Note: Results for 2008 are based on half a year of data. Sample is non-retired individuals aged 20–59.

Source: Authors' calculations using WAS waves 1–6.

documented increase in pension membership as a result of automatic enrolment is not just a 'timing effect', inducing those who were always intending to save in a private pension to do so earlier, but also is likely to comprise an increase in the proportion of people who were ever expecting to hold a private pension.

Interestingly, the increase in the proportion of private sector employees who expect a private pension to be their largest income source in retirement (Figure 3.4b) has been smaller (+6ppts between 2013 and 2017) and very similar to the increase for public sector employees (+4ppts). This suggests that whilst membership has increased, for many new members the contributions to their private pension are not large enough for them to expect it to be their main source of income in retirement – which may indeed be correct for many people given they would need to accumulate a private pension income of around £8,800 per year for it to be larger than the annual income currently available from a full state pension.

Also evident in Figure 3.4a is a decline in the proportion of self-employed individuals expecting to receive any income from a private pension – from 57% in 2006 to 43% in 2017. This mirrors the decline in pension membership among the self-employed that is of current policy concern,²¹ and the reasons for this trend are the subject of ongoing research.

The change over time (between 2006–08 and 2016–18) in individuals' expectations regarding a wider set of potential income sources is described in Figure 3.5.²² Across all non-retired individuals aged 20–59, there were small falls in the proportion of people

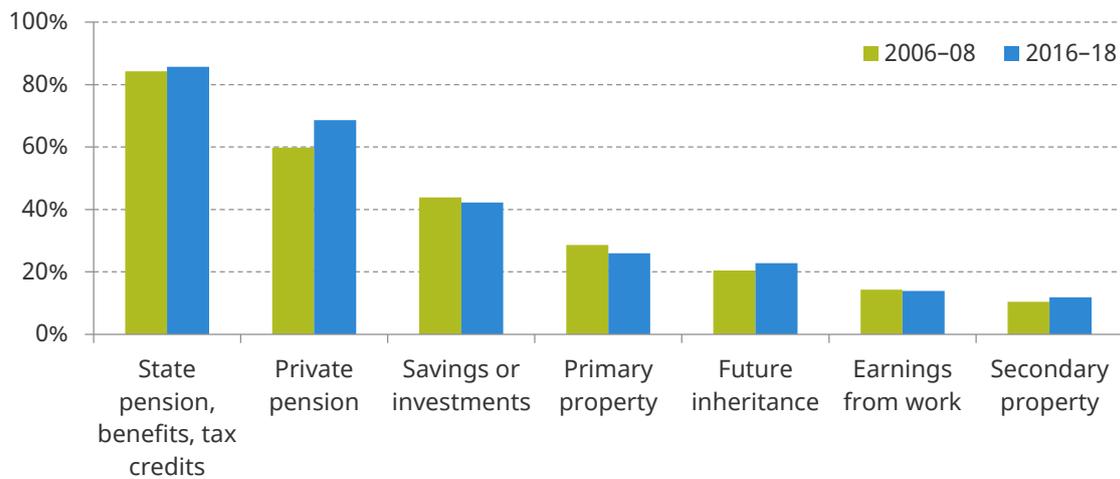
²¹ See Department for Work and Pensions (2017).

²² The correlation between individual characteristics and expected use of different income sources is examined in Crawford, Innes and O'Dea (2016).

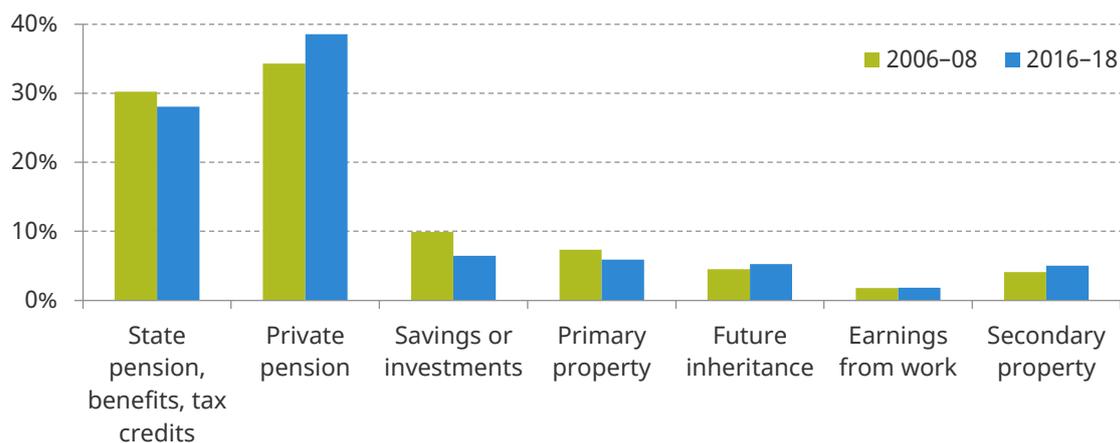
expecting to receive any income from savings or investments or from their primary residence and (as discussed above) a 9ppt increase in the proportion of individuals expecting to receive some income in retirement from a private pension. In terms of the main expected source of income in retirement, changes over time across the population as a whole are small. The biggest change was a 4ppt increase in the proportion of individuals expecting a private pension to be the main source of income in retirement, followed by a 3ppt decline in the proportion of individuals expecting savings or investments to be the main source of income in retirement.

Figure 3.5. Expected sources of money in retirement

(a) Expect to provide any money in retirement



(b) Expect to be main source of money in retirement



Note: Sample is non-retired individuals aged 20-59. Figures for 2008 are based on half a year of data. 'Primary property' includes downsizing, equity release and renting out rooms.

Source: Authors' calculations using WAS waves 1-6.

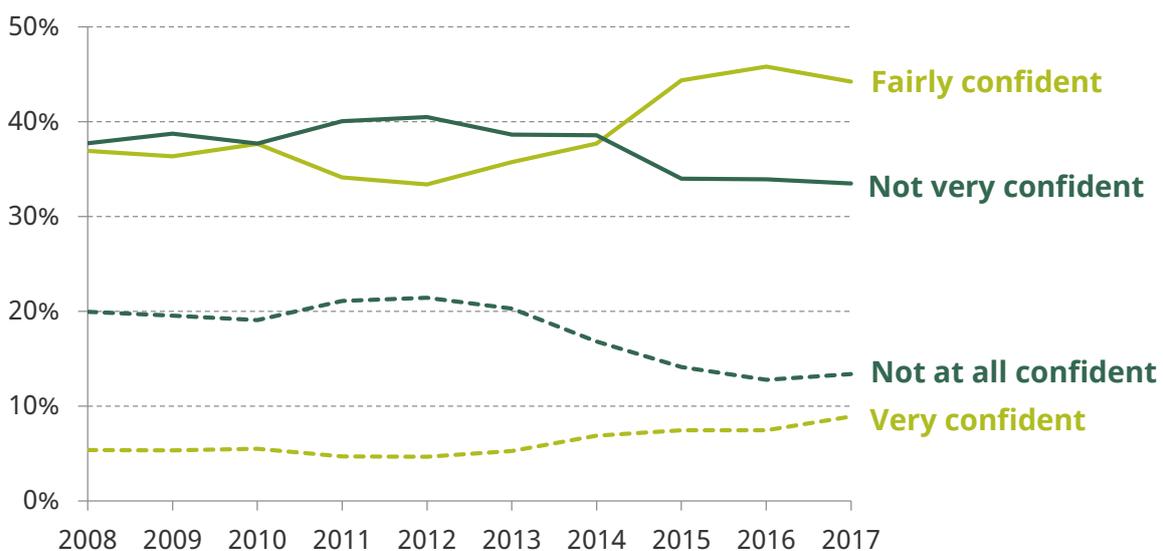
3.3 Expected adequacy of retirement resources

We turn now to individuals' expectations regarding the adequacy of their retirement resources. Specifically, individuals are asked 'How confident are you that your [household] income in retirement will give you the standard of living you hope for?'. Given many of the reforms over the last decade have been introduced with the objective of improving standards of living in retirement, how responses to this question have evolved over time is of clear interest.

Figure 3.6 shows how responses to this question have changed since 2008. The proportion who said that they were either 'very confident' or 'fairly confident' in their standard of living in retirement increased from 42% to 53% between 2008 and 2017. However, confidence actually fell for the first few years of the period shown, before increasing from around 2012 onwards. The biggest change over the period was in the proportion who reported being 'fairly confident', which increased by 11ppts between 2012 and 2017, from 33% to 44%. There was also a more modest increase (4ppts) in the proportion that reported being 'very confident'.

Using multivariate regression, we can examine the association between confidence in retirement outcomes and individual characteristics. In this analysis, we group together those reporting being 'very confident' and those being 'fairly confident' and examine characteristics associated with reporting one of those two answers rather than reporting being 'not very confident' or 'not at all confident'. We run two regressions – one using the full sample of 20- to 59-year-olds and the other on a sample containing only employees. In the first regression, we control for sex, marital status, education level, pension membership, economic activity and five-year age band. In the second, we no longer control for economic activity (since all are employed), but we add additional controls for gross annual earnings. The full results are presented in Table A.2 of Appendix A.

Figure 3.6. 'How confident are you that your [household] income in retirement will give you the standard of living you hope for?'

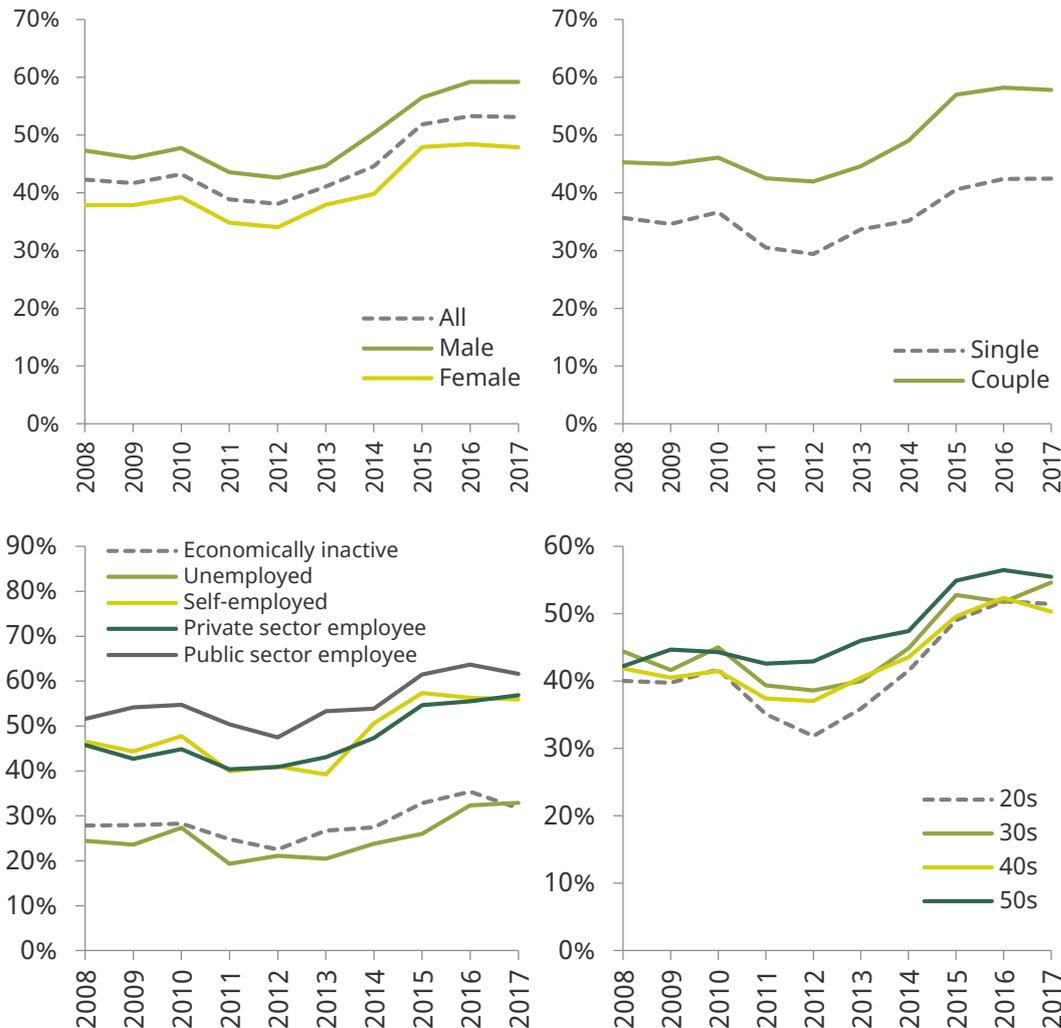


Note: Results for 2008 are based on half a year of data. Sample is non-retired individuals aged 20–59.

Source: Authors' calculations using WAS wave 2–6.

We find that, on average and all else equal, men are more likely to report being confident than women (by 8ppts), those in couples are more likely than singles to be confident (by 9ppts) and confidence is increasing in education (those with a degree are 13ppts more likely to report being confident than those without). Confidence is lowest amongst those in their early 40s (all else equal), with higher levels of confidence at both younger and older ages. Individuals in paid work are more confident than those economically inactive or unemployed. Public sector employees and the self-employed are 10–11ppts more likely to report being confident than the economically inactive, while the gap is slightly smaller for private sector employees, who are on average around 3–4ppts less likely to report being confident than other people in paid work. Perhaps unsurprisingly, those with a private pension are much more likely to report being confident in their retirement income adequacy: those currently paying into a pension are on average 14ppts more likely to report being confident than those who are not. Among employees, we find that confidence is greater among those working in the public sector than among those in the private sector (by 6ppts), and confidence is increasing in earnings.

Figure 3.7. Percentage of respondents who are 'very confident' or 'fairly confident' that their income in retirement will give them the standard of living they hope for



Note: Results for 2008 are based on half a year of data. Sample is non-retired individuals aged 20–59.

Source: Authors' calculations using WAS waves 2–6.

The trends over time in levels of confidence that are shown in Figure 3.6 largely remain even after controlling for the individual characteristics listed above. The multivariate regression results presented in Table A.2 suggest an increase in confidence between 2012 and 2017 of 11ppts holding all else equal, compared with the 'raw' increase in confidence of 15ppts shown in Figure 3.6.

While it might be tempting to attribute the increase in confidence since 2012 to the roll-out of automatic enrolment, Figure 3.7 shows that the uptick in confidence is consistent across different groups of individuals. In particular, the bottom-left panel shows that an increase in confidence is experienced not just by private sector employees, but also by the self-employed, the unemployed and the economically inactive – none of whom are directly affected by automatic enrolment. The other panels show that the increase in confidence was similar across men and women, singles and couples, and different age groups. (Note that the multivariate analysis suggests the low level of confidence among those in their 20s is driven by other factors; once other characteristics such as economic activity have been controlled for, confidence is, on average, actually more similar to that among those in their 50s.) The similarity of the trends across different subgroups suggests that the uptick in confidence is not driven by particular pension reforms, which would have affected different groups differently. Instead it is more likely driven by improving economic conditions and rising general consumer confidence since around 2012 (as described in Chapter 2).

3.4 Summary

The evidence presented in this chapter has revealed three main things. First, there has been little change in individuals' self-reported understanding of pensions over the last decade. This is perhaps not surprising, since none of the reforms was primarily aimed at changing this (and automatic enrolment was specifically designed with individuals' lack of engagement in mind). However, it may concern policymakers that the reforms do not seem to have indirectly raised awareness and understanding, given that less than half of individuals feel they understand enough about pensions to make decisions about saving for retirement.

Second, automatic enrolment appears to have led to an increase in the proportion of individuals expecting to get any income in retirement from a private pension. This is important, and suggests that automatic enrolment has not just brought forwards private pension saving that was expected to happen at some point later in life anyway. The proportion of private sector employees expecting a private pension to be their main source of retirement income has also increased, but the change has been smaller and of similar magnitude to that amongst public sector workers. To the extent that many of those brought into pension saving by automatic enrolment contribute at the default minimum contributions levels, it is perhaps not surprising that they do not expect to accumulate more private pension income than they expect to get from the state pension.

Finally, in recent years, there has been a small increase in confidence that income in retirement will give the standard of living individuals hope for. This seems largely driven by improving general consumer confidence rather than the result of automatic enrolment or other pension reforms. Despite this increase, by 2016 barely half of individuals are confident in their retirement incomes.

4. General saving behaviour and attitudes

Key findings

- **The proportion of individuals reporting having saved outside of pensions in the last two years increased from 46% to 56% between 2012 and 2017, following a small decline between 2008 and 2012. This U-shaped pattern is slightly more pronounced among groups with lower saving rates, who are more likely to be shifted from saving to not saving by a deterioration in their financial circumstances.**
- **The proportion of those who have not saved for reasons related to affordability has declined since 2012, while the proportion not saving because they 'did not want to' or 'did not need to' has been relatively unchanged. This suggests that the increased propensity of individuals to save is likely driven by improving economic conditions, higher household incomes and rising confidence over this latter part of the decade.**
- **Individuals' 'preferences for saving' – as measured by various indicators of willingness to give up income today in order to enjoy a better standard of living in the future – have been relatively stable over the past decade. This further supports the suggestion that changes in saving rates are driven by changes in economic circumstances rather than by changes in how people trade-off current and future spending.**

In this chapter, we turn to analysis of individuals' attitudes towards saving more generally, and their self-reported saving outside of pensions. This is of interest for two reasons. First, while pension savings are the main source of income individuals plan to draw on in retirement (as documented in Figure 3.5), other savings are also an important resource, and especially so for some households. Understanding how wider saving, and attitudes towards such saving, have changed over the past decade is therefore an important part of the picture.

Second, the analysis in Chapter 3, revealed that there has been an increase in confidence in the adequacy of retirement resources between 2012 and 2017 that does not appear to be concentrated among particular types of individuals, and is therefore unlikely to be the result of any particular pension reform. Examining trends in wider saving and attitudes may be revealing as to the drivers of this increase in confidence.

4.1 Preferences for saving

We start by examining individuals' self-reported 'preferences' for saving. We consider three questions that attempt to elicit some aspect of how willing individuals are to trade-off money today against having money to spend in future: 'If you had a choice of receiving

a thousand pounds today or one thousand one hundred pounds next year, which would you choose?’ and ‘Please tell me how strongly you agree or disagree with the following statements: *“I tend to live for today and let tomorrow take care of itself”* and *“If I had to choose, I would rather have a good standard of living today than save for retirement”*’.

The first question captures a combination of individuals’ patience and whether or not they are currently credit constrained – both of which would affect the expected answer. The latter two questions relate to how individuals trade-off the present and the future somewhat more generally. The questions consider different time frames: the first is about today versus a (probably generally interpreted) ‘tomorrow’, while the final question is about today versus retirement specifically.

Figure 4.1 illustrates the responses to the aforementioned questions over time. The light green line shows the proportion of individuals who agree (‘strongly’ or ‘tend to’) with the statement ‘I tend to live for today and let tomorrow take care of itself’. The dark green line shows the proportion who agree (‘strongly’ or ‘tend to’) with the statement ‘If I had to choose, I would rather have a good standard of living today than save for retirement’. Finally, the blue line shows the proportion that, if offered the choice between £1,000 today and £1,100 in 12 months’ time, would choose to have the money today.

These measures of preferences have been relatively stable over the last 10 years. The proportion choosing to take £1,000 today rather than wait 12 months for £1,100 fell by 7ppts between 2012 and 2017, which could be indicative of easing credit constraints (so fewer individuals feel they need the money up front) or increased patience. In contrast, in response to the other questions, falling numbers of individuals seemed to favour the present between 2008 and 2012. However, the overall picture is one of preferences between the present and the future that have proved fairly stable over time.

The patterns shown in Figure 4.1 remain when we use multivariate regression to control for observed characteristics (sex, marital status, education, pension membership, work

Figure 4.1. Preferences for today versus the future



Note: Results for 2006 are based on half a year of data. Sample is non-retired individuals aged 20–59.

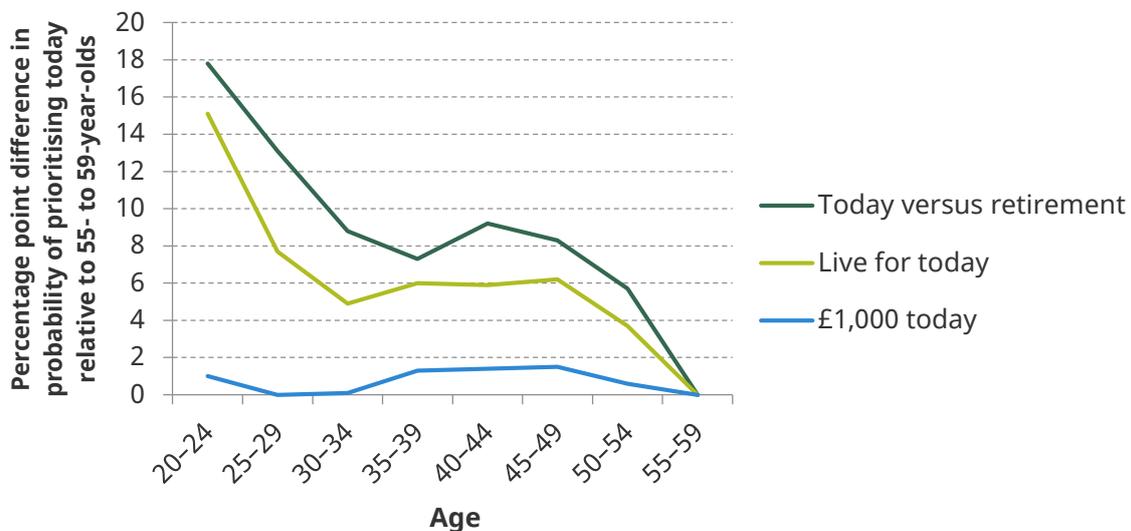
Source: Authors’ calculations using WAS waves 1–6.

status, age).²³ However, the responses to these questions do vary in systematic ways with individual characteristics. In particular, how strongly individuals agree with 'I live for today and let tomorrow take care of itself' and 'If I had to choose, I would rather have a good standard of living today than save for retirement' varies significantly with age.

As well as being illustrated by the multivariate regression results in Table A.3 of Appendix A, this is shown in Figure 4.2, which plots the proportion of individuals in each age band who agree with each statement compared with the proportion among those aged 55–59 (all else equal). For example, those aged 20–24 are 18ppts more likely than those aged 55–59 to prefer a good standard of living today than in retirement and 15ppts more likely to agree that they live for today. The somewhat stronger age profile for the 'today versus retirement' question rather than the 'today versus tomorrow' question is plausibly driven by the fact that retirement is a more proximate state for older individuals.

To the extent that these age profiles are indicative of credit constraints binding less as individuals get older, or of people being more forward looking and patient as they get older (as opposed to, say, patience varying across generations), they suggest that individuals are probably much more inclined to save (and for retirement specifically) from their 30s onwards, and particularly so in their late 50s, than they are during their 20s.

Figure 4.2. Age profile of responses to saving preference questions, measured relative to 55- to 59-year-olds



Note: The graph plots the coefficients (multiplied by 100) on five-year age band dummies in a multivariate regression controlling for other individual characteristics and time effects (full results in Table A.3 of Appendix A). For example, a score of 20 indicates that this age group is 20ppts more likely to choose the 'today' option for that question than 55- to 59-year-olds.

Source: Authors' calculations using WAS waves 2–4.

²³ Results are reported in Table A.3 of Appendix A.

4.2 Self-reported saving behaviour

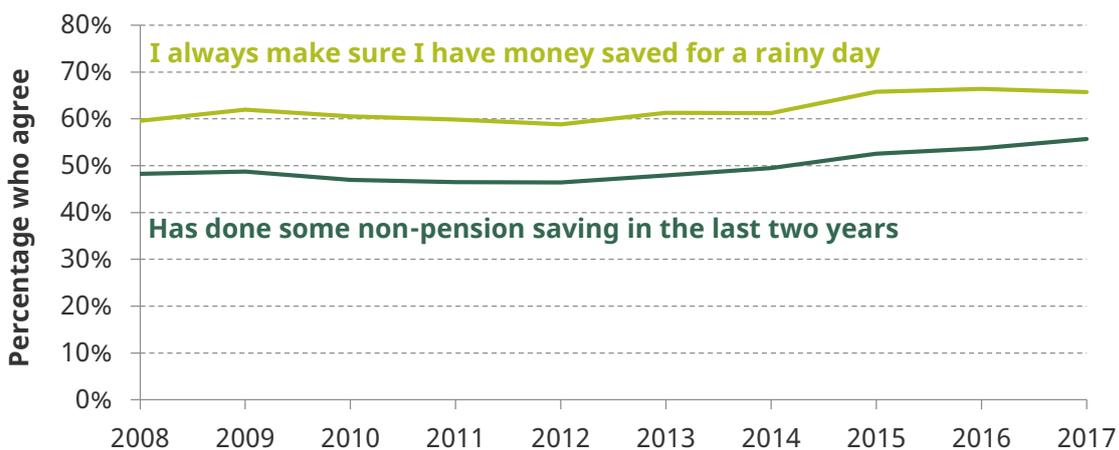
We turn now to individuals' reported saving behaviour outside of pensions. We consider two measures of self-reported saving behaviour. The first is whether individuals agree (strongly or otherwise) with the statement 'I always make sure I have money saved for a rainy day'. The second is whether an individual reports having saved in some non-pension form at any point over the last two years. We also discuss individuals' reported reasons for saving and not saving.

Figure 4.3 shows how the proportion of individuals saving, according to these measures, has changed over the past decade. The two measures follow a similar trend: they both went down slightly in the years up to 2012, followed by an uptick between 2012 and 2017 (+9ppts for having saved in the last two years; +7ppts for ensuring having money saved for a rainy day).

This increase in self-reported saving coincides with the increase in confidence in the adequacy of retirement incomes documented in Chapter 3 and the increase in consumer confidence in Chapter 2. To examine the potential drivers of this trend, we examine both differences in the pattern over time between groups, and the reported reasons individuals give for saving or not saving (as applicable).

The patterns over time are similar across different groups of individuals.²⁴ However, there is some evidence that groups with lower propensity to save to begin with – for example, those with lower levels of education, younger adults, or those who are not in paid work – saw more of a 'U' shape over the time period (i.e. a more pronounced decline between 2008 and 2012 and then a slightly stronger increase). This is likely driven by individuals with lower propensity to save tending to save less (in £) than those in higher-status households. If anything happens that causes them to reduce their saving, they are therefore more likely to be shifted from 'saving' to 'not saving'. Households that save

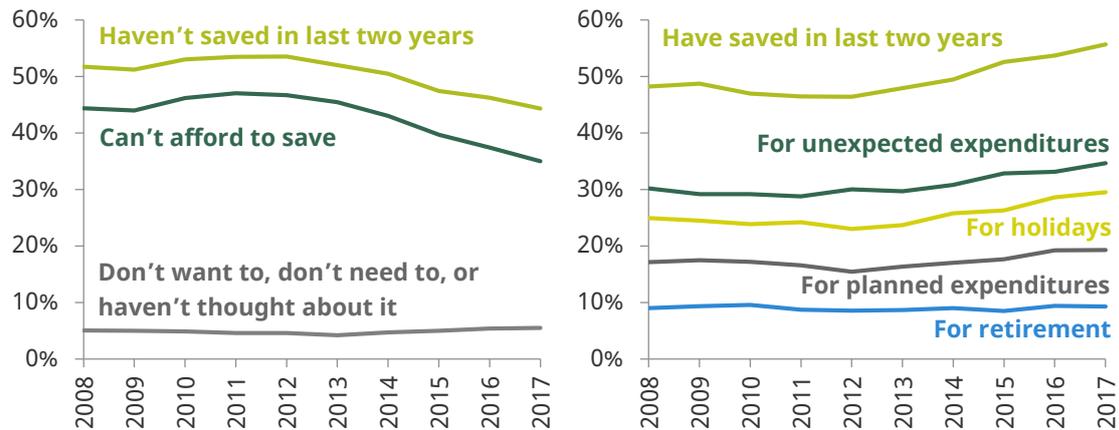
Figure 4.3. Self-reported saving behaviour



Note: Results for 2008 are based on half a year of data. Sample is non-retired individuals aged 20–59.

Source: Authors' calculations using WAS waves 2–6.

²⁴ Crawford, Innes and O'Dea (2016) examine the correlation between self-reported non-pension saving and individual characteristics.

Figure 4.4. Reasons for not saving and for saving

Note: Results for 2008 are based on half a year of data. Sample is non-retired individuals aged 20–59.

Source: Authors' calculations using WAS waves 2–6.

more (in £) to begin with can reduce the amount that they save and still have saved something in the last two years.

Figure 4.4 describes the prevalence of individuals reporting not saving for different reasons (in the left-hand panel) and saving for different reasons (in the right-hand panel). The proportion of those who have not saved for reasons related to not being able to afford to has declined since 2012, while the proportion not saving because they did not want or need to has been relatively unchanged. This suggests that the increased propensity of individuals to save might be driven by improving economic conditions, higher household incomes and rising confidence over this latter part of the decade.

There has been a small increase in the proportion of individuals reporting saving for a variety of different reasons – for holidays, and for planned and unexpected expenses – which again suggests these trends are the result of households' improving financial circumstances, rather than an increase in need or motivation to save for a particular purpose. Interestingly, the proportion of individuals reporting saving (outside of pensions) for retirement has been essentially flat over the period at around just 10%. It is reassuring for retirement incomes that this proportion does not appear to have fallen despite the increase in pension membership since automatic enrolment was introduced. It should be kept in mind, though, that over this period the default contributions under automatic enrolment were low, with a minimum total contribution of just 2% of qualifying gross earnings. It was only in April 2018 that this minimum was increased to 5% (and in April 2019 that it increased to 8%).

4.3 Summary

The results in this chapter have revealed that preferences for saving have not changed in a substantive way over the last decade. The prevalence of self-reported saving (outside of pensions) has increased since around 2012, and it looks likely this might have been driven by improving economic circumstances and consumer confidence. However, it remains the case that not all individuals enjoy the security provided by holding savings: in 2017 only two-thirds of individuals reported always having money saved for a rainy day.

5. Expected retirement ages

Key findings

- **When asked when they will retire, individuals aged 40–54 in 2006–08 responded with very rounded numbers: only 8% responded with an age that was not a multiple of five. By 2016–18, responses among equivalently aged individuals were much more varied: 29% reported expecting to retire at 66, 67 or 68.**
- **Over the last decade, the average age at which men and women in their 40s and early 50s expect to retire has increased significantly. For men, the average expected retirement age increased from 62.9 to 65.0 between 2006 and 2017. The increase was slightly larger for women, from 61.7 to 64.2. Women aged 40–54 in 2017 still expect to retire more than half a year earlier than men (despite having the same state pension age).**
- **The increases in the average expected retirement age between 2006 and 2017 were greater than the increases in the state pension age. Between 2006 and 2017, the average SPA increased by 1.5 years for men aged 40–54 and by 1.8 years for women, while the average expected retirement age increased by 2.1 years for men and 2.4 years for women. The increase in expected retirement ages is similar across those with different levels of education, those working in different sectors, those with different levels of health and those with different private pension arrangements.**
- **Expected retirement length has, on average, remained broadly unchanged over this period, at around 21 years for men and 22 years for women, despite the later expected retirement ages. On average, 40% of men and 34% of women aged 40–54 in 2006 stated that they had thought about how long a retirement they might need to fund, and this proportion remained fairly stable over the subsequent decade.**

In this chapter, we study the expected retirement age of adults in their 40s and early 50s. The age at which people expect to retire is an important metric that guides individual saving decisions – previous research has studied how such expectations are formed²⁵ and how they correlate with subsequent retirement behaviour.²⁶ Here, we focus on how expectations have changed over time – a broad indicator of whether individuals’ plans for working life and retirement have responded to changes in government policy that have made government support less generous (higher state pension age and reduced pension entitlement for public sector employees) whilst also increasing private pension enrolment.

²⁵ For example, Bottazzi, Jappelli and Padula (2006).

²⁶ For example, Solem et al. (2016).

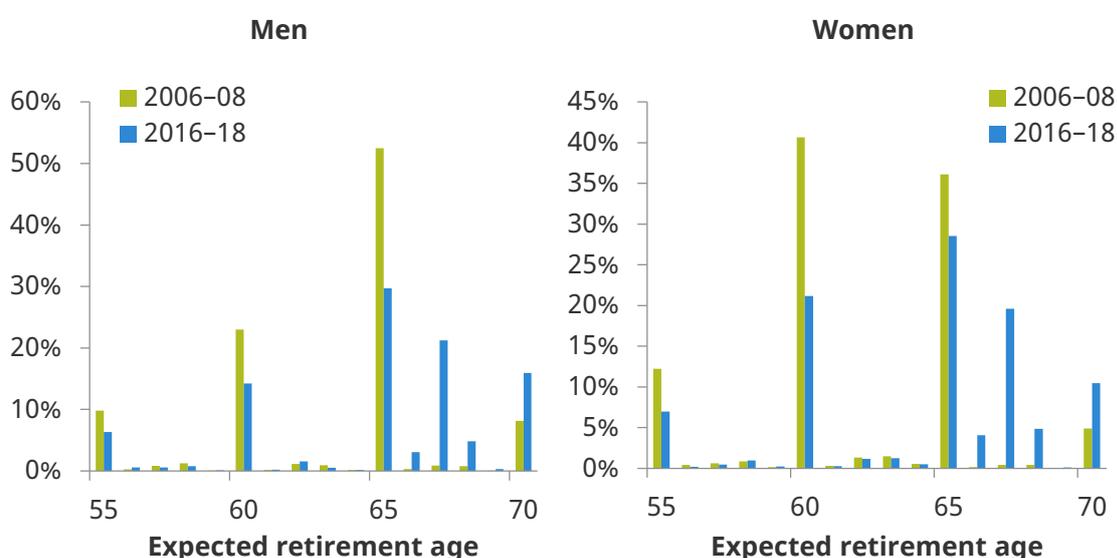
In the Wealth and Assets Survey, adults aged 40 and above, and who are not yet retired, are asked 'At what age do you expect to retire (from your main job)?'. We restrict our analysis to adults younger than 55 because labour force participation at older ages has been changing over time, and we want to avoid our results being driven by changes over time in the proportion of the population who have not yet retired.

5.1 Changes in the expected retirement age of men and women

Figure 5.1 shows the distribution of responses to this question amongst adults aged 40–54 in the first and last waves of WAS data that are available (2006–08 and 2016–18) – for men in the left-hand panel and for women in the right-hand panel. Each bar represents the proportion of people who reported expecting to retire at that particular age (among those who did not answer 'don't know'). For example, in 2006–08, 52% of men who responded to this question expected to retire at age 65. Three points stand out from these figures.

First, when asked when they will retire, people tended to say multiples of five (e.g. 55, 60, 65, 70). In 2006–08, only 8% of individuals who answered this question did not respond with a multiple of five. Similar patterns have been observed in other surveys of retirement expectations in other countries²⁷ and in survey questions on other topics such as reporting expected age of death,²⁸ so it may not be retirement-age-specific factors that are driving this result. However, 60 and 65 are particularly focal ages, being the state pension ages that applied for women and men (respectively) for over half a century before 2010.

Figure 5.1. Expected age of retirement among 40- to 54-year-olds



Note: Sample is non-retired individuals aged 40–54 who answered the question 'At what age do you expect to retire (from your main job)?' with an expected retirement age. '55' includes responses of 55 or below; '70' includes responses of 70 or above. For men in 2006–08, 7% of respondents said 55, 2% said 54 or below, 6% said 70 and 2% said 71 or above. For men in 2016–18, 5% said 55, 2% said 54 or below, 12% said 70 and 3% said 71 or above. For women in 2006–08, 9% said 55, 3% said 54 or below, 3% said 70 and 2% said 71 or above. For women in 2016–18, 5% said 55, 2% said 54 or below, 7% said 70 and 3% said 71 or above.

Source: Authors' calculations using WAS waves 1 and 6.

²⁷ For example, Cobb-Clark and Stillman (2009).

²⁸ As seen in Rappange, Brouwer and van Exel (2016).

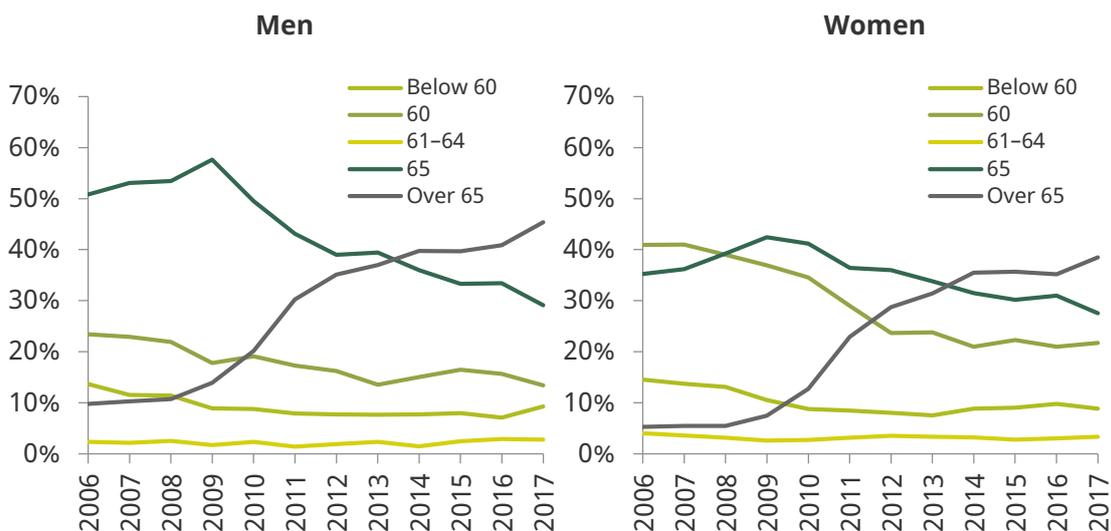
Second, despite the tendency to give answers that are multiples of five, in more recent years respondents are much more likely to expect to retire at 66, 67 or 68. In 2016–18, 29% of men and women gave one of these ages as their answer, compared with 2% and 1% respectively in 2006–08.

Third, both men and women now expect to retire later (as represented by the fact that the blue bars are more clustered towards the right-hand side of each figure, whereas the green bars are more dispersed). In 2006–08, 35% of men and 55% of women expected to retire at 60 or younger. In 2016–18, these proportions were 23% and 30% respectively.

To unpick the timing of this shift in retirement expectations, Figure 5.2 shows over time the proportion of men (left panel) and women (right panel) who report expecting to retire below 60, at 60, between 61 and 64, at 65, and over 65. For men, the proportion expecting to retire at over 65 increased rapidly and (with the exception of a short flattening out between 2014 and 2016) consistently between 2008 and 2017, from 11% to 45%. This has been offset by a corresponding decline in the proportion expecting to retire at age 65. In some respects, the picture for women is similar – the proportion expecting to retire later than 65 also increased rapidly, from 5% to 39% between 2008 and 2017. However, these increases have been offset by declines in both the proportion expecting to retire at 65 and the proportion expecting to retire at 60, which were both common answers for women at the start of this period.

The obvious context for the later expected retirement ages, and the increasing proportion of individuals reporting expecting to retire at 67 in particular, is the increase in the state pension age. In 2006–08, men aged 40–54 had a state pension age of 65 or 66 and women aged 40–54 had a state pension age between 61 and 66. By 2016–18, both men and women at these ages had a state pension age of 67. This is partly because the group of people who are aged 40–54 changes over time – in particular, they are born later, and

Figure 5.2. Expected age of retirement among 40- to 54-year-olds



Note: Sample is non-retired individuals aged 40–54 who answered the question ‘At what age do you expect to retire (from your main job)?’ with an expected retirement age. ‘55’ includes responses of 55 or below; ‘70’ includes responses of 70 or above. Results for 2006 are based on half a year of data.

Source: Authors’ calculations using WAS waves 1–6.

therefore have different state pension ages because the increases legislated in 1995 (to 65) and 2007 (up to 68) are being phased in according to date of birth. And it is partly because further legislation was introduced in 2011 and 2014 that sped up the increases in the state pension age (to 65, 66 and 67) relative to what had been legislated in 2007.

However, it should not be forgotten that an increase in the SPA does not automatically lead to an equivalent increase in expected ages of retirement. Not everyone retires, or expects to retire, at their SPA – individuals can choose to retire before they can claim a state pension (perhaps able to claim some private pension income earlier), or they can claim a state pension when they reach their SPA and continue working (or they can defer claiming their state pension until sometime after they reach their SPA). Furthermore, between 2006 and 2017, the average SPA increased by 1.5 years for men aged 40–54 and by 1.8 years for women of the same ages, while the average expected retirement age increased by 2.1 years for men (from 62.9 to 65.0) and 2.4 years for women (from 61.7 to 64.2). In other words, revised retirement ages have on average been greater than the increases in the state pension age. While for women this could be due to increased awareness of pre-existing increases in the state pension age, the similar increase for men suggests other factors are also important.

These changes over time in average retirement expectations can be decomposed into the effect of changes in the group of people aged 40–54 and changes over time in the expectations of particular individuals who remain in that group. In Figure A.1 in Appendix A, we take just those individuals who are observed in two consecutive waves of WAS and see whether they change their expectations between those two waves. We find that it is common for individuals to change their expected retirement age between interviews, and this is increasingly so over time: the proportion who changed their expectation since their last interview was 44% for men and 46% for women in 2008, rising to 63% and 69% (respectively) in 2016. Between 2008 and 2013, both men and women were more likely to revise their expectation upwards than downwards. After 2013, both upwards and downwards revisions were about equally likely.

5.2 How do expected retirement ages vary with other characteristics?

We use multivariate regression analysis to examine how expected retirement age varies with individual characteristics. Specifically, we control for age, sex, marital status, education, work status, pension membership, self-reported health, net financial wealth quintile (where we divide wealth by two for couples, and calculate quintiles within 10-year age bands and year) and homeownership status. The full results are provided in Table A.4 of Appendix A.

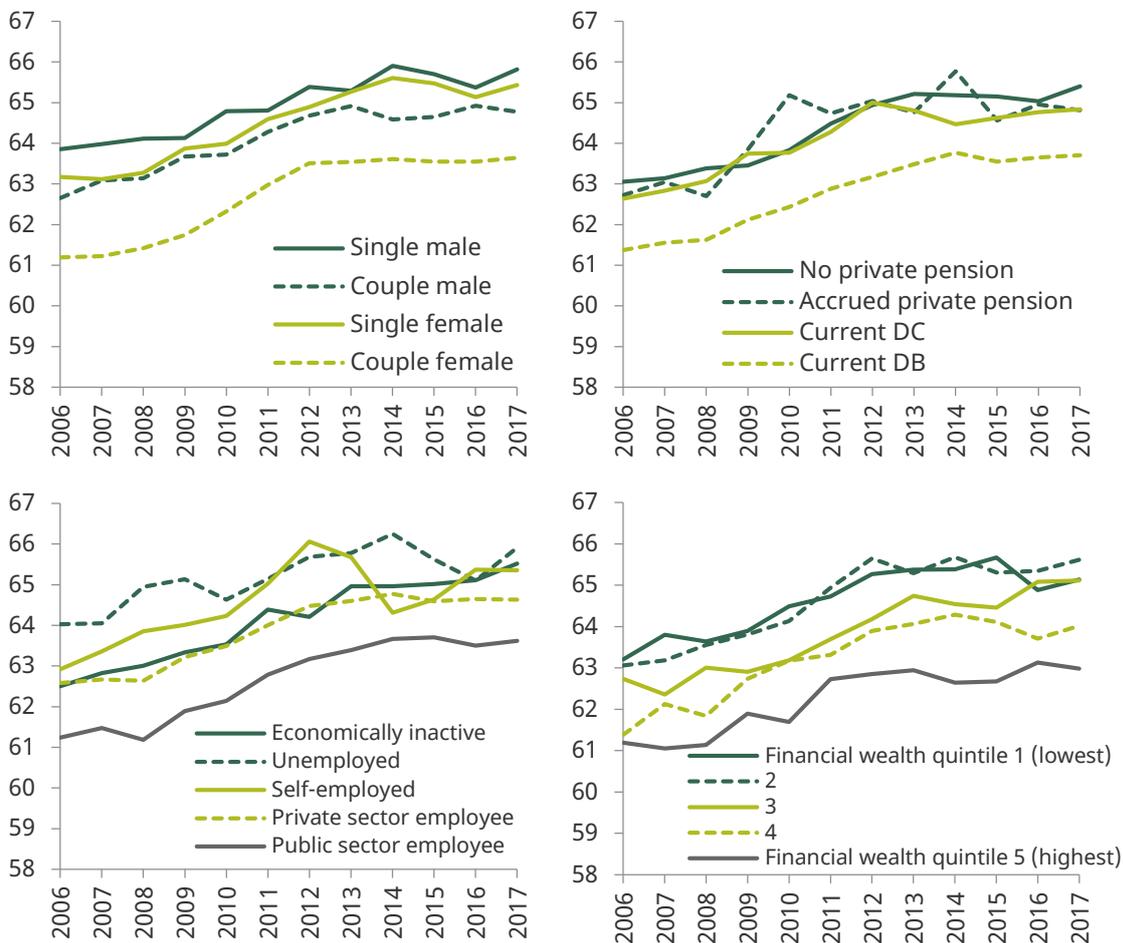
We find that women expect to retire around a year earlier than men and couples expect to retire 0.9 years before singles. Expected retirement age is strongly related to employment status. We find that public sector workers expect to retire earlier than other employees, the unemployed and the economically inactive. The self-employed, all else equal, expect to retire around half a year later than private sector employees. Those currently paying into a defined benefit (DB) pension scheme on average expect to retire 0.8 years earlier than those with defined contribution (DC) pensions or no private pension at all.

Expected retirement age is also strongly correlated with wealth. We find that expected retirement age is decreasing in net financial wealth (the highest financial wealth quintile

on average expect to retire two years earlier than the lowest wealth quintile) and that homeowners on average expect to retire one year earlier than those who rent. After controlling for economic circumstances, we find that expected retirement age is not correlated with self-reported health, contrasting with the raw correlation which shows that those with better self-reported health expect to retire younger.

Figure 5.3 shows that the trends over the last decade are strikingly similar for many groups. There is some evidence that average expected retirement age increased more rapidly for women in couples than for men or single women between 2006 and 2012 and for those in the middle of the wealth distribution compared with the highest- and lowest-wealth individuals. However, there was no statistically significant difference in the trends by education status, pension membership, self-reported health, homeownership or employment status. Overall, the gaps across groups remained approximately constant over this period.

Figure 5.3. Average expected retirement age by group, over time



Note: Sample is non-retired individuals aged 40–54. Results for 2006 are based on half a year of data. Financial wealth is real net household financial wealth – divided by two for couples.

Source: Authors' calculations using WAS waves 1–6.

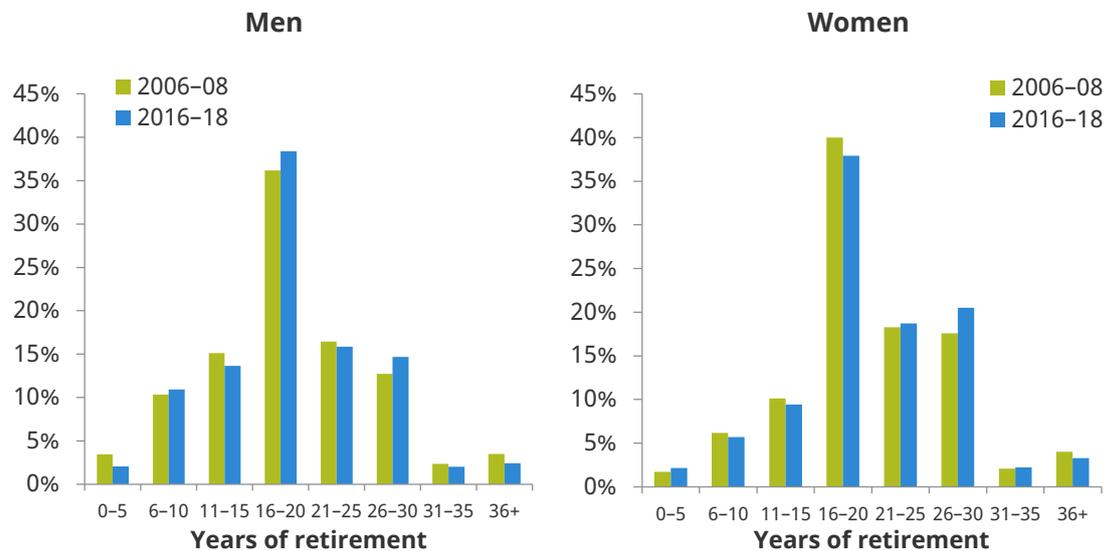
5.3 Expected duration of retirement

The Wealth and Assets Survey also asks respondents about their expectations regarding retirement length – specifically, ‘Have you ever thought how many years of retirement you might need to fund?’ and, if they have, ‘For how many years do you think you will be retired?’.

On average, only 40% of men and 34% of women aged 40–54 in 2006 reported that they had thought about how many years of retirement they might need to fund. This proportion remained fairly stable over the subsequent 10 years, despite the many pension reforms over this period that we might expect would cause people to think in more detail about their retirement plans. Similar to the results in Chapter 3 pertaining to understanding of retirement saving, we find that more educated people are more likely to have thought about how long they expect to be retired for than those with less education, couples are more likely than singles, those in better health are more likely than those in poor health, and people with a current pension are more likely than those not currently contributing to a pension (holding all else equal for each comparison).

Figure 5.4 shows, amongst those who reported that they had thought about how many years of retirement they might need to fund, the distribution of expected retirement durations in 2006–08 and 2016–18. Responses are grouped into five-year bins, but only a small proportion of responses were not a multiple of five. The average expected retirement length has remained broadly unchanged over this period, at 21 years for men and 22 years for women.²⁹ This is interesting, given that the average expected retirement age among the same group of people increased by 2.1 years for men and 2.4 years for women over the same period. In other words, individuals’ later average expected

Figure 5.4. Expected duration of retirement (in years) among 40- to 54-year-olds



Note: Sample is non-retired individuals aged 40–54 who report an expected retirement duration.

Source: Wealth and Assets Survey waves 1 and 6.

²⁹ Figures are the average over 2006–16, for men and women aged 40–54. Results are robust to excluding responses of 50+ expected years in retirement.

retirement age is not feeding through into a shorter expected period of retirement. Crawford and Tetlow (2012) calculate that individuals' expected retirement ages and length of retirement implied expectations of life that were too pessimistic by around 2 years for men and 4 years for women, when compared with official cohort-based life expectancy projections. The new results here – with retirement expected around 2 years later and retirement length being largely unchanged – suggest men may now have expectations of retirement length that are broadly correct, while women still underestimate their retirement durations.

6. Conclusions

The UK pensions landscape has seen a whole range of reforms in the last decade, aimed at extending working lives, reining back the public finance cost of an ageing population, and helping individuals secure a good standard of living in retirement. In this report, we have looked at how retirement savings-related expectations, attitudes and behaviours have changed over this period. These outcomes are not only of direct interest, but may also give a sense of how these reforms will affect behaviour well into the future.

The backdrop for these reforms has been a decade of poor economic performance and weak income growth (particularly for younger households). Several behaviours and attitudes have shown patterns of decline and recovery, approximately tracking changes in the overall economic environment. The probability of reporting saving outside a pension (which fell after the 2008 financial crisis) has risen gradually since 2012 and is now well above its 2008 level. Similarly, confidence, which is generally low (almost half of the population are not very, or not at all, confident in having an income in retirement that will provide the standard of living in retirement that they would hope for), has shown a marked pickup since 2012. That said, there isn't clear evidence that the working-age population is much more (or less) future-oriented than it was in the mid-to-late 2000s.

Automatic enrolment, rolled out for private sector employees starting in 2012, has increased both enrolment in workplace pensions and the proportion of individuals expecting to receive private pension income in retirement. This latter effect suggests that the increased enrolment is not just a 'timing effect', inducing those who were always going to save in a pension to do so earlier, but also reflects an increase in the proportion of people who were ever going to save in a private pension. However, we find a smaller increase in the proportion of private sector employees who expect a private pension to be their main income source in retirement, suggesting that the contributions of new entrants to their pensions are small (as perhaps would be expected, given relatively low default contribution rates).

By far the biggest change in attitudes in recent years is with respect to expected ages of retirement. There have been consistent increases in average expected retirement ages for both men and women in their 40s and early 50s, with big reductions in the reported expectation of retiring at 60 or 65 among both sexes. Instead, there are now significant numbers who say they expect to retire at an age between 66 and 70. The growth in expected retirement age has actually been greater than the increases in the legislated state pension ages over this period. While for women this could be in part a result of belatedly realising that their pension age had already been increased beyond age 60, this is unlikely to be the full story. There has been a greater increase in average expected retirement ages than the increase in the state pension age for men as well as women. Of course, expectations over retirement timing may change, or prove to be inaccurate, but this does suggest that a key way that people expect to respond to the challenge of funding a longer life is to work longer than those in earlier generations.

It is interesting, given the big increase in confidence and expected retirement age we see over this period, that over a third of working-age people say they do not understand enough to make decisions about pensions, a proportion that has remained broadly constant over the decade-long period of our study. This is concerning, and especially given that pension freedoms and the gradual replacement of defined benefit pensions with

defined contribution schemes have, for the vast majority of private sector employees, increased the number and complexity of retirement decisions they have to make.

Finally, it is worth bearing in mind that, with there having been lots of changes to the pensions landscape in recent years, it may take a long time for people to adjust to the new environment (even if there are not further reforms introduced). For example, even with a 15-year gap between the announcement in 1995 and implementation in 2010 for the first increase in the female state pension age, many were unaware of their SPA only a few years before 2010.³⁰ People might therefore adjust only slowly to the new retirement savings world they find themselves in. Some expert guidance through this is likely to be important, to help people make informed choices and to try to prevent people reaching retirement with far less than they had hoped for or expected. In addition, a more stable policy situation, alongside the new simpler state pension environment, might mean that people can catch up with all the changes that have occurred.

³⁰ Banks and Tetlow, 2008.

Appendix A. Additional results

Table A.1. Linear probability model: probability that respondent agrees or strongly agrees they understand enough about pensions to make decisions about retirement saving

	(1) All
2008	
2009	-0.019*
2010	-0.017
2011	-0.039***
2012	-0.026**
2013	0.005
2014	-0.012
2015	-0.026**
2016	-0.036***
2017	-0.064***
2018	-0.056***
Female	-0.137***
Married or cohabiting	0.045***
Has a degree	0.100***
No private pension	
Accrued private pension	0.064***
Current private pension	0.100***
Economically inactive	
Unemployed	0.036***
Self-employed	0.099***
Private sector employee	0.088***
Public sector employee	0.064***
20-24	
25-29	0.062***
30-34	0.114***
35-39	0.137***
40-44	0.183***
45-49	0.212***
50-54	0.234***
55-59	0.265***
Constant	0.206***
Number of observations	75,067
Adjusted R-squared	0.09

Note: Sample is adults aged 20–59 who are not retired and who are interviewed in person. ‘Public sector employee’ is a proxy based on the respondent’s industry of employment (SIC code). SIC codes 84, 85 and 86 are classed as ‘public sector’ and the remainder as ‘private sector’.

Source: Authors’ calculations using WAS waves 2–6.

Table A.2. Linear probability model: probability that respondent is very confident or fairly confident that their income in retirement will give them the standard of living they hope for

	(1) All	(2) Employees only
2008		
2009	-0.006	-0.005
2010	0.011	0.012
2011	-0.038***	-0.027*
2012	-0.046***	-0.034**
2013	-0.020*	0.000
2014	0.007	0.019
2015	0.074***	0.089***
2016	0.078***	0.091***
2017	0.066***	0.087***
2018	0.076***	0.092***
Female	-0.081***	-0.068***
Married or cohabiting	0.094***	0.084***
Has a degree	0.133***	0.070***
No private pension		
Accrued private pension	0.077***	0.045**
Current private pension	0.142***	0.117***
Economically inactive		
Unemployed	-0.049***	
Self-employed	0.096***	
Private sector employee	0.068***	
Public sector employee	0.109***	0.056***
20-24		
25-29	-0.078***	-0.063***
30-34	-0.085***	-0.080***
35-39	-0.113***	-0.116***
40-44	-0.119***	-0.122***
45-49	-0.094***	-0.103***
50-54	-0.066***	-0.063***
55-59	-0.029***	-0.019
Gross annual earnings (£000s)		0.004***
Earnings squared		-0.000***
Constant	0.319***	0.315***
Number of observations	75,852	53,108
Adjusted R-squared	0.10	0.09

Note: Sample is adults aged 20-59 who are not retired and who are interviewed in person. 'Public sector employee' is a proxy based on the respondent's industry of employment (SIC code). SIC codes 84, 85 and 86 are classed as 'public sector' and the remainder as 'private sector'. Gross annual earnings are individual rather than household earnings.

Source: Authors' calculations using WAS waves 2-6.

Table A.3. Linear probability model: different measures of saving preference

	(1) Today versus retirement	(2) Live for today	(3) £1,000 today
2008			
2009	-0.024*	0.003	-0.023**
2010	-0.037***	-0.014	-0.019*
2011	-0.055***	-0.048***	-0.036***
2012	-0.037***	-0.041***	-0.010
2013	-0.040***	-0.040***	-0.050***
2014	-0.023*	-0.020	-0.032***
Female	-0.012*	-0.035***	0.037***
Married or cohabiting	-0.003	-0.044***	0.011**
Has a degree	-0.125***	-0.140***	-0.123***
No private pension			
Accrued private pension	-0.003	-0.035*	-0.037**
Current private pension	-0.060***	-0.080***	-0.050***
Economically inactive			
Unemployed	-0.019	0.013	0.027**
Self-employed	-0.008	-0.043***	-0.016
Private sector employee	0.026***	-0.019**	-0.016**
Public sector employee	0.024**	-0.021*	-0.000
20-24			
25-29	-0.047***	-0.074***	-0.010
30-34	-0.090***	-0.102***	-0.009
35-39	-0.105***	-0.091***	0.003
40-44	-0.086***	-0.092***	0.004
45-49	-0.095***	-0.089***	0.005
50-54	-0.121***	-0.114***	-0.004
55-59	-0.178***	-0.151***	-0.010
Constant	0.707***	0.637***	0.839***
Number of observations	50,983	50,900	50,432
Adjusted R-squared	0.03	0.05	0.03

Note: Sample is adults aged 20-59 who are not retired and who are interviewed in person. 'Public sector employee' is a proxy based on the respondent's industry of employment (SIC code). SIC codes 84, 85 and 86 are classed as 'public sector' and the remainder as 'private sector'.

Source: Authors' calculations using WAS waves 2-4.

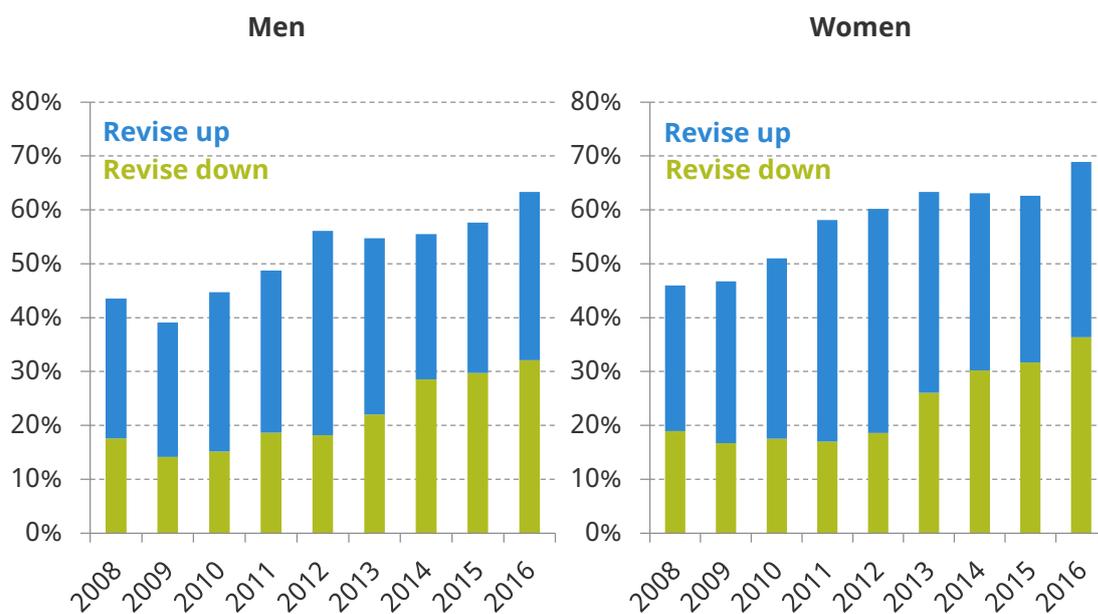
Table A.4. Linear probability model: expected retirement age amongst 40- to 54-year-olds

	(1) Expected retirement age
2006	
2007	0.155
2008	0.243
2009	0.681***
2010	0.959***
2011	1.526***
2012	1.959***
2013	2.046***
2014	2.128***
2015	1.995***
2016	2.053***
2017	2.154***
2018	2.594***
Female	-0.970***
Married or cohabiting	-0.875***
Has a degree	0.157**
No private pension	
Accrued private pension	0.138
Current private pension (DC)	0.058
Current private pension (DB)	-0.793***
Economically inactive	
Unemployed	0.475**
Self-employed	0.760***
Private sector employee	0.269**
Public sector employee	-0.261*
Aged 40-44	
Aged 45-49	0.012
Aged 50-54	-0.007
Bad health	
Fair health	0.104
Good health	0.251
Very good health	0.011
Financial wealth quintile 1 (lowest)	
Financial wealth quintile 2	-0.179*
Financial wealth quintile 3	-0.549***
Financial wealth quintile 4	-0.978***
Financial wealth quintile 5 (highest)	-2.078***
Homeowner	-0.961***
Constant	64.949***
Number of observations	41,198
Adjusted R-squared	0.11

Note: Sample is adults aged 40–54 who are not retired and who are interviewed in person. ‘Public sector employee’ is a proxy based on the respondent’s industry of employment (SIC code). SIC codes 84, 85 and 86 are classed as ‘public sector’ and the remainder as ‘private sector’. Financial wealth quintile is based on household financial wealth (divided by two if the individual is in a couple). Quintiles are calculated conditional on 10-year age band and year of interview.

Source: Authors’ calculations using WAS waves 1–6.

Figure A.1. Percentage revising retirement expectations up or down, by year and sex



Note: Results for 2008 and 2016 are based on half a year of data. Sample is non-retired individuals aged 20–59 who are observed in two consecutive waves.

Source: Authors' calculations using WAS waves 1–5.

Appendix B. The causal effect of private pension automatic enrolment on expectations, attitudes and behaviours

In Chapters 3–5 of this report, we have documented changes in various attitudes, expectations and behaviours over the last decade, and discussed these in the context of some of the policy reforms that have occurred over the same period. We have not, however, attempted to formally ascribe these as being the causal impact of any particular reform. Doing so is challenging, not least given the quantity of reforms that have occurred and the uncertainty around the extent and timing of individuals' awareness and understanding of these reforms.

In this appendix, we tackle that issue for one particular reform: the introduction of automatic enrolment (AE). We use the gradual roll-out of automatic enrolment to provide an exogenous (random) change in pension participation, in order to shed light on the causal impact of being brought into private pension saving by automatic enrolment on savings-related behaviours and attitudes. In the first subsection, we discuss why simply comparing attitudes between members and non-members of private pensions post-AE does not answer this question. We then go on to discuss our methodology for estimating the causal effect of the reform and to present our results.

Private pension members are different from non-members

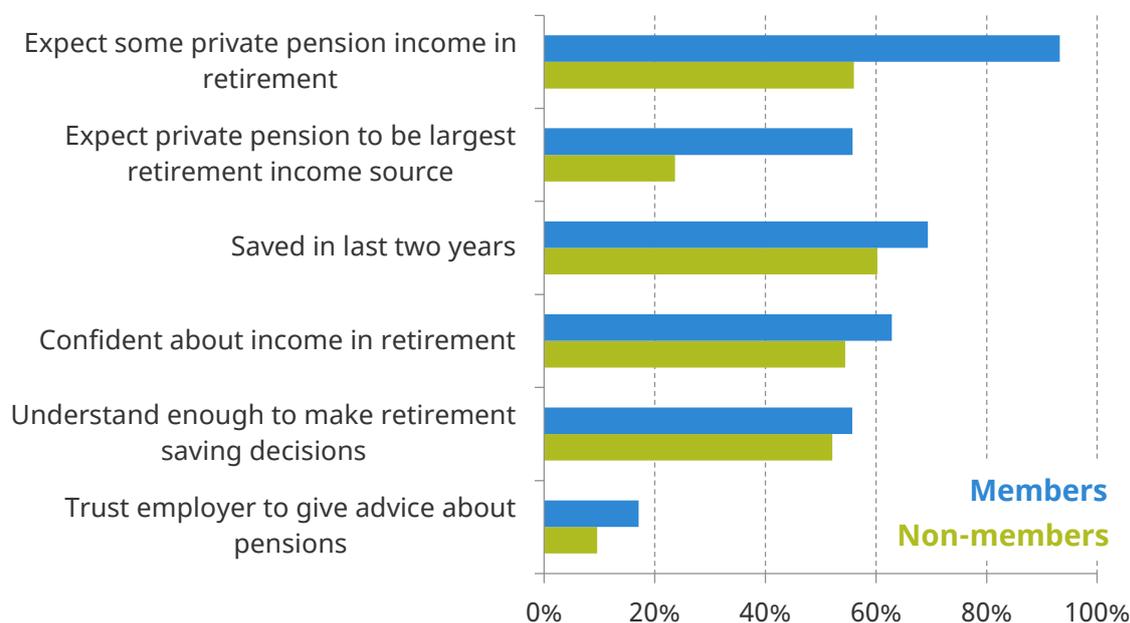
Figure B.1 shows that, on average, when looking at private sector employees, those who are active members of a workplace pension scheme have different retirement savings-related expectations, attitudes and behaviours from those who are not active members of a scheme. On average, pension members were more likely to expect to receive private pension income in retirement (+37ppts for any income, +32ppts for it being the main income source), to have saved in the last two years (+9ppts), to be confident that their income in retirement will provide them with the standard of living that they hope for (+8ppts), to say that they understand enough to make retirement saving decisions (+4ppts) and to trust their employer to give them advice about pensions (+8ppts).

Unfortunately, we cannot interpret these differences as the causal impact of being enrolled in a pension on one's saving behaviour and attitudes, because they may be driven by differences in the sort of people who choose to enrol into a pension at a given point in time. For example, Table B.1 shows that amongst private sector employees aged 25–60, those who are members of a private pension are on average more likely to be female, to have a degree and to work for a large employer, and have higher average earnings. There is also substantial evidence that saving (both in a private pension and more broadly) is correlated with individual characteristics that are not always easily observed, such as psychological factors³¹ and financial literacy.³²

³¹ Laibson et al., 1998; Cobb-Clark, Kassenboehmer and Sinning, 2016.

³² For example, Lusardi and Mitchell (2011).

Figure B.1. Raw differences between private pension members and non-members on a range of expectations and attitudes in 2017-18



Note: Sample is private sector employees aged 25-59, interviewed in person, who meet the earnings and tenure requirements to be eligible for automatic enrolment if their employer has passed its staging date.

Source: Authors' calculations using WAS wave 6.

Table B.1. Characteristics of private pension members and non-members in 2017-18

	Members	Non-members
Female share	41%	38%
Degree share	38%	32%
Average weekly earnings	£716	£590
Large establishment share (500+)	24%	7%

Note: Sample is private sector employees aged 25-59, interviewed in person, who meet the earnings and tenure requirements to be eligible for automatic enrolment if their employer has passed its staging date.

Source: Authors' calculations using WAS wave 6.

Estimating the causal effect of private pension enrolment

One way for researchers to overcome this 'selection problem' would be to enrol some people into private pensions and not others in a random way, and then compare the subsequent outcomes of people in the two groups (how much they save outside a pension, how confident they feel about their income in retirement, etc.). If people in the two groups were on average the same before the experiment (as we would hope if enrolment were truly random) then any subsequent differences in their expectations, attitudes or behaviour could be interpreted as the causal impact of being a member of a pension.

Whilst no one has run that exact experiment, the introduction of automatic enrolment provides a related 'natural experiment'. When automatic enrolment was rolled out in the UK, employers of different sizes were required to begin defaulting their employees into a pension on different staging dates (the largest employers had to introduce automatic enrolment from October 2012 whilst the smallest only in April 2017). Therefore, by comparing people whose employers have already had to introduce automatic enrolment with those who are just about to, we can estimate the causal effect of being brought into private pension membership by AE on various outcomes.³³

More specifically, we use what is called an 'instrumental variables' (IV) approach. An instrumental variable, in our context, is something that (a) predicts whether an individual is enrolled in a private pension, but (b) is not correlated with the unobserved characteristics (such as patience or far-sightedness) that we are worried might drive the decision to save in a workplace pension and also be correlated with our outcomes of interest.

Using an instrumental variable is a two-step procedure: we first predict whether someone is a member of a private pension and we then look at the relationship between predicted pension membership and the outcomes we are interested in. As long as our chosen instrument is not correlated with unobserved things that drive saving attitudes, behaviours and expectations (such as financial literacy), then this allows us to estimate the causal effect of being brought into pension membership by AE on these outcomes.

If we want to make use of the automatic enrolment roll-out 'quasi experiment', the ideal instrumental variable would be whether an individual works for an employer that has passed its staging date. However, the Wealth and Assets Survey does not contain the measure of employer size needed to define whether a person is automatically enrolled or not.

Instead, we construct a proxy which we use: the proportion of employees in WAS who are of similar age to you, and who work in a similar-size workplace, who report being enrolled in a pension in a given year.³⁴ The fact that workplaces of different sizes will, on average, be affected by AE in different years, and age groups are differentially affected by automatic enrolment because of differing pre-AE participation rates,³⁵ means that the changes in pension participation in each group are plausibly driven by the automatic enrolment reform, rather than by some alternative trend.

Figure B.2 illustrates the features of the data we are using in the analysis. Panel a shows, amongst private sector employees working in workplaces with 50–249 employees, the proportion of people in each age bracket (25–39, 40–49, 50–59) that are enrolled in a private pension in each year. Panel b shows the same thing for people whose workplaces

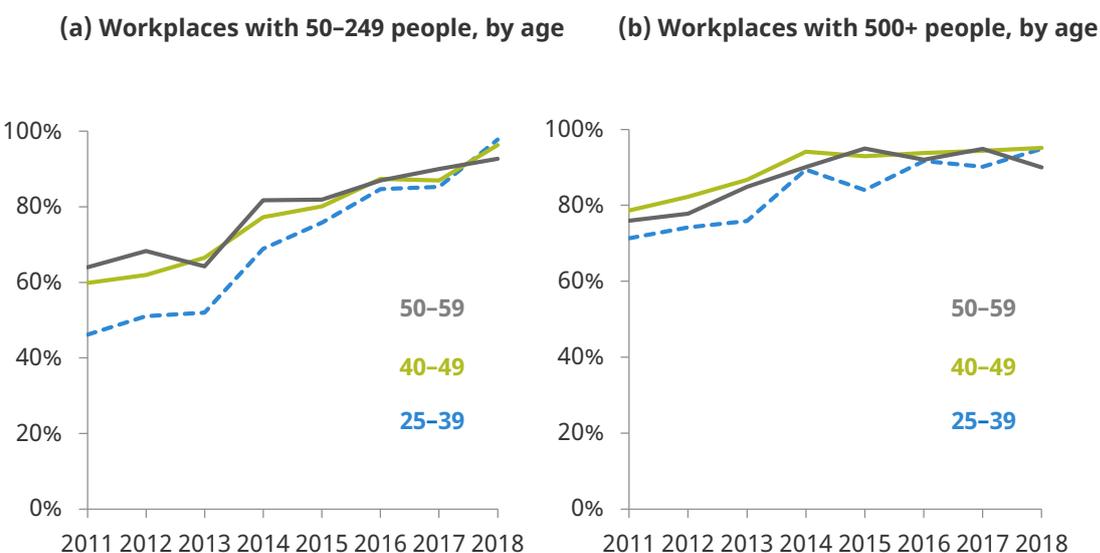
³³ The approach here is related to that of Cribb and Emmerson (2019), who estimate the impact of automatic enrolment itself on private pension membership.

³⁴ The size of an employee's workplace is not necessarily the same as the size of an employee's employer. An employer might have multiple sites (or workplaces) across the country. For example, a supermarket chain is a firm, while a workplace is each of the individual supermarkets, each warehouse and each office. Automatic enrolment was rolled out by employer size, with all employers of a given size being affected at the same time. However, because there is a correlation between workplace size and employer size (in terms of number of employees), on average larger workplaces will be affected by automatic enrolment before smaller workplaces.

³⁵ See Cribb and Emmerson (2019).

have 500+ employees. From these figures, we can see that pension enrolment increased more over this period for employees in smaller workplaces relative to larger workplaces (for example, the proportion of 25- to 39-year-old employees in a workplace pension increases by 52ppts in workplaces with 50–249 people compared with 24ppts in workplaces with 500+ people), and it increased later for those in smaller workplaces. The main assumption underpinning our analysis is that, controlling for age-group-specific time trends, the increases in pension membership shown in these figures are the result of automatic enrolment, not of any other factors affecting the willingness of these groups to pay into a private pension (since these would be likely to be correlated with the outcomes of interest and therefore confound our results).

Figure B.2. Average pension participation in group over time



Note: Sample is private sector employees aged 25–59 interviewed in person, who meet the earnings and tenure requirements to be eligible for automatic enrolment if their employer has passed its staging date.

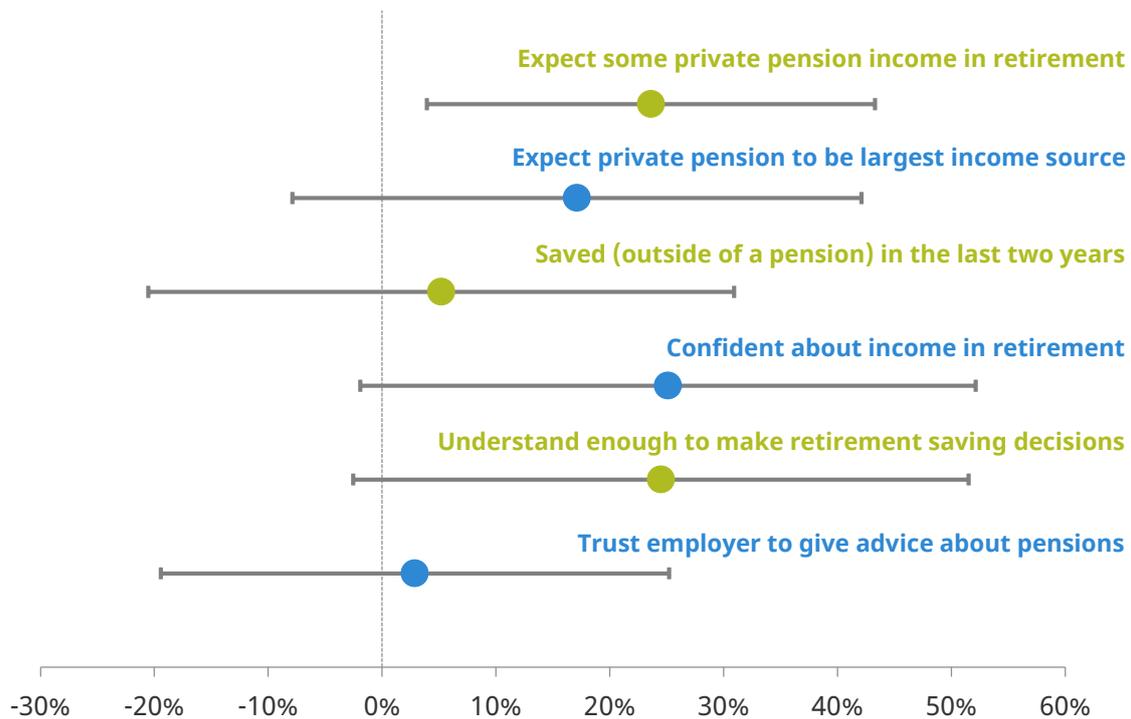
Source: Authors' calculations using WAS waves 3–6.

The causal effect of private pension enrolment on savings expectations, attitudes and behaviours

Based on the methodology described above, Figure B.3 shows the estimated effect of being brought into private pension membership by AE on a broad range of outcomes, covering: expecting to have private pension income in retirement; whether the individual undertakes non-pension saving; expected financial security in retirement; understanding of / engagement with retirement saving; and trust in employers' advice about pensions. In each case, the dot symbolises the expected effect size, whilst the 'whiskers' show the 95% confidence intervals (this means that the expected 'true' effect has a 95% chance of falling within this range given what we see in the data).

Overall, our results here are imprecise and only one of the estimated effects is statistically significant (meaning that we can say with 95% confidence that the true effect is different from zero). The remainder are not statistically significantly different from zero. Nonetheless, our findings suggest the following.

Figure B.3. IV estimates of the impact of pension membership on retirement expectations, attitudes and behaviours



Note: Sample is private sector employees aged 25–59 who are interviewed in person and meet the earnings and tenure requirements to be eligible for automatic enrolment if their employer has passed its staging date. Dots symbolise estimated coefficient from separate two-stage least squares regressions for each outcome measure. Whiskers represent 95% confidence interval. Standard errors are clustered at the individual level.

Source: Authors' calculations using WAS waves 3–6.

First, consistent with the trends shown in Figure 3.4, we find that being brought into private pension membership by AE has a significant, positive impact on the probability that an individual reports that they expect to receive some income in retirement from a private pension, but no significant impact on expectations that a private pension will be the largest source of retirement income. For the first outcome (receive some private pension income), the estimated size of the effect is +24ppts, but it is not very precisely estimated – with 95% confidence, we can say that the true effect lies somewhere between +4ppts and +43ppts, quite a wide range. As with the results discussed in Chapter 3, this suggests that the increase in pension membership as a result of automatic enrolment is not just a timing effect, bringing some people who would have saved in future into pension saving earlier, but an increase in the proportion of people who were ever going to save in a private pension.

Second, we do not find a statistically significant *negative* impact on the probability of saving outside a pension. This is important because a potential concern around policies to increase private pension enrolment is that they may simply 'crowd out' saving in other forms. Whilst we cannot rule out that people may have adjusted *how much* they save in other forms as a result of becoming private pension members, we find no strong evidence that people have reduced the probability of undertaking any other saving as a result.

Third, when we consider individuals' self-reported understanding of retirement saving and confidence that their income in retirement will provide them with the standard of living they hope for, we find that being brought into private pension membership by AE has a positive, but not statistically significant, impact on these outcomes. The estimated effect sizes here are large, but very imprecisely estimated – so the range that the 'true effect' has a 95% chance of falling in is quite wide at –2ppts to +52ppts. This estimated impact on confidence seems large, particularly given that the increase in average confidence over the period 2012 to 2017 looks similar for private sector employees (who were most affected by AE) and other unaffected groups (such as the self-employed) – as was shown in Chapter 3. However, it is worth bearing in mind (in addition to the imprecision of the estimates here) that this analysis only uses a subset of the private sector employee population ('eligible employees', around 75% of private sector employees), and our instrument only predicts an increase in pension membership for this group of 17ppts between 2011 and 2017. In other words, while there might be a large effect on the average confidence of those individuals, that would still lead to a much more muted effect on average confidence for the whole sample.

Looking at the remaining outcome that we consider – whether an individual trusts their employer to give them advice about pensions – it is again true that we find no *negative* impact of being brought into private pension membership by AE, and our results do suggest that the true effect is more likely to be positive than negative.

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