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**Research Report**

## Data on private pension saving in UK surveys

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**Institute for Fiscal Studies**

**IFS Report R251**

**Laurence O'Brien**

# **Data on private pension saving in UK surveys**



**Economic  
and Social  
Research Council**



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This work was produced using statistical data from the Annual Survey of Hours and Earnings (ASHE) and Understanding Society – the UK Household Longitudinal Survey. The ASHE is provided by the Office for National Statistics (ONS) and accessed through the Secure Research Service. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. Understanding Society is distributed by the UK Data Service.

# 1. Introduction

Most people need to save for retirement if they are going to secure a decent standard of living in old age, and they principally do so through private pensions, arranged either through an employer or individually. To understand how people are currently saving and the implications for their retirement, how that has been affected by recent policy reforms, and how it may be affected by possible future policy reforms, researchers need reliable data on the patterns of private pension saving undertaken in the UK.

There is no one ‘gold standard’ data on pension contributions – there are many different data sources with different strengths and weaknesses. For example, administrative, employer and industry data (which exist to varying degrees of accessibility for researchers) contain high-quality information on pension contributions made, but are limited to certain types of pensions and there is typically little further information available aside from very basic demographic information of the individual in question. In contrast, various household surveys capture some information on pension saving of each individual in the household and also have the advantage of being observed alongside wider household characteristics and circumstances. But this information has been little used by researchers to date, and the quality of the data on pension contributions in particular is therefore somewhat unclear.

This short report focuses on the quality of data collected in some household surveys, principally considering two frequently used longitudinal surveys: Understanding Society – the UK Household Longitudinal Study (UKHLS) and the Wealth and Assets Survey (WAS). The report also highlights differences between Understanding Society and its predecessor survey, the British Household Panel Survey (BHPS), and shows some analysis comparing to what extent Understanding Society and the WAS differ from the highest quality measure of *workplace* pension saving for employees – that is, the Annual Survey Hours and Earnings (ASHE) dataset, which provides employer-reported measures of workplace pension saving.<sup>1</sup>

For each survey, this report describes the information on pension saving collected, and the structure of the relevant questions (which, in some cases, is complicated). Table 1 provides an overview of the information contained in the three datasets around pension participation and contributions. All three datasets contain information on workplace and personal pension participation in (most) waves, although information on the type of workplace pension is only

<sup>1</sup> Note that there are other surveys that collect some information on pension saving, most notably the Family Resources Survey, although that is not a longitudinal dataset. These are not analysed in this report.

reliably available in the WAS. All three datasets contain regular data on contributions to personal pensions, but there are some limitations with the pension contributions data to workplace pensions, due to either a lack of questions (in the BHPS/UKHLS) or data issues (in the WAS).

**Table 1. Types of information on private pension participation and contributions in survey data**

Variable	BHPS	UKHLS	WAS
Workplace pension participation	Y	Even waves and wave 1	Y
Workplace pension type	W11, W15	Half wave 6, and waves 8, 10, 12 only*	Y
Personal pension participation	Y	Even waves	Y
Workplace employee contribution	W11, W15	Even waves and wave 1	Waves 1, 2, 6+ only**
Workplace employer contribution	N	N	Y***
Personal pension contribution	Y	Even waves	Y

Note: \* As explained in Section 2, we have found a potential issue with the workplace pension type variable in the UKHLS in waves 10 and 12. \*\* There is also an issue with the employee contribution variable in the WAS between waves 3 and 5, which is explained in more detail in Section 3. \*\*\* The WAS provides data on the employer pension contribution for those with a defined contribution pension; for respondents with a defined benefit pension, it instead provides the scheme accrual rules.

The rest of the report sets out the details of data on private pension participation and contributions in Understanding Society (and its predecessor the BHPS) and shows how workplace pension participation and contributions compare to ASHE in a number of respects. It highlights a problem in the data that we reported to Understanding Society and should be fixed in from Autumn 2023 onwards. We also provide information on the data on private pension participation and contributions in the WAS. The Appendix contains detailed schematics on the routing of questions on this topic through Understanding Society, the BHPS and the WAS, which are referred to in the report and may be of use to researchers in their own right.

## 2. Understanding Society – the UK Household Longitudinal Study

Understanding Society – the UK Household Longitudinal Study (UKHLS) is a longitudinal household survey that collects data from a representative sample of UK households. It began in 2009–11 with a two-year fieldwork period and currently 12 waves are available to researchers, with wave 12 released in November 2022, though this report considers data up to wave 10 (covering 2010–20). Understanding Society was preceded by the BHPS, which collected data between 1991 and 2009. Understanding Society has a much larger sample size than the BHPS, and includes around 80% of the original BHPS households.

### 2.1 Pensions data collected

Understanding Society and the BHPS collect data on current membership in, and contributions to, both occupational and personal pensions. Variables indicating pension membership are generally similar between the two surveys; however, questions on pension contributions made are less consistent. See Figure A.2 in the Appendix for a schematic diagram setting out the pensions data collected in Understanding Society, and Figure A.3 for the corresponding diagram for the BHPS.

Understanding Society contains information on occupational pensions in all even waves, as well as in wave 1. Individuals are asked whether they are eligible for their employer's pension scheme, if they are currently a member of the scheme, the type of scheme, and the level of their employee contributions. Information on occupational pensions in the BHPS is, however, scarcer. While individuals are asked about their occupational pension participation in most waves, questions on the type of pension and the level of employee contributions were only included in waves 11 and 15. More detailed longitudinal analysis on occupational pension saving behaviour is therefore more feasible using Understanding Society than with the BHPS. Neither survey asks individuals about the level of employer contributions, the total level of wealth accrued in their pension fund (for defined contribution (DC) pensions), or the accrued rights to date (for defined benefit (DB) pensions).

Both surveys contain regular questions about membership and contributions for personal pensions, although the variables differ slightly between the surveys. In Understanding Society, questions on membership of and contributions into personal pensions are available in each even wave. The questions are slightly more complicated in the BHPS. From wave 2 of the BHPS onwards, individuals are asked whether they are a member of a personal pension scheme, and, if so, the size of their last contribution. These questions are split depending on whether the pension policy was taken out before 1 July 1988 or since then, as this is the date when ‘retirement annuity pensions’ were replaced with ‘personal pensions’. There is a slight discrepancy between the question on how much the last contribution was, depending on whether the pension policy was taken out before or after 1 July 1988; for pension policies taken out after this date, only contributions since 1 September of the previous year are asked about, while for pension policies taken out before this date, there is no restriction on the time frame of the last pension contribution.

## 2.2 Quality of pensions data

### Known survey issues

In waves 2 and 4, and the first six months of wave 6 of Understanding Society, a routing error meant that most individuals were not asked what type of pension they have, that is, whether it is DB or DC. Specifically, this question was asked to only those respondents who described their pension scheme as ‘non-contributory’, which is a small minority of pension savers (around 5%). Therefore, for waves 2 and 4, this question was not asked to 95% of workplace pension savers, and for wave 6 it was not asked to just under 25% of workplace pension savers. In the following subsection, we analyse this variable from the second half of wave 6 until wave 10 and point out another potential issue with it.

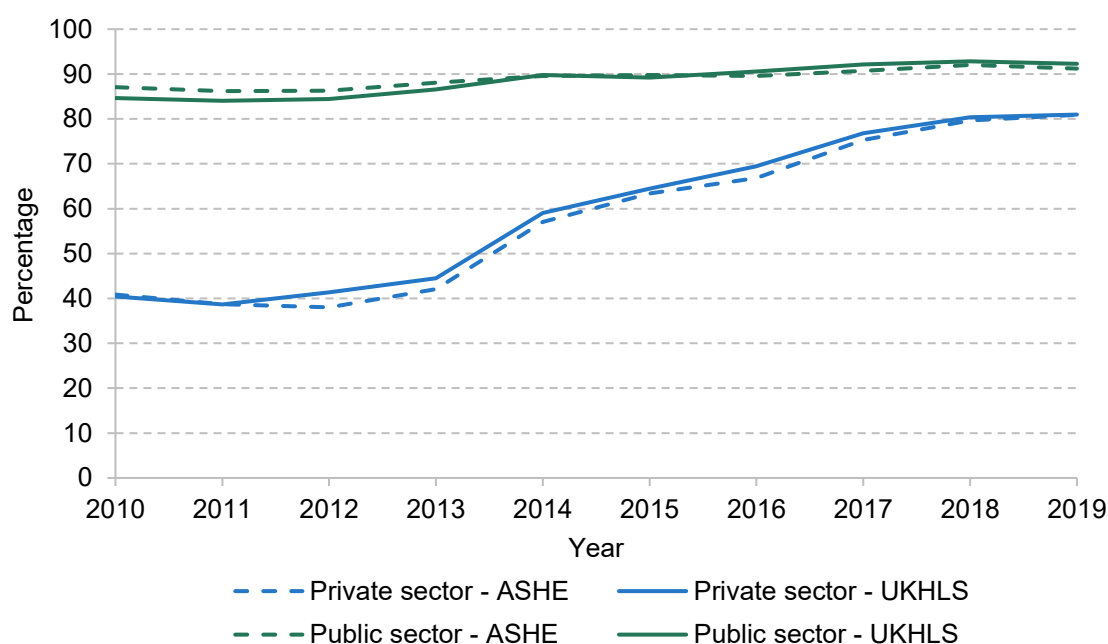
In waves 2, 3 and 4 of the BHPS, the survey routing was such that people who were in the same job at the same employer as in the previous wave were not asked about their workplace pension arrangements. However, it is possible that some of these employees could have changed their workplace pension participation. From wave 5 onwards, this question was asked to all employees, regardless of whether they had changed job since the previous wave or not.

### Response quality

This subsection assesses the quality of workplace pension saving data in Understanding Society by comparing it with the ASHE, which has employer-reported data on workplace pension saving for employees.

Figure 1.1. Box 1. Figure 1 shows how workplace pension participation trends in Understanding Society for employees compare with the ASHE, separately by sector. Encouragingly, the two datasets show very similar patterns for both sectors, with pension participation clearly increasing over time in the private sector from 2012 onwards (as automatic enrolment was rolled out), the level of pension participation in the public sector is much higher and has grown by less since 2012.

**Figure 1. Percentage of employees currently participating in a workplace pension by sector in the ASHE and the UKHLS**



Source: Author's calculations using Understanding Society and the Annual Survey of Hours and Earnings.

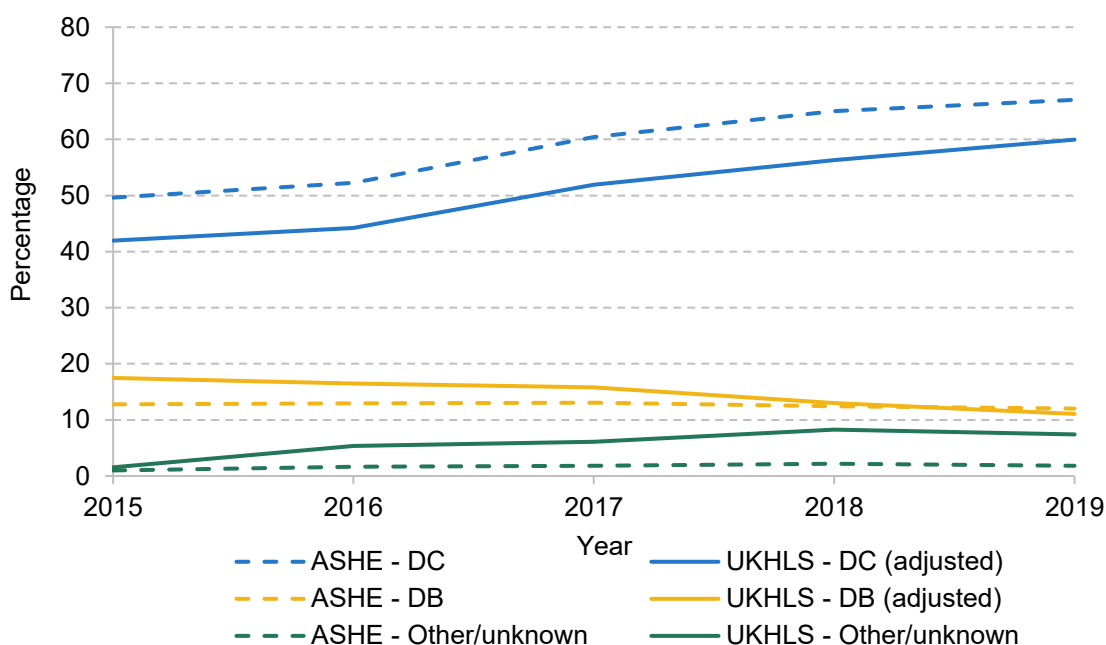
We now examine pension participation by type of pension. As mentioned, the pension type question (penmtp) in Understanding Society was routed incorrectly until six months through wave 6, so we only examine this variable from 2015 onwards.

However, as of early 2023, there is also a problem with this variable in Understanding Society in later waves. This is shown in Figure A.1 in the Appendix. While, between 2015 and 2017, the percentage of private-sector employees saving in DB and DC pensions looks broadly similar between the two datasets, there are big differences in 2018 and 2019 (corresponding to wave 10 of Understanding Society). Specifically, it looks like the lines showing DC and DB pension participation in Understanding Society flip between 2017 and 2018. Although not shown in this report, this problem persists in wave 12 of the data.



We contacted the team running Understanding Society at the University of Essex regarding this error and they confirmed to us that there was indeed a problem with the coding of this variable between waves 10 and 12: answer codes 1 and 2 should be recoded as 2 and 1, respectively. Figure 2 shows that recoding this variable in this way for wave 10 results in similar trends in the ASHE and Understanding Society in terms of the types of workplace pensions saved in by private-sector employees. The team running Understanding Society informed us that this variable will be corrected for future releases in the data, starting in November 2023 (including for waves 10 and 12). Therefore, researchers using these future releases will not have to manually recode this variable as we have done in this report.

**Figure 2. Percentage of private-sector employees saving in different types of workplace pension by sector in the ASHE and the UKHLS**

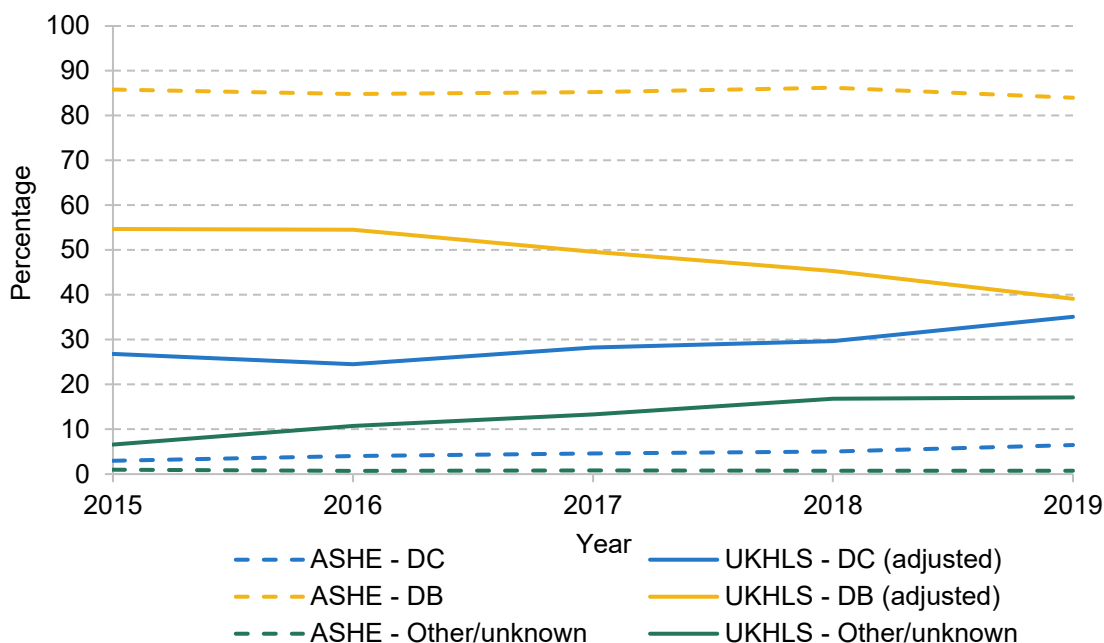


Note: In this graph, we recode the variable *penmtp* (type of pension) in the UKHLS in wave 10 following the information received from the Understanding Society fieldwork team. Specifically, we recoded answers 1 and 2 as 2 and 1, respectively.

Source: Author's calculations using Understanding Society and the Annual Survey of Hours and Earnings.

Figure 3 shows the analogous figure for public-sector workers (after recoding wave 10 data). The proportion of public-sector employees who report saving in a DB pension is lower in Understanding Society than in the ASHE, while the proportion who report saving in a DC pension is much higher in Understanding Society. These discrepancies are growing over time. This suggests that many public-sector employees do not have an accurate understanding of what type of pension they are saving in. This is interesting given we do not see this problem in the private sector to the same extent.

**Figure 3. Percentage of public-sector employees saving in different types of workplace pension by sector in the ASHE and the UKHLS**



Note: In this graph, we recode the variable penmtyp (type of pension) in the UKHLS in wave 10 following the information received from the Understanding Society fieldwork team. Specifically, we recoded answers 1 and 2 as 2 and 1, respectively.

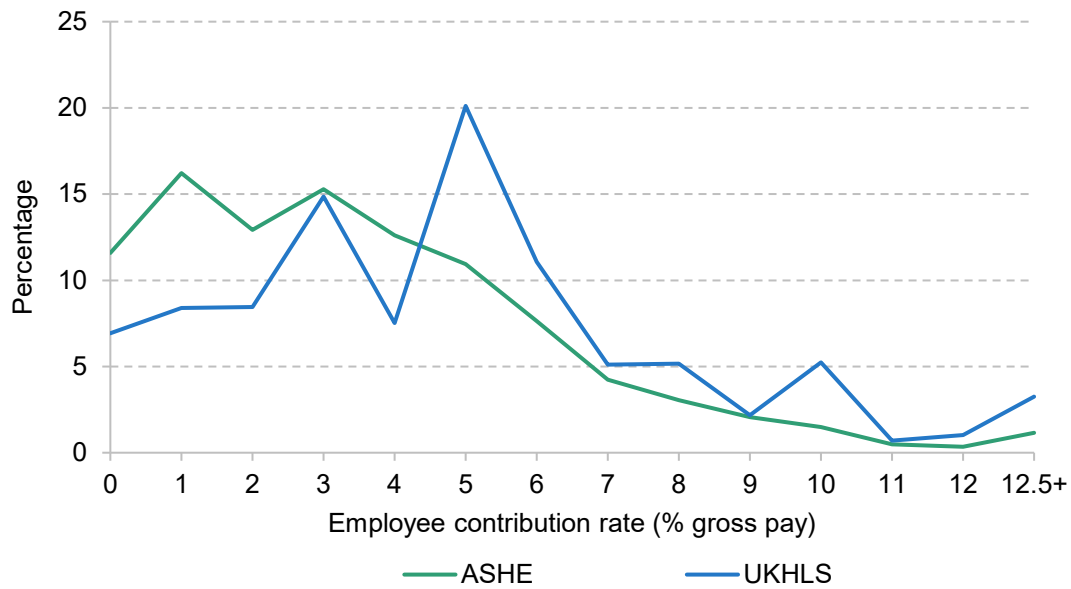
Source: Author's calculations using Understanding Society and the Annual Survey of Hours and Earnings.

Figure 4 shows the distribution of employee pension contributions in the ASHE and Understanding Society for private-sector employees. The distributions differ somewhat, with reported contribution rates generally lower in the ASHE than in Understanding Society. Nevertheless, both datasets show the same broad picture, with most reported contribution rates less than 7% of pay, and relatively few contribution rates higher than this. There are also reasons to expect divergences between contribution rates reported by employees (in Understanding Society) and employers (in the ASHE), anyway. This is because many employers define contribution rates as a proportion of qualifying earnings rather than total earnings. Therefore, a 3% contribution rate on qualifying earnings will not equate to a 3% contribution rate on total gross earnings. Employers might be more likely to realise this than employees, causing a discrepancy in the contribution rates reported.<sup>2</sup> Figure 5 shows the corresponding figure for

<sup>2</sup> Another potential reason why there are fewer private-sector employees reporting low contribution rates in Understanding Society is that those with lower contribution rates are more likely to answer 'Don't know' to this question. This may have become more likely since automatic enrolment, if those who are automatically enrolled are more likely to have lower contribution rates and are also more likely to be unaware of how much they are contributing. Indeed, the proportion of private-sector employees saving in a workplace pension who do not report their employee contribution rate has risen somewhat since automatic enrolment was introduced, from around 23% between 2010 and 2012, to around 29% between 2018 and 2020.

public-sector employees. We can see that the distribution of contributions is very similar in the two datasets.

**Figure 4. Distribution of employee pension contributions among private-sector workplace pension participants in the ASHE and the UKHLS (2010–20)**



Source: Author's calculations using Understanding Society and the Annual Survey of Hours and Earnings.

**Figure 5. Distribution of employee pension contributions among public-sector workplace pension participants in the ASHE and the UKHLS (2010–20)**



Source: Author's calculations using Understanding Society and the Annual Survey of Hours and Earnings.

In conclusion, this subsection suggests that the quality of workplace pension saving data are generally good in Understanding Society. The data in Understanding Society closely match the trends in workplace pension participation in the ASHE and are not dissimilar to the distribution of employee contributions found in the ASHE. However, there are issues with the variable indicating the type of workplace pension that people are saving in.

## 3. Wealth and Assets Survey

The WAS is a household survey, representative of the population of Great Britain. It is a panel survey, collecting data from the same households every two years, with refreshment samples to compensate for attrition. The survey began in 2006–08 (with a two-year fieldwork period), and currently data through to 2018–20 are available.

### 3.1 Pensions data collected

The WAS collects detailed information on individuals' private pensions – specifically on up to two active workplace pensions and up to three active personal pensions.<sup>3</sup> This is summarised in Table 2. It is worth noting that the WAS questionnaire structure makes use of information collected in previous years of the survey for those individuals who have been interviewed before – the relevant information is ‘fed forward’ into the questionnaire, and is then checked and updated as appropriate. This reduces the burden on respondents to the survey, but comes at the cost of making the data harder to use by analysts.

For each occupational and/or personal pension that a respondent reports saving in, the WAS asks questions about the level of contributions. For DB workplace pensions, there are only questions on employee (and not on employer) contributions, but for DC workplace pensions and personal pensions, data on the level of both employee and employer contributions are collected. Respondents can report their pension contributions either as a percentage of salary, or as a cash amount together with a period covered by that amount. This is the information then provided in the WAS dataset, meaning that researchers have to create their own harmonised and consistent measure of pension contributions.

<sup>3</sup> The WAS also asks about retained pensions and spouse's pensions that the interviewee is a beneficiary of.

**Table 2. Pension variables contained in each wave of the WAS**

	2006 –08	2008 –10	2010 –12	2012 –14	2014 –16	2016 –18	2018 –20
<b>Workplace pensions</b>							
Whether a member	✓	✓	✓	✓	✓	✓	✓
Type of pension	✓	✓	✓	✓	✓	✓	✓
Amount of employee contributions	✓	✓				✓	✓
Amount of employer contributions (DC only)	✓	✓				✓	✓
Value of accumulated fund (DC schemes)	✓	✓	✓	✓	✓	✓	✓
Scheme accrual rules (DB schemes)	✓	✓	✓	✓	✓	✓	✓
<b>Personal pensions</b>							
Whether a member	✓	✓	✓	✓	✓	✓	✓
Amount of individual contributions	✓	✓	✓	✓	✓	✓	✓
Amount of employer contributions (if applicable)	✓	✓	✓	✓	✓	✓	✓
Value of accumulated fund	✓	✓	✓	✓	✓	✓	✓

Note: A tick mark indicates that the given wave of the WAS contains the specified variable.

A schematic setting out in more detail the questions on contributions asked in the WAS is provided in Figure A.4 in the Appendix. There have been three major changes over time.

1. From wave 2 onwards, individuals who reported participating in a workplace pension in the previous wave are asked whether they have changed their pension contributions, and are only asked their current contributions if they report that their contributions have changed.
2. From wave 2 onwards, those who reported contributing to a personal pension are asked whether they have changed their level of contributions as a proportion of pay, and if so, whether they increased or decreased their contribution rate and why. This is asked after individuals have already been asked what they currently contribute to their pension. In other words, it is possible to obtain two measures of whether contributions have changed: one from comparing the answers given in two consecutive surveys, and one from taking the answer to this additional question.
3. From wave 4 onwards, questions about the amount of additional contributions to DB or hybrid schemes are no longer asked.

One complication of the WAS data structure is that information on contributions to workplace pensions is not asked ‘afresh’ every wave – it is only asked if an individual confirms that they have changed their contributions. This means that obtaining information on the distribution of contributions across individuals in some cases requires merging together information from multiple waves of the WAS.

## 3.2 Quality of pensions data

### Known survey issues

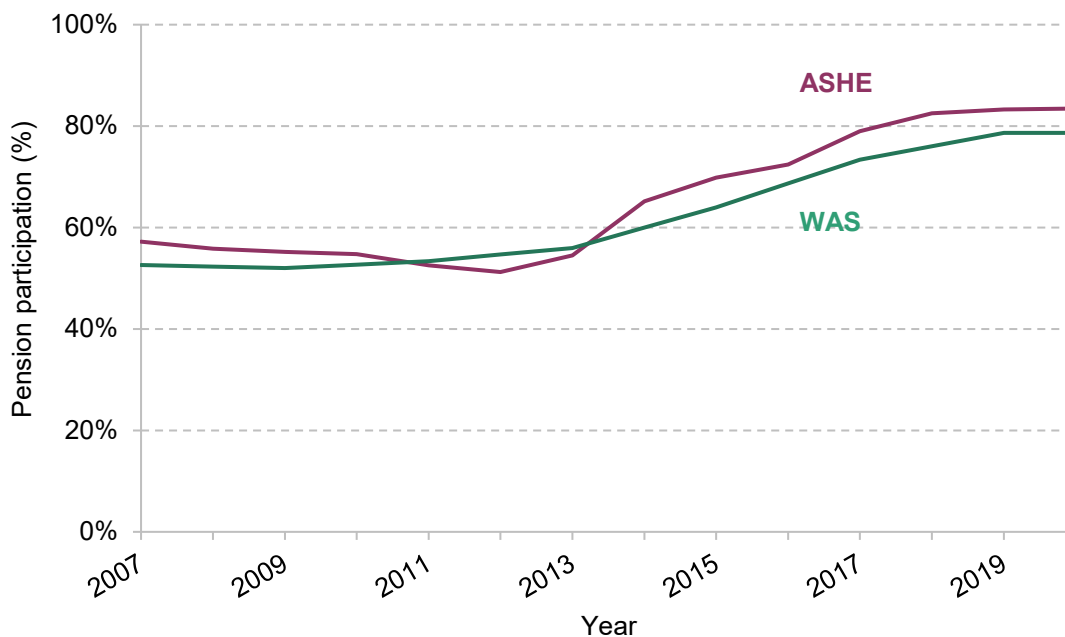
In the third wave of the WAS (2010–12), a programming error meant that a large number of respondents were not asked the questions on occupational pension contributions when they should have been. These individuals have the response ‘-6 = Error/Partial’ coded in the data. This problem affects around half of those with an occupational pension in wave 3.

Unfortunately, this issue had knock-on consequences in subsequent waves, as this error was ‘fed forward’ into future waves for these individuals who were then interviewed again in waves 4 and 5 (before the issue was corrected in wave 6). The size of the problem declines over time, as the proportion of the cross-sectional sample who were present in wave 3 declines. In waves 4 and 5, these data are coded as either ‘-6 = Error/Partial’ or (most cases) ‘-7 = Does not apply’. Overall, this means that the contributions data for workplace pensions in waves 3–5 should be treated with caution.

### Response quality

Figure 6 shows how data on workplace pension participation among employees differs between the WAS and the ASHE. Generally, the WAS shows a similar pattern to the ASHE, with the increase in pension participation after 2012 due to automatic enrolment particularly clear. There are, however, some differences, with the WAS generally showing a slightly lower pension participation rate than the ASHE, particularly since 2012. For example, in the latest year, 83% of employees were participating in a workplace pension according to the ASHE, while this figure was just 79% according to the WAS.

**Figure 6. Workplace pension participation over time among all employees in the ASHE and the WAS**



Note: The ASHE includes all employees aged between 22 and 59, with pension participation measured in April of each year. The WAS includes all employees aged between 20 and 59 and pension participation is measured for each wave, with the pension participation for the wave plotted in the middle year of the wave.

Source: Author's calculations using the Annual Survey of Hours and Earnings and the Wealth and Assets Survey.



## 4. Conclusion

This short report has provided information on the pension saving data available in three UK survey datasets: Understanding Society, the British Household Panel Survey and the Wealth and Assets Survey. As well as reporting on the questions that the three surveys ask respondents about their pension saving, this report has presented some figures showing how the pension data reported in these surveys compares with the ASHE, which provides high-quality, employer-reported data on workplace pension saving for employees.

Data on pension participation and (to a slightly lesser extent) contributions in Understanding Society generally match up well with the ASHE. Overall, therefore, data on pension saving in Understanding Society seem to be of good quality and a valuable resource for researchers interested in pension saving. One exception is that there is a problem with the pension type (i.e. DC or DB) variable, which has not yet been resolved at the time of publication. Even if this variable is resolved in the way we expect, it still seems that public-sector employees, in particular, struggle to give the right answer to this question, and are prone to reporting that they have a DC rather than a DB pension.

The WAS contains a wide variety of questions on pension saving, including questions on the value of accumulated funds that are not contained in either the ASHE or Understanding Society. Reassuringly, pension participation rates among employees measured using the WAS broadly match the patterns seen in the ASHE. However, there is a known issue with pension contributions variables between waves 3 and 6 that researchers should be aware of before using the WAS.

# References

## Data

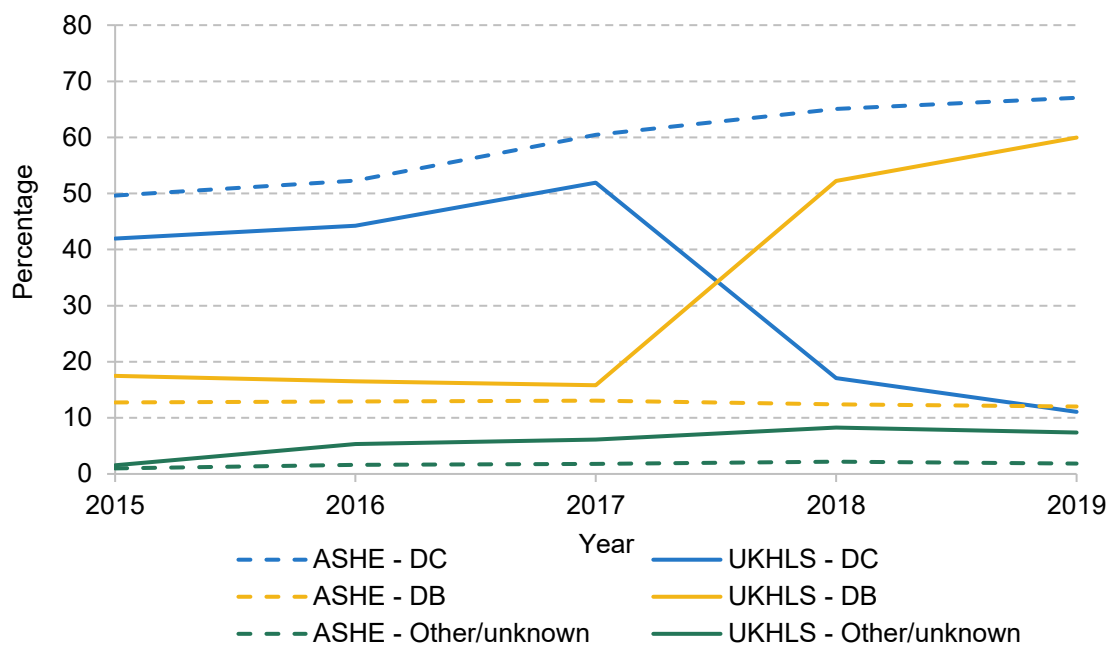
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# Appendix

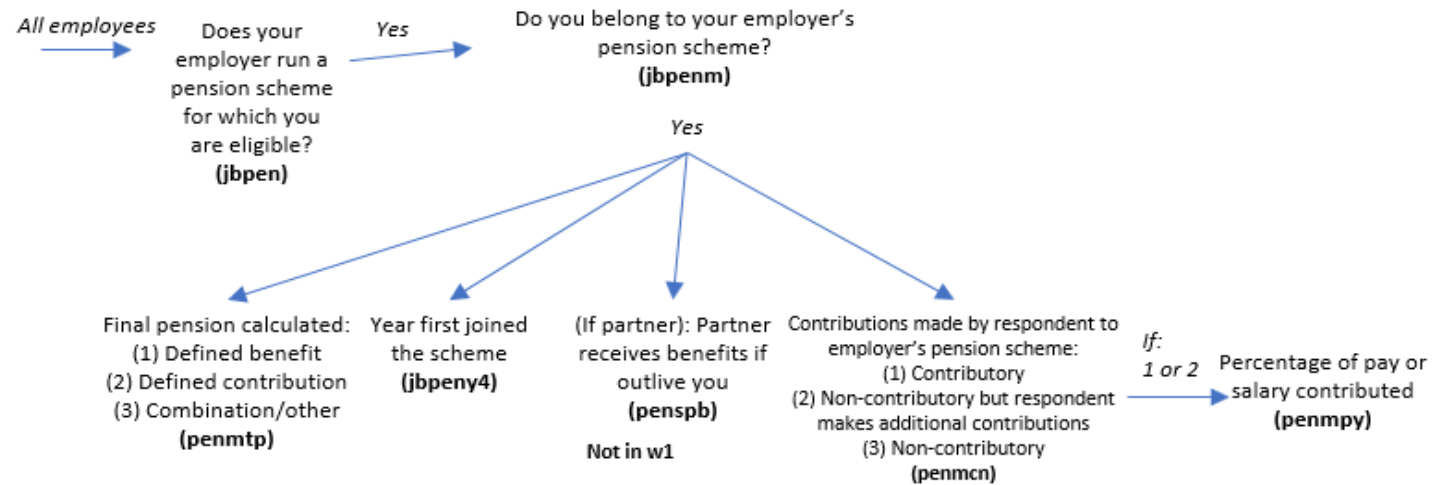
**Figure A.1. Percentage of private-sector employees saving in different types of workplace pension by sector in the ASHE and the UKHLS, based on uncorrected coding in Spring 2023**



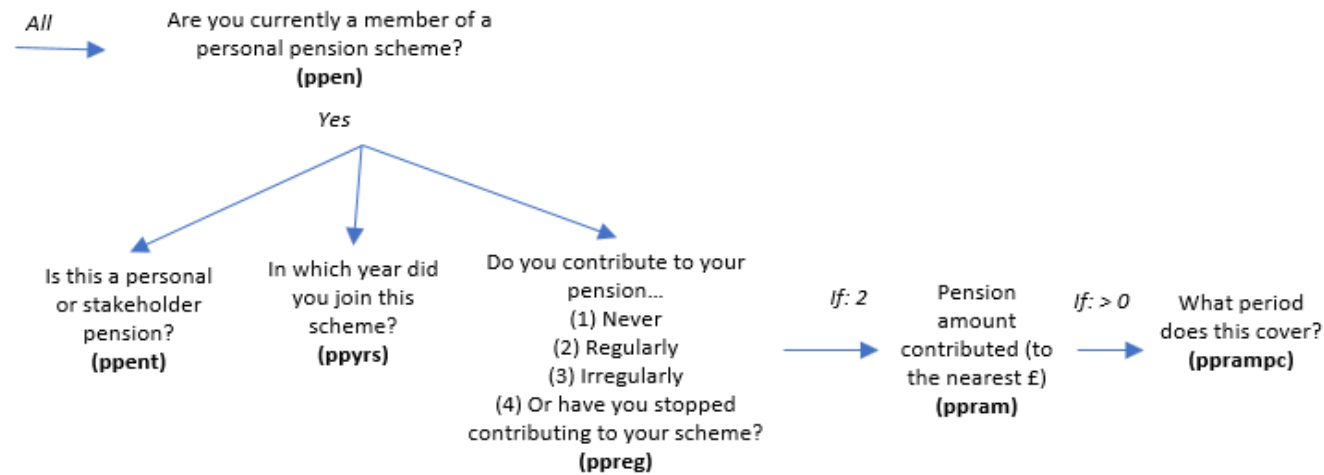
Source: Author's calculations using Understanding Society and the Annual Survey of Hours and Earnings.

Figure A.2. Questions on pension saving in Understanding Society

Occupational pensions (waves 1, 2, 4, 6, 8, 10):



Personal pensions (waves 2, 4, 6, 8, 10):



**Figure A.3. Questions on pension saving in the British Household Panel Survey**

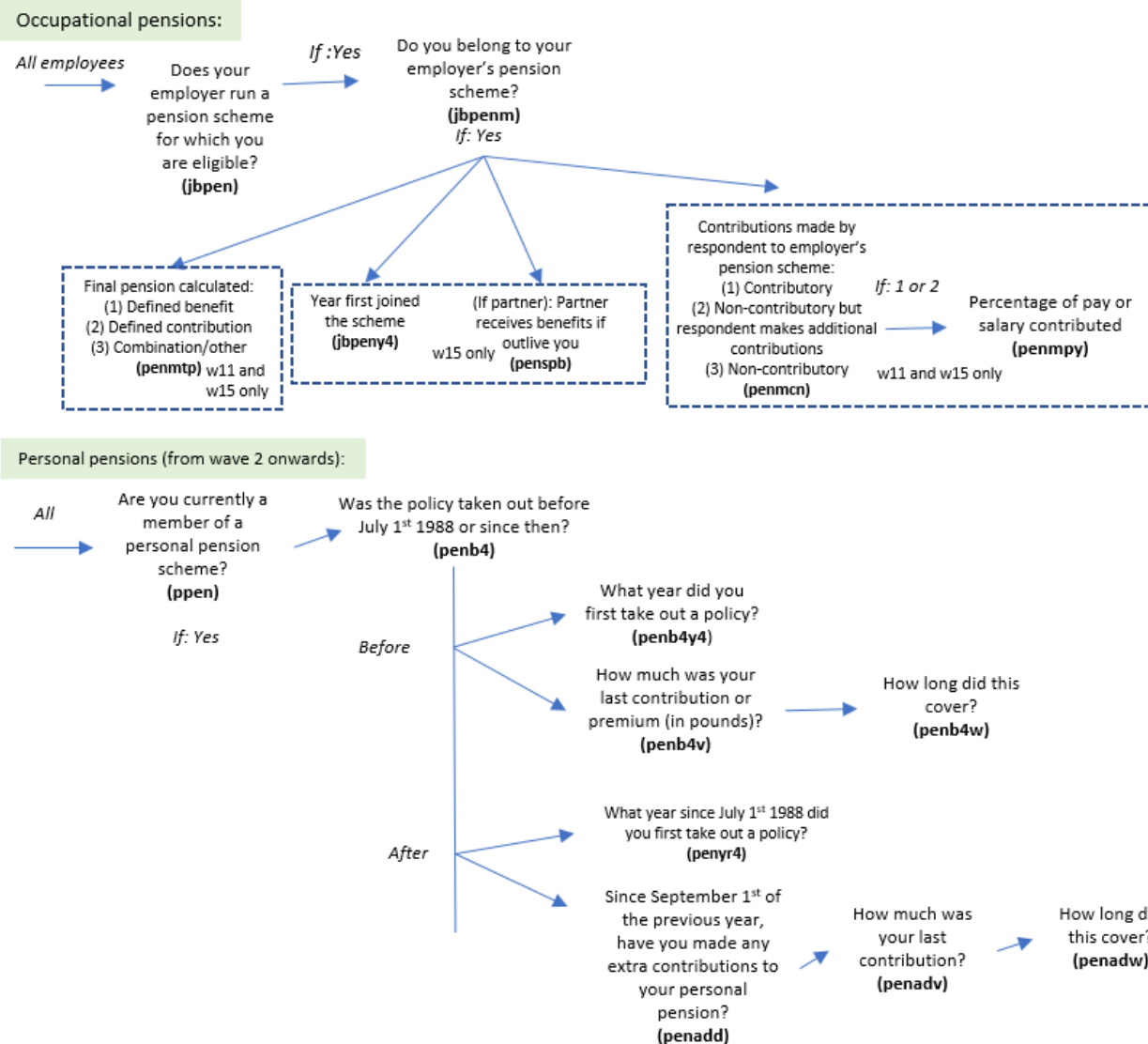
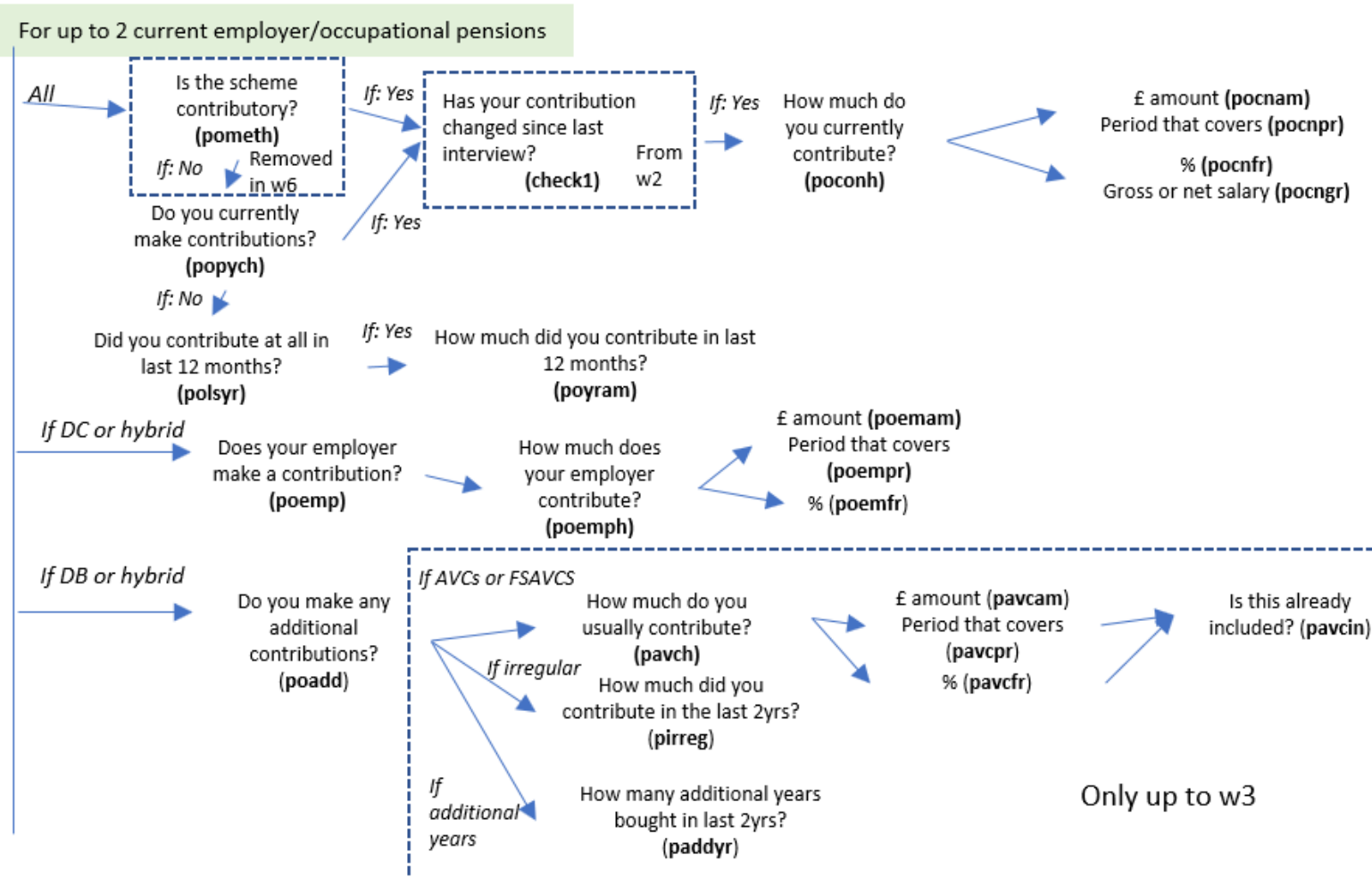


Figure A.4. Questions on pension saving in the Wealth and Assets Survey



For up to 2-3 current personal pensions

