Department of Health & Social Care

Feasibility Study for Survey of Incomes and Assets of Adults with Social Care Needs

Workstream 3 phase 1 report: Secondary analysis of survey data

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This research was commissioned under the previous administration (11th May 2010 to 5th July 2024) and therefore does not reflect the policies of the current government. The views expressed are the authors' and do not necessarily reflect those of the government.

1. Executive Summary

This report presents the findings of phase 1 of workstream 3, which involved secondary analysis of survey data from the English Longitudinal Survey (ELSA) and the UK Household Longitudinal Study (UKHLS). These surveys collect data on the receipt of care services and income and savings. The aim of this workstream is to inform what is proposed and tested in later parts of the study and to investigate how well questions on financial circumstance in ELSA and UKHLS capture the corresponding financial information they are designed to capture.

The analysis focuses on questions relating to incomes, savings, housing tenure, housing wealth, and receipt of means-tested benefits, by the whole population and by population subgroups defined by age group and disability. The analysis examines subsample sizes and rates of (non)-response to the relevant questions and investigates through logistic regression the association between missing responses (including don't know, refused to answer and no response) and age, gender, education or housing tenure (as proxy for socio-economic group), general health and disability. This is to promote understanding of which subgroups are under-represented in substantive responses.

The objective of the analyses of financial variables was to identify how well they capture the corresponding financial information they are designed to capture. The metrics used to determine the performance of the variables included the number of valid responses received, the rate of missing/complete data and assessment of outliers/unusual observations. These were examined separately for the entire ELSA and UKHLS samples, older people (aged 65+), older people with one or more Activity of Daily Living (ADL; Edemekong et al, 2021) limitation (inability to conduct a personal care task without help), and younger people (aged under 65) with one or more ADL limitation. The possibility of completing separate analyses for older people self-funding their care was considered, but there were too few such individuals in ELSA and UKHLS and it was not possible to be sure that the question about paying for care captured all the self-funders.

We have examined the following for each variable analysed in ELSA and UKHLS:

- the number of total responses to the question, that is all responses including missing but excluding not applicable, e.g. for house value, people not owning their home are excluded but people who did not know or declined to answer are included,
- the proportion of total responses which are missing values,
- the proportion of total responses which are refusals, as opposed to missing for other reasons,
- the range of the non-missing (i.e. valid) responses, i.e. minimum to maximum value,

- the proportion of non-missing (i.e. valid) responses which seem especially low or high

We have also examined for each variable the sociodemographic factors which are associated with missing responses. The dependent variable in the logistic regression takes the value 1 for missing responses and 0 for substantive responses where a value is stated. The independent variables are age, gender, marital status, housing tenure and highest level of education (UKHLS)/age completed education (ELSA).

The overall number of total responses, including missing values, for each variable is important as a denominator for calculating rates of missing responses and as an indicator of the sample size for the variable. Rates of completion/missingness are important for determining whether alterations to the question might be needed to capture data from a higher proportion of respondents. Data might be missing for a variable because the respondent cannot accurately estimate a response (coded as ‘don’t know’) or the respondent does not want to answer the question (coded as ‘refused’). Two rates of missingness are reported, one including a response of either ‘don’t know’ or ‘refused’, and another considering separately the proportion refusing to answer the question. A response of ‘refused’ indicates a degree of dissatisfaction with the question and suggests that rates of completion of the question might be more difficult to increase by changing the response categories or through minor adjustments to question wording.

Outliers are also examined, but the values reported should be treated with caution. The thresholds set are chosen to be indicative of, in some cases, potential erroneous responses, in other cases unusually high or low values, or in the case of housing tenure an uncommon response category. Where potential outliers are identified, it should also be noted that a number of the variables relate to a specific time period. For example, some individuals may present a weekly value, whereas others provide an annual value. As a consequence, high (low) values may relate to a different time period where especially high (low) values are stated.

Overall, the level of missing data on financial questions was relatively low. Missing data was generally lower for housing and higher on savings/ current accounts and income from work. Outliers were especially common for the questions on interest and dividends in the past year within the UKHLS. Missing data was seen to increase with age.

However, these surveys do not currently capture a representative sample of those paying for care. The possible options for addressing this limitation are detailed in the Workstream 3 Options Appraisal Report.

2. Background and introduction

2.1 Background and objectives

The work has been undertaken by the Care Policy and Evaluation Centre (CPEC) at LSE and Ipsos on behalf of the Department of Health and Social Care (DHSC).

The project was commissioned by DHSC as there is currently a lack of robust data about the income and assets of the population using care services, as well as other information such as demographics and spending on care. The collection of this data can be complex and sensitive with important ethical implications. The overall project therefore looks to explore the different options for data collection and their benefits and drawbacks. This will help DHSC to have a better understanding of the different options available to them and what these options may look like.

From the different options explored throughout this project, DHSC would like to understand how feasible it is to answer the following questions from any data:

- how people with care and support needs' assets are impacted as they move through the care system
- how funding arrangements play out in the real world, and the issues faced by those in different funding scenarios
- what the demographic characteristics of people with care and support needs are

Improved data on the income, assets and wealth of people using care services will help DHSC to better understand the impacts of government policy and inform work to shape the charging reforms. DHSC is interested in data which could be collected or analysed in advance of the implementation of charging reform, as well as future collection when the reform is implemented. Existing survey data, administrative data and new surveys are all potential options to consider.

2.2 Other workstreams

Workstream 3 is one of five workstreams forming part of this research. The 5 workstreams were conducted mostly iteratively between December 2021 and October 2023:

Workstream 1: CPEC at LSE carried out a rapid evidence review of past studies on income and assets of people with care needs. They looked at existing large scale national population datasets, as well as previous bespoke surveys of people receiving care and support and their carers which collected on incomes and savings. This provided DHSC with an overview of previous and current data collection.

Workstream 2: Ipsos explored the views of stakeholders with an interest in or understanding of the adult social care (ASC) sector. Participants were asked about the different ways that data on the income, assets and wealth of people with care and support needs are currently recorded or collected and their thoughts on further potential data collection activities (such as a survey). A first Expert Reference Group (ERG) meeting was then held to discuss findings from WS1 and WS2, and inform the next phase.

Workstream 3: It consisted of secondary data analysis (phase 1) and an options appraisal (phase 2). For the secondary analysis CPEC investigated the response rates to questions about the financial circumstances of respondents in two major national longitudinal surveys, the ELSA and UKHLS. The objective was to identify how well these questions in ELSA and UKHLS capture the corresponding financial information they are designed to capture. In the options appraisals, Ipsos looked at the different data collection options available. Three groups of options were considered, and their benefits and drawbacks identified. Each option was appraised on a range of topics including: coverage of the target population, information that the option would provide and whether this would meet DHSC needs, impact on people with care needs, impact on carers and families, required involvement of organisations, technical and practical considerations and, data analysis and use. Findings from Workstreams 1 and 2 and from CPEC's secondary data analysis fed into the options' appraisal. This options' appraisal was conducted prior to the 2022 Autumn Statement announcement that the implementation of charging reform would be delayed.

Workstream 4 phase 1: It explored the views of people with care needs, unpaid carers, and people with Power of Attorney for the financial affairs of a family member with care needs, focusing on:

- their willingness to take part in a survey asking about their income and assets, or those of the family member they support;
- what level of detail they would be willing to provide when answering questions on care needs, assets and income for themselves, or for the family member they support;
- how easy or difficult it would be to provide the required information about care needs, current care plan, income and wealth;
- the role of family members in helping to provide the required information;
- possible concerns about how the data may be used; and
- how concerns could be reduced and alleviated and how people should be approached

Findings from these interviews informed the design of questions aiming to collect information on care needs, income and assets. Once finalised these questions were cognitively tested during the second phase of WS4.

Workstream 4 phase 2: In this phase, Ipsos cognitively tested the survey questions drafted on the basis of the findings from WS4 phase 1. The cognitive interviews sought to understand:

- the extent to which unpaid carers and people with care needs understood the draft questions in the way they were intended;
- how easy or difficult it would be for carers and people with care needs to complete a survey using these questions; and
- the acceptability of the draft questions

A second ERG meeting was convened at the end of WS4 to discuss WS4 findings, the overall project findings and their implications.

Workstream 5: CPEC conducted further secondary analysis of ELSA data to explore how high level potential proxy measures of financial circumstances were related to more detailed financial evidence of the type needed for modelling the impact of charging reform.

3.English Longitudinal Survey of Ageing (ELSA)

The ELSA sample comprises people aged 50 years or over, living in a private household in England at the time of joining the sample. Partners of original sample members and new partners who have moved into the household since the survey base are also included. Respondents in institutions are interviewed if they had previously been in the sample as residents of a household within the sampling frame in a previous wave. Data is collected from a longitudinal sample of individuals every two years. At the point of analysis, the most recent data available is from Wave 9 for which data collection took place in 2018-2019. The social care module was introduced in wave 6 (2012-13). Further details about ELSA can be found in our report of workstream 1 of this study (Wittenberg and King 2022).

3.1 Methods

3.1.1 Choice of variables

The approach taken by ELSA is to ask about income streams and assets that might be summed to result in a total estimate of wealth/income, and not ask for an estimate of these totals directly. A considerable number of components that can contribute to estimates of wealth/income are captured, including housing wealth, savings, interest earned from different accounts (savings accounts, ISAs (of which three different types are asked for separately), multiple health related benefits and other benefits, income from employment, pensions of different types, etc.

The analysis approach involved, for each category of income/wealth source, selecting the likely most significant variable in terms of proportions of respondents indicating receipt of this source of income/wealth. For the category of employment income, gross income from work in the past year was selected. With respect to housing, housing tenure, house value and mortgage repayments were selected. For savings, the amount held in a current/savings account and interest earned from current/savings account was analysed. For benefits, Attendance Allowance (AA), Disability Living Allowance (DLA), Personal Independent Payments (PIPs) and Pension Credit were analysed. Regarding pensions, State Pension and private/employer pensions were analysed. The latter were collected within two variables depending on the respondents preference to answer with a monthly or annual estimate. Both variables were (separately) analysed.

The analysis considered questions asked directly to respondents and not derived variables. Follow-up questions asked in case respondents could not provide accurate estimates existed but were not combined with the initial questions asked for each financial component. Respondents could provide total benefits and did not have to provide separate estimates for each benefit. Further details of how these issues were addressed in the analysis are include in the annex.

3.1.2 Regression analysis[1]

In addition to assessing sample sizes, rates of missingness and outliers, regression analyses were also performed to investigate what characteristics might be associated with an increase/decreased likelihood of providing a missing response to the variables in turn, as opposed to a valid/non-missing response. To perform this analysis, an indicator for each financial variable analysed was constructed, coded as 1 if a response was missing (either ‘don’t know’ or ‘refused) and 0 if the response was valid/non-missing.

Logistic regressions[2] were then performed on these variables using the following independent variables: sex, age, age at which the respondent left education, housing tenure and self-rated health. Logistic regressions were performed in analyses of the whole sample, with lower sample sizes limiting the precision of potential subsample analysis. Considerations in choice of independent variables and the data quality of independent variables are described within the annex.

3.2 Results

3.2.1 Number of valid responses, rates of missingness and outliers

Variables were first assessed including the entire sample (N=8736), as described in table 1. The number of responses to the financial variables were higher for housing tenure (8668), house value (6865), amount held in current/savings account (6891) and interest earned from current/saving account (6341). Being a survey of individuals of a relatively older age than other surveys, it might not be surprising that the second highest set of questions yielding valid responses concerned pensions, and employment income yielded the lowest number of valid responses (with those not in employment, e.g. due to retirement, not being asked the question). The number of individuals receiving specific benefits was relatively low, yielding in a low number of valid responses to questions on benefit receipt.

Response rates to the variables varied from 76-100%. Housing tenure (99.9%) and house value (95%) were the variables with the highest response rates, whereas interest earned from current/savings account (76%) and amount held in the current/savings account (82%) were the variables with the lowest response rates. Of the 13 variables investigated, 8 had a rate of valid response of 90% or higher. When considering rates of missingness due to refusal to answer a question, this was considerably higher for the variable capturing

[1] Regression analysis is a set of statistical methods used to estimate the strength of the association between a dependent (or 'outcome') variable and one or more independent (or 'explanatory') variables.
[2] Logistic regression is a particular method of regression analysis in which a binary outcome (e.g. a classification with two levels or whether an event did or did not take place) is modelled as a function of one or more independent variables. The model estimates the log-odds of the binary outcome variable. The function that converts log-odds to probabilities is the logistic function.

savings in current/saving accounts than for other variables, accounting for 10% of those asked the question. The rate was 5% or lower for the other variables analysed.

Regarding outliers, notable values include value estimates of 0 reported for house value, amount held in current/savings account and interest from current/savings account (which surpasses the number indicating 0 savings). In particular there are a number of estimates of 0 reported for PIPs, which might be considered erroneous as value estimates were asked of those indicating receipt of the corresponding benefit.

The analysis was repeated looking at older people (65+) only (N=5428) as shown in table 2. As older people constituted the majority of those in the survey, the results generally mirror those of the entire sample. While the hierarchy of variables in terms of number of valid responses remains largely unchanged (though with receipt of state pension now being the variable with the second highest number of valid responses), the overall rate of missingness is higher among this subgroup, with a few percentage points more missing responses for many financial variables (e.g., 11% missing value of savings in current/savings account verses 10% for the entire sample). Rates of refusing questions appear to be similar to those considering the entire sample. Again, potentially erroneous 0 values remain reported in the same variables as for the wider sample.

The next subgroup investigated consisted of older people (aged 65+) with 1+ ADL limitation (N=1132), shown in table 3, and the results appear similar to the subgroup of older people with respect to hierarchy of variables in terms of number of valid responses, rates of refusing to answer questions and presence of 0 values in estimates provided. The proportion of missing responses appear to, in general, be a few percentage points higher for most variables (in particular pensions and benefits), though lower regarding other variables including, in particular, income from employment (10% missing verses 16% for older people more generally).

The last subgroup investigated consisted of younger people (aged under 65) with 1+ ADL limitation (N=374), with results shown in table . Compared to older people or the entire sample, in terms of number of valid responses, as might be expected state/private pensions are less commonly reported, being more in line with number of reported benefits received. Housing tenure remains the variable with the highest number of valid responses (371) followed by information related to amount of savings in current/savings accounts (303) and the associated interest (302). As with the wider sample, for 8 of 13 variables rates of valid responses are 90% or higher. Income from employment is the variable with the highest rate of missingness (22%), however it should be noted that the number of individuals asked this question is very low, and so this proportion corresponds to a small number of individuals providing missing responses. Those not answering the question regarding income from employment all did so because they refused to answer. However, apart from this variable which had few responses, the highest rates of refusing to answer questions occurred within questions capturing amount held in current/savings accounts

and state pensions (9%) each. With the exception of income from employment and state pension, rates of refusing to answer questions appear broadly in line with those calculated for the entire sample. With respect to outliers, the number reporting 0 interest earned continues to exceed the number reporting an amount of 0 saved in current/savings accounts.

3.2.2 Regression analysis

The results of the regression analyses performed are shown in table 5. The two most common characteristics associated with a higher degree of missingness when reporting financial information within ELSA are higher age and female sex, each found to be significant in 7 of 13 regressions.

The age at which the respondent left education was also significantly associated with an increased probability of providing a missing response with respect to amount held in a current/savings account and the associated interest, for those leaving education prior to the age of 19. However, those leaving school at the age of 16 were significantly more likely to provide a valid response when asked about their house value.

With respect to housing tenure, compared to those who own their home outright, those who had a mortgage or part mortgage were found to be less likely to provide a valid response when asked about their house value, as were those who rent/live rent free when asked about their income from employment.

Lastly, self-rated heath was found to be significant in only one instance, with those with fair/poor health being less likely to report a valid estimate of State pension compared to those with excellent/very good health.

4. UK Household Longitudinal Study (UKHLS)

The UKHLS sample is made up of adults (age 16 and over) residing in private households in the United Kingdom. The analysis reported here is however limited to those living in England. The UKHLS is a panel survey. It began in 2009 and annually collects data from household members. At the point of analysis, the most recent wave for which data is currently available is wave 11 (fieldwork in 2020; results published in 2021). The individual questionnaire which asks questions on income and assets is completed by household members aged 16 and above. The social care module is asked of those aged 65 and over. Further details about the UKHLS can be found in our report of workstream 1 of this study (Wittenberg and King 2022).

The social care module (King et al., 2010) in the UKHLS is administered only to sample members aged 65 and over. As a result, the analysis of younger adults was not able to identify those with ADL limitations. The more general question regarding a long-term illness or disability was therefore used to identify those under age 65 with a disability. Unlike ELSA, there were a sufficient number of older individuals who reported that they pay for the social care which they receive. This allowed us to produce results for this subgroup. We restricted our analysis to the subsample living in England to be comparable to the ELSA sample in geographic coverage.

4.1 Methods

4.1.1 Choice of variables

The list of variables assessed for their sample size, rates of missingness and outliers was similar to those considered in the analyses of ELSA data. Within the UKHLS, income is estimated at both the household and individual levels. Our analysis focussed on individual responses to the question asking the gross pay amount of the respondent. A follow-up question asked for the period which this pay covered, but we did not analyse responses to this question. Other key variables reported at the individual level were interest and dividends received in the past year from savings or investments and ‘unearned’ income which included pensions (state, employer and private), and the last amount received from each of a number of benefits. At the household level, homeowners were asked the value of their house and their monthly mortgage payment.

Our analysis also looked at response rates for the last amount received of AA, DLA, PIP and Pension Credit amongst recipients of each of these benefits. Respondents are asked to identify which social security benefits they receive. This question is asked of all respondents and the list of benefits does not vary for different age groups. If they report receiving a benefit, the respondents are then asked the last amount received. In some cases, however, respondents indicated that they received a benefit but later stated the amount as £0 for the last payment received.

Data collection fieldwork in UKHLS used one of three methods: face-to-face interview, telephone interview or web (online) self-completion. Respondents were initially assigned to be invited to take part in face-to-face interviews or online. If this initial approach was not successful, the other data collection methods were offered. As of March 2020, all face-to-face interviewing for UKHLS Wave 11 was stopped due to Covid-19 lockdowns. These interviews were instead conducted by telephone. We included mode of data collection as an independent variable in our logistic regression models to assess if was associated with missingness.

4.2 Results

4.2.1 Number of non-missing responses, rates of missingness and outliers

The full sample from Wave 11 (2019-20) of UKHLS was made up of 25,223 Individuals residing in private households in England. The highest number of non-missing responses were achieved for the questions on investments and dividends and house value, though a significant majority or responses reported £0 interest and dividends in the past year. Estimates of house value exhibited the highest rate of completion (88%; Table 6). Response rates were also high for the questions on mortgage payments (83%), gross pay (82%), AA (78%), DLA (77%), PIP (82%) and pensions (84-87%). Examination of the values reported suggested that outliers in amounts reported were less prevalent in state and employment pensions than in private pensions.

Across all the financial variables, 12% or less of respondents refused to provide answer. Refusals were lowest for the question on house value. Notable outliers were values of £0 reported for last Pension Credit payment received (12% of non-missing values reported) and values of £10 or less reported for the last private pension payment (17% of non-missing values reported).

Data were available from approximately 6,309 older people (age 65 or older). The largest samples with non-missing values reported were to the questions on state pension, house value and interest and dividends (Table 7). However, as with the overall sample, a large proportion of respondents report £0 interest and dividends in the past year. Among older individuals, values were not provided for the questions on mortgage payment, DLA and Pension Credit by approximate one-quarter of respondents.

Rates of refusal to answer financial questions was only slightly higher among older individuals. Their monthly mortgage payment was the question incurring the most refusals (14%). Over 10% of responses to the questions on last PIP and Pension Credit amount received were £0. Also, 16% of last private pension amount received were £10 or lower.

Results were similar for the subsample of older individuals with a disability (difficulty with one or more ADL; n=1515). This subgroup was slightly less likely to report the value of

their house (86% among all age 65+ vs 81% among age 65+ with a disability; Table 8). Sample sizes below 100 were observed for non-missing values reported for the questions on gross pay, monthly mortgage payment and last PIP payment amount.

Approximately 5400 younger adult respondents reported that they had a longstanding illness or disability. As previously described for the sample overall, a large proportion of individuals report £0 interest and dividends in the past year (Table 9). The questions on house value and employer pension amounts had the highest rates of response, though the latter question was applicable to less than 10% of the sample (as we would expect).

Data is available for 230 individuals aged 65 and over who paid towards the social care which they received (Table 10). Thus, there was a relatively small sample from which estimates of response rates could be drawn. The questions on house value and last state pension amount received were applicable for the majority of the subsample and a high rate of non-missing values were reported for both (86% and 83% respectively).

4.2.2 Regression analyses

Table 11 summarizes the results from logistic regression models estimated to identify those factors significantly associated with each of the financial variables. Missingness on the question on gross pay amount was associated with two factors: education and health. Individuals having less than a university or post-secondary education had greater odds of having missing data on the question on gross pay as compared to those with university qualifications. Individuals in fair or poor health had greater odds of missingness on the question on pay amount as compared to those reporting good health. Additionally, those whose data were collected via a telephone interview or web self-completion were less likely to report the amount they were paid.

Lower education qualifications were also associated with missingness on the question on house value (asked of homeowners only), as was younger age, being female and good or fair/poor health relative to excellent or very good health and telephone or web data collection as compared to face-to-face. These associations were almost entirely replicated for the question on the amount of monthly mortgage payment. Only lower age was not now significant though it should be noted that the sample size for the question on mortgage payment was just over half of that for the question on house value. Thus, lower education, poorer self-rated health and telephone or web self-completion as modes of data collection were the factors most commonly associated with a higher degree of missingness when reporting financial information within UKHLS.

As noted above, the question on interest and dividends received in the past year elicited a substantial number of £0 values. We assumed these were valid, non-missing responses. Older age, being female, not having university or post-secondary education qualifications, renting one’s home and good relative to excellent or very good health and web data

collection (as compared to face-to-face) were all associated with missingness on the interest and dividend amount question.

Of the variables considered, only higher age was significantly associated with missingness on the question on Pension Credit amount received. Having no education qualifications and fair or poor health and telephone data collection were associated with missingness on the question on state pension amounts received. Having no education qualifications was also associated with missingness on reporting employer pension amounts. Finally, lower age was associated with missingness on the question on private pension amounts and telephone data collection was associated with missingness on amounts of DLA and PIP payments. None of the variables considered were significantly associated with reported received amounts of AA for which the sample sizes were considerably lower than for the other variables with the exception of Pension Credit.

5 Conclusions and next steps

To conclude this workstream has identified areas of non-response and which groups are most likely to have missing data across the ELSA and UKHLS. In addition to understanding the robustness of existing data, this analysis also highlights to DHSC where issues of missing data are most likely to be found if a new survey is set up in the future.

Overall, the level of missing data on financial questions in these general population surveys is relatively low and consequently the surveys provide a reasonably complete source of information on finances. ELSA was found to have fewer missing data compared to UKHLS (this might be indicative of the mode used; ELSA does not include online methods, whilst analysis of UKHLS showed that online and telephone modes were associated with higher levels of item non-response in financial data compared with face-to-face surveys).

Missing data was generally lower for housing and higher for savings/ current accounts and income from work. Outliers were especially common for the questions on interest and dividends in the past year within the UKHLS.

Missing data was seen to increase with age, which suggests that, among the population receiving care services who are more likely to be older, we would expect levels of non-response to be greater than recorded within these general population surveys.

These surveys currently include few people paying for their care privately. The UKHLS Wave 11 had a sample of only 230 self-funders aged 65+ and it was not possible to identify this group from ELSA. Therefore, the existing evidence base does not fully capture the data DHSC requires. The possible options for addressing this limitation are detailed in the Workstream 3 phase 2 Options Appraisal report.

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Tables of results

Table 1: Analysis of ELSA financial variables, entire sample (N=8736)

Variable	Number of individuals who were asked the question	Number of individuals providing a valid/non-missing response	% valid response	% missing	% missing because they refused to answer	Range of observed values	Outliers
Gross income from work in the past year	164	145	88%	12%	4%	100-150,000	N=15 report <=£1000 annual income (10% of valid responses)
Tenure	8677	8668	99.9%	0.1%	0.05%	N/A	N=8 pay part rent and part mortgage (0.1% of valid responses)
House value	7209	6865	95%	5%	1%	0-4,000,000	N=4 responses of 0 (0.06% of valid responses)
Mortgage repayment (monthly)	1362	1265	93%	7%	3%	2-4,500	N=15 report a value of 3000 or greater (1.2% of valid responses)
Amount held in current/savings account by respondent and spouse	8357	6891	82%	18%	10%	0-3,668,00	N=225 records of 0 (3.3% of valid responses), N=63 records 400,000+ (0.8% of valid responses)
Interest earned from	8357	6341	76%	24%	5%	0-40,000	N=3,567 indicated 0 (56% of valid respondents)

Variable	Number of individuals who were asked the question	Number of individuals providing a valid/non-missing response	% valid response	% missing	% missing because they refused to answer	Range of observed values	Outliers
current/savings account after tax							
Attendance Allowance	319	296	93%	7%	1%	0-1,025	N=6 responses of 26 or lower (2% of valid responses)
Disability Living Allowance	318	270	85%	15%	2%	0-1000	N=16 values of 50 or lower (6% of valid responses) N=4 of 600 or greater (1.4% of valid responses)
Personal Independent Payment	288	272	94%	6%	0%	0-1000	N=7 values of 0 (2.6% of valid responses), N=6 values of 600 or greater (2.2% of valid responses)
Pension credit	308	277	90%	10%	1%	1-999	N=34 entered a value of 10 or below (12.2% of valid responses), N=4 entered a value of 400 or greater (1.4% of valid respondents)
State pension	5186	4825	93%	7%	3%	0-15,200	N=17 indicate a value of 50 or lower (0.35% of valid responses)
Private/employer pensions (monthly)	4525	4005	89%	11%	5%	0-75,000	N=22 values were reported at £10 or lower (0.5% of valid responses), N=51 reported values of £10,000 or higher (1.2% of valid responses)
Private/employer pensions (annually)	544	508	93%	7%	3%	0-207,642	N=33 indicate £76 or less annually (6.5% of valid responses), N=10 indicate a value of £72,000 or greater (1.8% of valid responses)

Table 2: Analysis of ELSA financial variables, Older people 65+ (N=5428)

Variable	Number of individuals who were asked the question	Number of individuals providing a valid/non-missing response	% valid response	% missing	% missing because they refused to answer	Range of observed values	Outliers
Gross income from work in the past year	64	54	84%	16%	5%	100-80,000	N=7 values of <1000 (13% of valid responses), N=4 values of 30,000 or higher (3.7% of valid responses)
Tenure	5380	5374	99.9%	0.11%	0.02%	N/A	N=3 (0.06% of valid responses) part renting and part mortgaging
House value	4532	4268	94%	6%	1%	0-3,000,000	N=4 responses of 0 (0.06% of valid responses)
Mortgage repayment (monthly)	249	227	91%	9%	3%	2-4,500	N=2 responses of 3000 or greater (0.9% of valid responses)
Amount held in current/savings account by respondent and spouse	5192	4208	81%	19%	11%	0-3,668,00	N=61 records of 0 (1.5% of valid responses), N=43 records >=£400,000 (0.9% of valid responses)
Interest earned from current/savings account after tax	5192	3786	73%	27%	5%	0-40,000	N=2,089 indicated 0 (55% of valid respondents)
Attendance Allowance	306	284	93%	7%	1%	0-1025	N=6 responses of 430 or higher (2.1% of valid responses)
Disability Living	240	204	85%	15%	2%	0-997	N=12 values of 50 or lower (5.9% of valid

Variable	Number of individuals who were asked the question	Number of individuals providing a valid/non-missing response	% valid response	% missing	% missing because they refused to answer	Range of observed values	Outliers
Allowance							responses)
Personal Independent Payment	108	102	94%	6%	0%	22-880	N=2 values of 22 or lower (2% of valid response)
Pension credit	288	260	90%	10%	1%	1-999	N=2 of 500 or greater (0.8% of valid responses)
State pension	5004	4651	93%	7%	3%	0-15,200	N=27 values of 10,000 or greater (0.5% of valid responses)
Private/employer pensions (monthly)	3641	3176	87%	13%	6%	0-75,000	N=17 values of 10 or lower (0.5% of valid responses), N=28 values of 10,000 or greater (0.8% of valid responses)
Private/employer pensions (annually)	382	351	92%	8%	4%	0-129,000	N=15 values of 76 or lower (4.3% of valid responses) , N=5 values of 80,000 or higher (0.8% of valid responses)

Table 3: Analysis of ELSA financial variables, Older people with 1+ ADL limitation (N=1132)

Variable	Number of individuals who were asked the question	Number of individuals providing a valid/non-missing response	% valid response	% missing	% missing because they refused to answer	Range of observed values	Outliers
Gross income from work in the past year	10	9	90%	10%	0%	500-30,000	N=2 values of over 8500 (22% of valid responses)
Tenure	1096	1093	99.7%	0.3%	0%	N/A	N=2 records of part renting and part mortgaging (0.2% of valid responses)
House value	800	736	92%	8%	1%	0-3,000,000	N=2 values of 0 (0.3% of valid responses)
Mortgage repayment (monthly)	60	52	87%	13%	3%	9-1,157	N=2 values of 1000 or greater (3.8% of valid responses)
Amount held in current/savings account by respondent and spouse	1061	839	79%	21%	10%	0-712,000	N=20 records of 0 (2.4% of valid responses), N=4 records of 400,000+ (0.5% of valid responses)
Interest earned from current/savings account after tax	1061	764	72%	28%	5%	0-10,000	N=490 records of 0 (64% of valid responses)
Attendance Allowance	182	167	92%	8%	1%	0-1025	N=4 values of 400 or greater (2.4% of valid responses)
Disability Living Allowance	135	112	83%	17%	1%	1-997	N=4 responses of 23 or lower (3.6% of valid responses)

Variable	Number of individuals who were asked the question	Number of individuals providing a valid/non-missing response	% valid response	% missing	% missing because they refused to answer	Range of observed values	Outliers
Personal Independent Payment	62	57	92%	8%	0%	22-880	N=1 value under 50 (1.8% of valid responses)
Pension credit	117	101	86%	14%	2%	2-999	N=4 values over 180 (4% of valid responses)
State pension	1039	918	88%	12%	3%	0-14,000	N=2 values over 10,000 (0.2% of valid responses)
Private/employer pensions (monthly)	695	590	85%	15%	4%	0-28,000	N=4 values over 7000 (0.7% of valid responses)
Private/employer pensions (annually)	66	58	88%	12%	6%	2-60,000	N=10 values of 400 or lower (17.2% of valid responses) , N=5 values of 40,000 or higher (8.7% of valid responses)

Table 4: Analysis of ELSA financial variables, Younger people with 1+ ADL limitation (N=374)

Variable	Number of individuals who were asked the question	Number of individuals providing a valid/non-missing response	% valid response	% missing	% missing because they refused to answer	Range of observed values	Outliers
Gross income from work in the past year	9	7	78%	22%	22%	2000-15,000	N=1 values over 10,000 (14% of valid responses)
Tenure	371	371	100%	0%	0%	N/A	N=1 record of part renting and part mortgaging (0.3% of valid responses)
House value	226	218	96%	4%	1%	58,000-2,200,000	N=3 values over 1,000,000 (1.4% of valid values)
Mortgage repayment (monthly)	92	87	95%	5%	4%	25-1600	N=10 responses of over 1000 (11.5% of valid responses)
Amount held in current/savings account by respondent and spouse	351	303	86%	14%	9%	0-254,500	N=34 responses of 0 (11.2% of valid values)
Interest earned from current/savings account after tax	351	302	86%	14%	4%	0-6000	N=226 responses of 0 (74.8% of valid values)
Attendance Allowance	5	5	100%	0%	0%	1-338	N=1 values under 200 (20% of valid responses)

Variable	Number of individuals who were asked the question	Number of individuals providing a valid/non-missing response	% valid response	% missing	% missing because they refused to answer	Range of observed values	Outliers
Disability Living Allowance	46	41	89%	11%	2%	16-560	N=3 values of 22 or lower (7.3% of valid responses)
Personal Independent Payment	108	101	94%	6%	1%	0-1000	N=7 values under 100 (7% of valid responses)
Pension credit	6	6	100%	0%	0%	49-180	
State pension	23	19	83%	17%	9%	127-6860	N=2 values over 1000 (10.5% of valid responses)
Private/employer pensions (monthly)	114	108	95%	5%	2%	8-12,000	N=1 value over 4000 (0.9% of valid responses)
Private/employer pensions (annually)	16	15	94%	6%	6%	0-120,000	N=2 values of 2 or lower (13.3% of valid responses)

Table 5: Summary of ELSA financial variable logistic regressions

Financial (dependant) variable (N)	**Independent variable/category (reference category)**								
	Age	Sex (Male)	Age completed education (19+)			Tenure (Owns home outright)		Self-rated health (Excellent/very good)	
		Female	18 or 17	16	15 or under	Mortgage/Part Mortgage	Rent/Living rent free	Good	Fair/Poor
Gross income from work in the past year (160)							+		
Tenure (8,036)	+								
House value (6,679)	+	+		-		+			
Monthly mortgage repayment (1270)		+							
Amount held in current/savings account by respondent/spouse (7,729)	+	+	+	+	+				
Interest earned from current/savings account after tax (7,729)	+	+	+	+	+				
Attendance Allowance (226)	+								
Disability Living Allowance (270)									
Personal Independent Payment (223)									

Financial (dependant) variable (N)	Independent variable/category (reference category)								
Pension credit (274)									
State pension (4,793)	+	+							-
Private/employer pensions, monthly (4,200)	+	+							
Private/employer pensions, annually (514)		+							

+ indicates significant (p=0.05) higher rate of missingness (lower rate of completion), - indicates significant (p=0.05) negative lower rate of missingness (higher rate of completion)

Notes for table 6

Dependant variables were coded 0 if a valid/non-missing response was recorded, 1 if response was missing

Age was coded as 91 if above 90, to preserve anonymity

Respondents with a non-valid response on an independent variable were excluded

Self-rated health: 6% of respondents responded had a non-valid responses (3 don't know/refused, 545 N/A)

Tenure: 0.7% of respondents had a non-valid response (4 refused, 5 don't know, 59 N/A)

Age completed education: 1.4% of respondents indicated either not having yet completed their education (N=113), 1 refused, 4 indicated they didn't know and 1 answer of N/A was recorded

Housing tenure was not included as an independent variable when considered as the dependant variable

Table 6: Analysis of UKHLS financial variables, entire sample (N=25,223)

Variable	Sample size (excluding N/A)	Number of individuals providing a non-missing response	% non-missing response	% missing	% missing because refused	Range of observed values	Outliers
Gross pay	12,085	9856	82%	18%	12%	1-565,400	N=107 values < £10 (1% of non-missing responses)
House value	19,115	16,821	88%	12%	2%	1-8,000,000	N=456 with value <£50,000 (3.6% of non-missing responses)
Mortgage payment (monthly)	9917	8231	83%	17%	6%	1-96,000	N=296 with value less than £100 (3% of non-missing responses)
Interest and dividends from savings or investments	24,843	20,836	84%	16%	7%	0-500,000	70% of non-missing respondents with a value of £0
Attendance Allowance	541	422	78%	22%	7%	0-22,920	N=26 responses of £0 (6.2% of non-missing responses)
Disability Living Allowance	1043	803	77%	23%	7%	0-2410	N=45 values of £0 or lower (5.6% of non-missing responses) N=17 of 600 or greater (2.1% of non-missing responses)
Personal Independent Payment	1307	1072	82%	19%	7%	0-23,480	N=62 values of £0 (5.8% of non-missing responses), N=43 values of 600 or greater (4.1% of non-missing responses)
Pension credit	758	561	74%	26%	5%	0-1000	N=65 entered a value of £0 (11.6% of

Variable	Sample size (excluding N/A)	Number of individuals providing a non-missing response	% non-missing response	% missing	% missing because refused	Range of observed values	Outliers
							non-missing responses), N=8 entered a value of £400 or greater (1.4% of non-missing respondents)
State pension	7741	6735	87%	13%	6%	0-118,450	N=79 indicate a value of £10 or lower (1.2% of non-missing responses)
Employer pensions	7361	6330	86%	14%	9%	0-580,000	N=189 values were reported at £10 or lower (3.0% of non-missing responses)
Private pensions	3017	2534	84%	16%	10%	0-120,000	N=419 indicate £10 or less (16.6% of non-missing responses)

Table 7: Analysis of UKHLS financial variables, Older people 65+ (N=6,309)

Variable	Sample size (excluding N/A)	Number of individuals providing a non-missing response	% non-missing response	% missing	% missing because refused	Range of observed values	Outliers
Gross pay	407	340	84%	16%	8%	9-100,000	N=8 values of £50 or less (2.7% of non-missing responses)
House value	5321	4576	86%	14%	2%	70-8,000,000	N=81 with value less than £50,000 (3.6% of non-missing responses)
Mortgage payment (monthly)	457	343	75%	25%	14%	1-57,000	N=62 with value of £100 or less (18.0% of non-missing responses); n=6 with value of £10,000 or more (1.7% of non-missing responses)
Interest and dividends from savings or investments	6212	4934	79%	21%	9%	0-500,000	53% of non-missing responses with a value of £0
Attendance Allowance	357	286	80%	21%	7%	0-22,920	N=18 responses of £0 (6.3% of non-missing responses)
Disability Living Allowance	288	210	73%	27%	7%	0-2,100	N=14 values of £0 (6.7% of non-missing responses)
Personal Independent Payment	170	139	82%	18%	7%	0-2400	N=16 values of £0 (11.4% of non-missing responses), N=9 values of £600 or greater (6.4% of non-missing responses)
Pension credit	518	394	76%	24%	5%	0-1000	N=50 entered a value of £0 (12.7%

Variable	Sample size (excluding N/A)	Number of individuals providing a non-missing response	% non-missing response	% missing	% missing because refused	Range of observed values	Outliers
							ofnon-missing responses), N=6 entered a value of £400 or greater (2.2% of non-missing respondents)
State pension	5837	5078	87%	13%	6%	0-118,450	N=79 indicate a value of £10 or lower (1.2% of non-missing responses)
Employer pension	4383	3769	86%	14%	9%	0-580,000	N=118 values of £10 or lower (3.1% of non-missing responses)
Private pension	2060	1751	85%	15%	9%	0-60,000	N=276 values of £10 or lower (15.8% of non-missing responses)

Table 8: Analysis of UKHLS financial variables, Older people with 1+ ADL limitation (N=1515)

Variable	Sample size (excluding N/A)	Number of individuals providing a non-missing response	% non-missing response	% missing	% missing because refused	Range of observed values	Outliers
Gross pay	41	31	76%	24%	14%	9-10,000	N=1 with value of £10 or less (3.2% of non-missing responses)
House value	1186	961	81%	19%	3%	70-8,000,000	N=62 with value of £50,000 or less (5.2% of non-missing responses)
Mortgage payment (monthly)	109	72	66%	34%	19%	1-23,000	N=13 with value of £100 or less (18.1% of non-missing responses); n=1 with value over £10,000 (1.4% of non-missing responses)
Interest and dividends from savings or investments	1515	1160	77%	23%	9%	0-40,000	62% of non-missing responses are £0
Attendance Allowance	242	198	82%	18%	8%	0-400	N=13 values of £0 (6.5% of non-missing responses)
Disability Living Allowance	171	130	76%	24%	7%	0-800	N=10 responses of £0 (7.7% of non-missing responses)
Personal Independent Payment	101	86	85%	15%	7%	0-2020	N=10 value of £0 (11.6% of non-missing responses)
Pension credit	185	137	74%	26%	7%	0-1000	N=30 values of £10 or less (21.9% of non-missing responses; n=3 values over £400 (2.2% of non-missing responses)

Variable	Sample size (excluding N/A)	Number of individuals providing a non-missing response	% non-missing response	% missing	% missing because refused	Range of observed values	Outliers
State pension	1446	1215	84%	16%	7%	0-33,000	N=14 values less than £10 (1.1% of non-missing responses)
Employer pensions	992	833	84%	16%	9%	0-28,380	N=43 values less than £10 (5.1% of non-missing responses)
Private pensions	427	354	83%	17%	10%	0-20,290	N=66 values of £10 or lower (18.6% of non-missing responses)

Table 9: Analysis of UKHLS financial variables, Younger people with longstanding illness or disability (N=5423)

Variable	Sample size (excluding N/A)	Number of individuals providing a non-missing response	% non-missing response	% missing	% missing because refused	Range of observed values	Outliers
Gross pay	2892	2381	82%	18%	11%	3-100,000	N=24 with value less than £10 (0.7% of non-missing responses)
House value	3741	3292	88%	12%	2%	110-8,000,000	N=81 with value less than £50,000 (2.2% of non-missing responses)
Mortgage payment (monthly)	2234	1854	83%	17%	6%	1-56,000	N=44 with values less than £100 (2.9% of non-missing responses)
Interest and dividends from savings or investments	5350	4692	88%	12%	5%	0-94,290	77% of non-missing responses with value = £0
Attendance Allowance	10	7	70%	30%	10%	0-450	N=1 value of £0 (14.3% of non-missing responses)
Disability Living Allowance	289	231	80%	20%	8%	0-1000	N=11 values of £0 (4.8% of non-missing responses)
Personal Independent Payment	701	575	82%	18%	6%	0-23,480	N=26 values of £10 or less (4.5% of non-missing responses)
Pension credit	10	7	70%	30%	0%	16-400	
State pension	19	13	68%	17%	5%	0-800	N=2 values of £10 or lower (15.4% of non-missing responses)
Employer pension	571	525	92%	8%	6%	0-32,000	N=10 values of £10 or lower (1.7% of

Variable	Sample size (excluding N/A)	Number of individuals providing a non-missing response	% non-missing response	% missing	% missing because refused	Range of observed values	Outliers
							non-missing responses)
Private pension	175	142	81%	19%	14%	0-32,000	N=29 values of £10 or lower (20.4% of non-missing responses)

Table 10: Analysis of UKHLS financial variables, Older people who are self-funders (N=230)

Variable	Sample size (excluding N/A)	Number of individuals providing a non-missing response	% non-missing response	% missing	% missing because refused	Range of observed values	Outliers
Gross pay	5	5	100%	0%	0%	503-4650	
House value	174	150	86%	14%	1%	210-1,900,000	N=5 with value less than £50,000 (2.2% of non-missing responses)
Mortgage payment (monthly)	14	9	64%	36%	21%	9-1700	N=2 with value less than £100 (14.3% of non-missing responses)
Interest and dividends from	230	182	79%	21%	4%	0-18,0000	53% with value of £0

Variable	Sample size (excluding N/A)	Number of individuals providing a non-missing response	% non-missing response	% missing	% missing because refused	Range of observed values	Outliers
savings or investments							
Attendance Allowance	63	53	84%	16%	6%	0-380	N=3 with value of £0 (5.7% of non-missing responses)
Disability Living Allowance	30	23	77%	23%	0%	0-550	N=3 with value of £0 (13.0% of non-missing responses)
Personal Independent Payment	19	14	74%	26%	11%	0-580	N=3 with value of £0 (21.4% of non-missing responses)
Pension credit	30	24	80%	20%	0%	0-170	N=9 with value less than £10 (37.5% of non-missing responses)
State pension	224	186	83%	17%	4%	1-7000	N=1 with value less than £10 (0.5% of non-missing responses)
Employer pension	143	119	83%	18%	7%	0-28,380	N=5 with value less than £10 (4.2% of non-missing responses)
Private pension	74	61	82%	18%	5%	0-13,910	N=6 with value of £10 or less (9.8% of non-missing responses)

Table 11: Summary of UKHLS financial variable logistic regressions

Financial (dependant) variable (N)	**Age**	**Sex (Male)**	**Education qualification (University or Post-secondary)**		**Tenure (Owns)**	**Self-rated health (Excellent/very good)**		**Mode of interview (face-to-face)**	
		Female	Secondary School qualification	No qualifications	Rents	Good	Fair/poor	Telephone	Web
Gross pay (11,369)			+	+			+	+	+
House value (18,251)	-	+	+	+		+	+	+	+
Mortgage payment (monthly) (9,510)		+	+	+		+	+	+	+
Interest and dividends from savings or investments (22,967)	+	+	+	+	+	+			+
Attendance Allowance (330)									
Disability Living Allowance (636)								+	
Personal Independent Payment (883)								+	

Financial (dependant) variable (N)	Age	Sex (Male)	Education qualification (University or Post-secondary)		Tenure (Owns)	Self-rated health (Excellent/very good)		Mode of interview (face-to-face)	
Pension credit (456)	+								
State pension (5,508)				+			+	+	
Employer pensions (5471)				+					

+ indicates significant (p=0.05) higher rate of missingness (lower rate of completion), - indicates significant (p=0.05) negative lower rate of missingness (higher rate of completion)

Notes

Dependant variables were coded 1 if a missing value was recorded, 0 if response was not missing

Annex

ELSA notes and additional analysis

ELSA choice of variables

A primary aim of the analyses was to investigate the quality of data that might be collected by adopting a method of collection consistent with that used within ELSA, in particular by adopting the same question wording and response categories. This means that derived variables, which have undergone multiple imputation to deal with missing data, were not evaluated. Similarly, a number of questions have follow-up questions associated with them if the respondent cannot provide an initial continuous answer confidently. These follow-up questions provide a banded answer, which is less precise than a continuous estimate but likely preferable to a completely missing response. For the purposes of this analysis, only the initial questions are included for the analysis. Those providing a banded response to follow-up questions are still considered to have a missing response to the initial question.

ELSA benefit coding

It should be noted that, when asked for the amount received from a social security benefit, the respondent may provide the total amount received from all their benefits, that is including other types of benefits from that in the initial question. In this case, when asked about receipt of other benefits already included in the total amount given, the amount received is coded as ‘9997’. Since this value conveys information (specifically that the amount received was given, albeit in conjunction with other benefit amounts, this is counted as a valid response. It does not however factor into calculations of ranges.

ELSA logistic regressions independent variable selection

It should be noted that in a small number of cases respondents provided a missing value for one or more of the independent variables used and these individuals then had to be excluded from the logistic regressions (table 6 notes provide numbers missing on each independent variable). In some cases (particularly for benefits where sample sizes were smaller), some categories for independent variables were excluded as all of the respondents within that category provided a valid response or all provided a missing response.

Previous research has noted that responses to financial variables may be missing because of the level of income/wealth of the respondent (e.g. those with very high wealth may be less likely to disclose this wealth). This is a phenomenon that cannot be directly investigated using only observed variables. However, age at which the respondent left

education is included as a variable likely correlated with wealth/income which may to some degree capture this effect.

Housing tenure was not included as an independent variable in the regression exploring housing tenure as a dependant variable.

ELSA rates of missingness by banded age and proxy/non-proxy response

Additional analyses were performed using the ELSA dataset analysing the relationship between rates of missingness for financial variables and (separately) age-band and whether responses were made by proxy respondents or not.

The age variable within ELSA is continuous, though ages above 90 use a single code to preserve anonymity. For the purposes of these analysis, age was banded into the following categories:

<65 (N=3308; 38% of the sample), 65-74 (N=3080; 35%), 75-84 (N=1777; 20%), 85+ (N=571;7%).

A directly recorded indicator of whether the response was collected via proxy was used. This proxy indicator had no missing data.

Results

The analysis of rates of missingness by age-band are shown in table 12 and illustrated within figure 1. Regarding employment income, no data was collected for those aged 75 or older. Rates of missingness in general is very low regarding the housing tenure variable. Regarding the other variables however, the oldest age-band consistently yields the highest proportion of missing data, and in about half of these variables there appears to be a monotone trend of increasing rates of missingness as banded age increases. There are a number of exceptions however, for example considering benefits, the <65 group reveal a higher rate of missing data compared to the 65-74 group and in the cases of Attendance Allowance and Pension Credit the 75-84 age group also.

The analysis of rates of missingness by whether responses were collected via proxy or not are shown in table 13 an illustrated within figure 2. There were no valid or missing responses by proxy respondents regarding income from employment. With the exception of house value (where 4.5% of proxy respondents provided a missing value compared to 4.8% of non-proxy respondents), rates of missingness are higher when responses are collected from proxy respondents compared to non-proxy respondents. The difference is particularly stark regarding annual valuations of private/employer pensions and Disability Living Allowance (DLA) where the rates of missingness are 3.7 and 3.5 times as high for proxy respondents compared to non-proxy respondents for these two variables respectively. Proxy responses regarding DLA exhibited a considerably higher degree of

missingness (45.5%) compared to other financial variables. However, it should be noted that the number of individuals asked to estimate amounts of benefits received is overall low, and this proportion of 45.5% corresponds in total to 10 individuals providing a missing value.

UKHLS notes and additional analysis

UKHLS rates of missingness by banded age

Previous analysis of the UK Household Longitudinal Study (UKHLS) dataset indicated associations between the age of respondents and rates of missingness for some financial variables. Further analysis was undertaken to provide greater detail on the association by cross tabulating age bands against rates of missingness of each of the financial variables.

As per the ELSA analysis above, age was banded into the following categories: <65 (n=18,914; 75% of sample), 65-74 (n=3,777; 15%), 75-84 (n=1986; 7.9%), and 85+ (n=542; 2.2%).

Results

Table 14 presents the results of analysis of rates of missingness by age-band. These results are displayed visually in Figure 3. Rates of missingness for the question on income were consistent across age-bands, though the proportion of respondents at higher age-bands for whom this question was applicable was understandable small. Rates of missingness were generally higher at higher age bands for the majority of the remaining variables. For example, the rate of missingness for the question on last mortgage payment rose from 16% at the lowest age band to 42% at the highest. In most cases this trend was linear, suggesting a declining ability to recall financial information, or an increasing unwillingness to do so, at higher ages.

Rates of missing for the questions on pension credit and state pension are high for those under age 65. Respondents were first asked if each of these were received (as with all ‘unearned’ income sources), prior to being asked for the amounts received. This suggests that some respondents may not have answered these questions with the full understanding of the income sources being referred to.

Table 12: ELSA rates of missing/valid responses by age-band

		Age-band							
		<65		65-74		75-84		85+	
Financial variable		N	%	N	%	N	%	N	%
Gross income from work in the past year	Missing	9	9.0	10	15.6	0	-	0	-
	Valid/non-missing	91	91.0	54	84.4	0	-	0	-
Tenure	Missing	3	0.1	1	0.0	1	0.1	4	0.7
	Valid/non-missing	3294	99.9	3073	100.0	1765	99.9	536	99.3
House value	Missing	80	3.0	100	3.8	107	7.2	57	14.1
	Valid/non-missing	2597	97.0	2547	96.2	1373	92.8	348	85.9
Monthly mortgage repayment	Missing	75	6.7	15	7.4	4	8.5	3	23.1
	Valid/non-missing	1051	93.3	189	92.6	43	91.5	10	76.9
Amount held in current/savings account by respondent/spouse	Missing	482	15.2	482	16.2	364	21.5	138	26.6
	Valid/non-missing	2683	84.8	2500	83.8	1327	78.5	381	73.4
Interest earned from current/savings account after tax	Missing	610	19.3	769	25.8	469	27.7	168	32.4
	Valid/non-missing	2555	80.7	2213	74.2	1222	72.3	351	67.6
Attendance Allowance	Missing	1	7.7	1	1.5	7	5.2	14	13.5
	Valid/non-missing	12	92.3	67	98.5	127	94.8	90	86.5
Disability Living Allowance	Missing	12	15.4	16	12.3	15	16.7	5	25.0
	Valid/non-missing	66	84.6	114	87.7	75	83.3	15	75.0

		Age-band							
Personal Independent Payment	Missing	10	5.6	4	4.3	1	8.3	1	33.3
	Valid/non-missing	170	94.4	89	95.7	11	91.7	2	66.7
Pension credit	Missing	3	15.0	10	7.1	11	10.7	7	14.3
	Valid/non-missing	17	85.0	131	92.9	92	89.3	42	85.7
State pension	Missing	8	4.4	124	4.5	160	9.3	69	12.6
	Valid/non-missing	174	95.6	2617	95.5	1557	90.7	477	87.4
Private/employer pensions, monthly	Missing	55	6.2	239	11.3	160	13.6	66	19.1
	Valid/non-missing	829	93.8	1882	88.7	1014	86.4	280	80.9
Private/employer pensions, annually	Missing	5	3.1	16	7.0	11	9.3	4	11.4
	Valid/non-missing	157	96.9	213	93.0	107	90.7	31	88.6

Table 13: ELSA rates of missing/valid responses by proxy/non-proxy response

		Non-proxy		Proxy	
Financial variable		N	%	N	%
Gross income from work in the past year	Missing	19	11.6	0	-
	Valid/non-missing	145	88.4	0	-
Tenure	Missing	7	0.1	2	0.4
	Valid/non-missing	8156	99.9	512	99.6
House value	Missing	325	4.8	19	4.5
	Valid/non-missing	6462	95.2	403	95.5
Monthly mortgage repayment	Missing	86	6.7	11	10.4
	Valid/non-missing	1198	93.3	95	89.6
Amount held in current/savings account by respondent/spouse	Missing	1316	16.7	150	30.7
	Valid/non-missing	6552	83.3	339	69.3
Interest earned from current/savings account after tax	Missing	1852	23.5	164	33.5
	Valid/non-missing	6016	76.5	325	66.5
Attendance Allowance	Missing	18	6.7	5	9.6
	Valid/non-missing	249	93.3	47	90.4
Disability Living Allowance	Missing	38	12.8	10	45.5
	Valid/non-missing	258	87.2	12	54.5
Personal Independent Payment	Missing	14	5.1	2	14.3

		Non-proxy		Proxy	
	Valid/non-missing	260	94.9	12	85.7
Pension credit	Missing	28	9.4	3	20.0
	Valid/non-missing	270	90.6	12	80.0
State pension	Missing	314	6.4	47	16.0
	Valid/non-missing	4587	93.6	247	84.0
Private/employer pensions, monthly	Missing	464	10.8	56	22.8
	Valid/non-missing	3815	89.2	190	77.2
Private/employer pensions, annually	Missing	31	6.0	5	21.7
	Valid/non-missing	490	94.0	18	78.3

Figure 1: ELSA rates of missing responses for financial variable by age-band

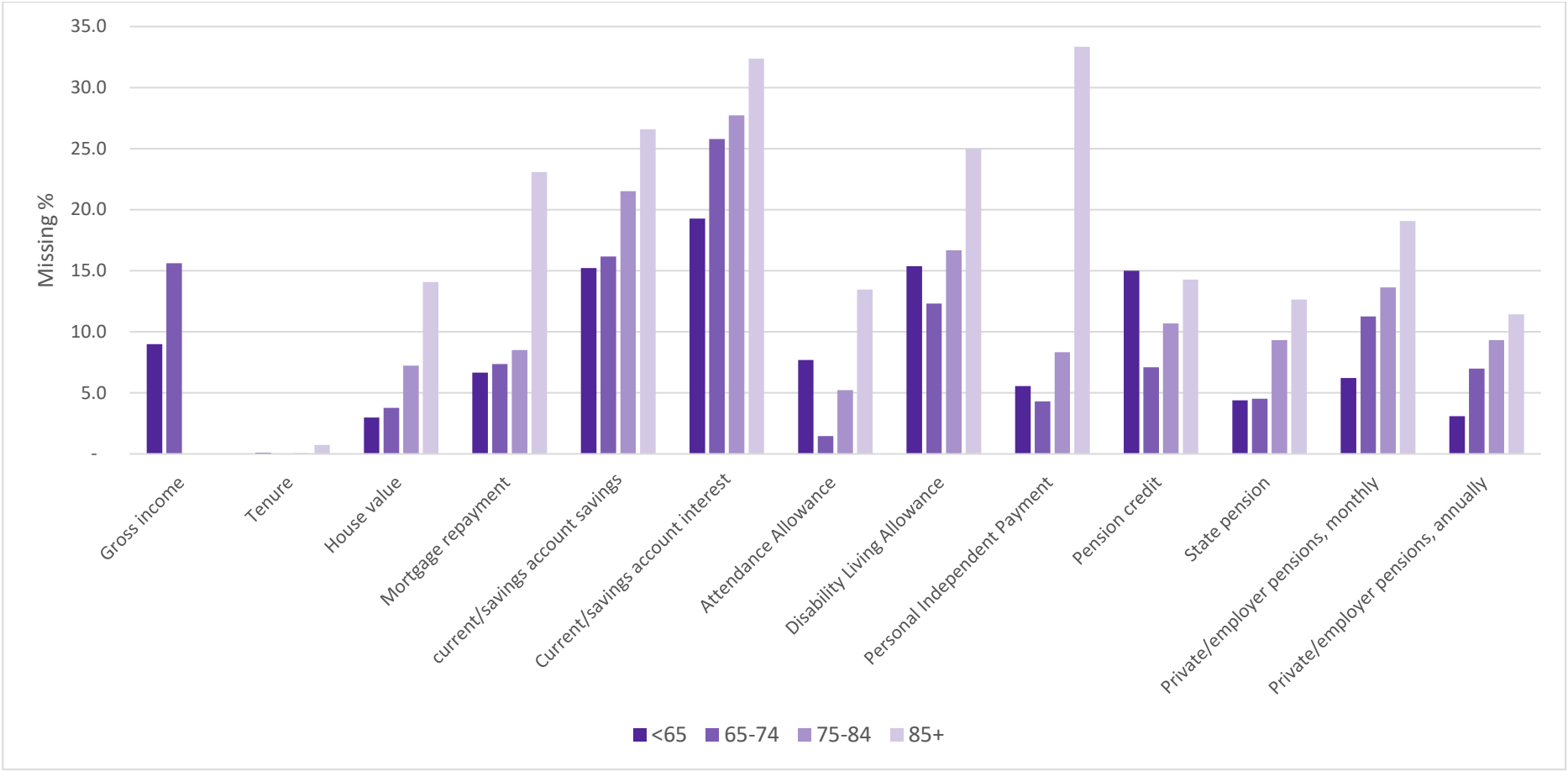

Figure 2: ELSA rate of missing responses by proxy/non-proxy response

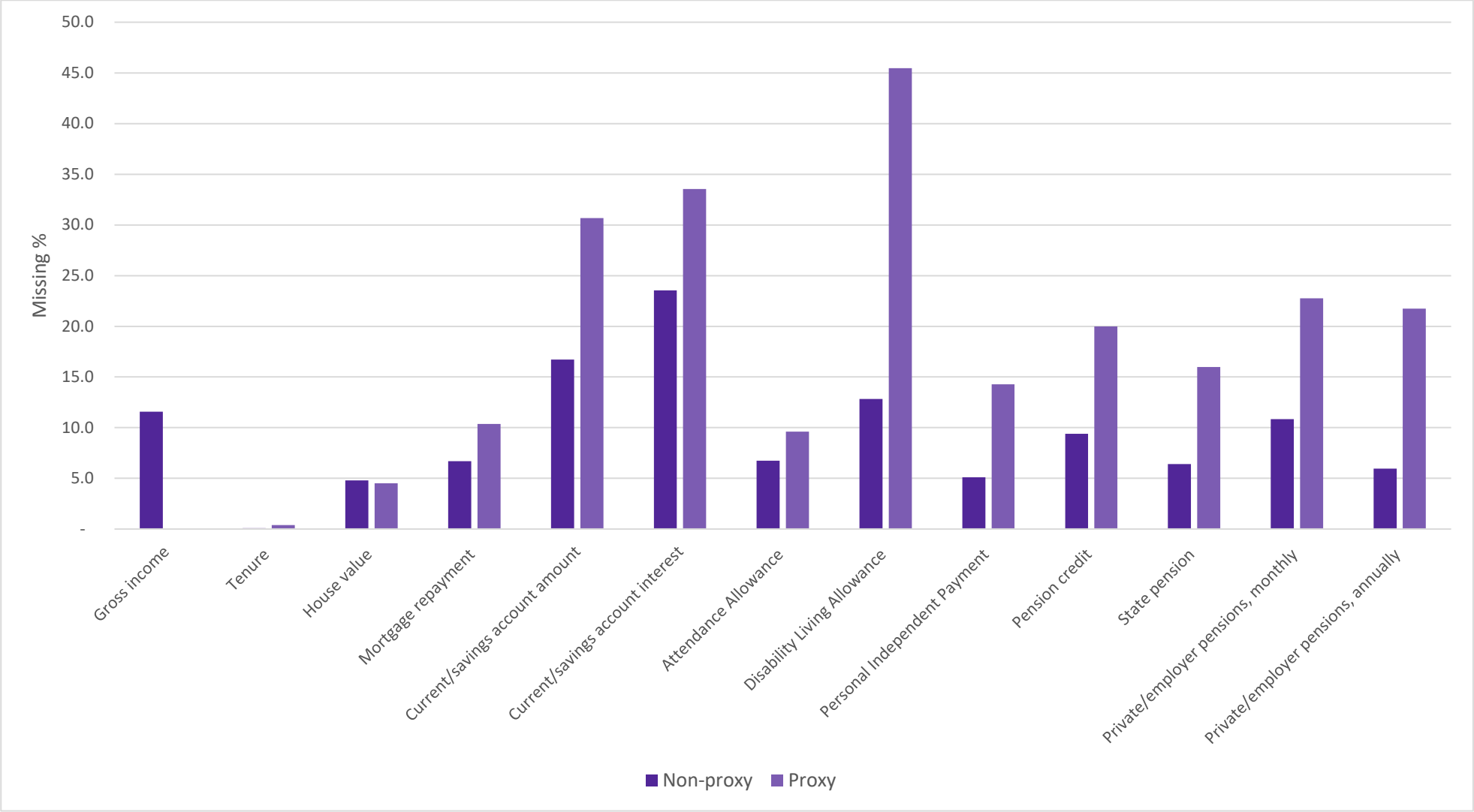

Table 14: UKHLS rates of missing/valid responses by age-band

		Age-band							
		<65		65-74		75-84		85+	
Financial variable		N	%	N	%	N	%	N	%
Gross income from work	Missing	2162	18.5	60	16.3	7	18.4	0	0.0
	Valid/non-missing	9513	81.5	308	83.7	31	81.6	1	100
House value	Missing	1638	11.9	380	11.9	266	15.7	78	17.8
	Valid/non-missing	12,156	88.1	2810	88.1	1424	84.3	360	82.2
Mortgage payment	Missing	1534	16.3	112	29.6	53	44.5	8	42.1
	Valid/non-missing	7865	83.7	267	70.5	66	55.5	11	57.9
Interest and dividends from savings or investments	Missing	2729	14.7	711	19.0	425	21.8	142	27.3
	Valid/non-missing	15,902	85.4	3024	81.0	1528	78.2	379	72.7
Attendance Allowance	Missing	3	21.4	21	20.8	29	17.4	23	25.8
	Valid/non-missing	11	78.6	80	79.2	138	82.6	66	74.2
Disability Living Allowance	Missing	81	19.3	35	24.1	32	28.1	11	37.9
	Valid/non-missing	338	80.7	110	75.9	82	71.9	18	62.1
Personal Independent Payment	Missing	144	18.9	28	17.8	1	11.1	1	25.0
	Valid/non-missing	619	81.1	129	82.2	8	88.9	3	75.0
Pension credit	Missing	4	26.7	52	18.7	50	28.4	22	34.4
	Valid/non-missing	11	73.3	226	81.3	126	71.6	42	65.6

		Age-band							
State pension	Missing	23	41.1	362	10.7	240	12.4	117	22.8
	Valid/non-missing	33	58.9	3033	89.3	1689	87.6	396	77.2
Employer pensions	Missing	147	10.9	355	13.0	173	13.2	75	22.1
	Valid/non-missing	1202	89.1	2373	87.0	1143	86.9	264	77.9
Private pensions	Missing	69	17.1	180	14.5	111	15.5	22	21.4
	Valid/non-missing	335	82.9	1060	85.5	606	84.5	81	78.6

Figure 3: UKHLS rates of missing responses for financial variables by age-band