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# How and when to save: interactions between owner- occupation and pension saving



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# Preface

This work is based on analysis of the Annual Survey of Hours and Earnings, the English Longitudinal Study of Ageing (ELSA), and the Wealth and Assets Survey.

The Annual Survey of Hours and Earnings is produced by the Office for National Statistics (ONS) and supplied by the Secure Research Service at the ONS. These data are Crown Copyright.

ELSA was developed by a team of researchers based at the University College London, NatCen Social Research, and the Institute for Fiscal Studies. The data were collected by NatCen Social Research. The funding is currently provided by the National Institute of Aging (R01AG017644), and a consortium of UK government departments coordinated by the National Institute for Health Research.

The Wealth and Assets Survey data are collected by the ONS, and funded by the ONS, Department for Work and Pensions, Department for Business, Innovation and Skills, HM Revenue and Customs, Department for Communities and Local Government, Scottish Government and Financial Services Authority. The data were made available by the UK Data Archive.

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. The analysis, interpretation of the data, opinions and conclusions expressed are solely those of the authors and do not represent the opinions or policy of the ONS or of any of the funders or data providers. This work uses research data sets which may not exactly reproduce National Statistics aggregates.

# Executive summary

Private pensions and owner-occupied housing are the two most important forms of wealth that the majority of individuals accumulate over their lifetimes. How much to accumulate in these forms, and when, are difficult decisions – requiring individuals to consider both their own preferences for housing versus non-housing consumption (both now and in the future), and the relative financial return from different choices given possible future asset price movements, tax incentives, pension scheme rules, and so on.

The research summarised in this briefing note has taken an important first step in understanding how the timing of individuals' pension saving interacts with the accumulation of housing wealth.

## Key findings

- 1 Before the introduction of automatic enrolment, working renters of all ages were less likely to save in a private pension than those with a mortgage, even after controlling for a rich set of other factors, including earnings. This is most likely to be because of differences between renters and those with a mortgage in terms of characteristics not observed in most household data sets, rather than because many renters are saving for a housing deposit in preference to joining a pension scheme.
- 2 We find no overall association, on average, between local average house prices and whether or not a young employee is a member of a private pension. Even among those in the middle of the earnings distribution, among whom we might expect the decision whether to save for a deposit or to save in a pension to be most difficult, we find that if average local house prices are £100,000 higher, then this is associated with just a 2 percentage point lower probability of being in a workplace pension. Public-sector employees are more responsive

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than private-sector employees. This effect appears to be strongest in health and education, where employee pension contributions are often higher than elsewhere in the public sector – although, even here, the effects we find are still modest.

- 3 Workers aged 35–64 who own their home outright make higher average pension contributions than those who rent, after controlling for other characteristics, including their earnings. However, differences are small, with the mean contribution around £150 per year higher in 2006–08 and the median contribution only £50 per year higher.
- 4 Very few individuals increase their pension saving when they pay off their mortgage: we estimate that only five out of every 100 individuals who pay off their mortgage choose, at that point, to increase their pension saving by £150 per month or more. This is despite the fact that average mortgage payments among this group have been over £200 per person per month.
- 5 These findings all point to individuals being very inert in their pension saving: few individuals actively timed their pension saving relative to their spending on (or saving for) housing even before automatic enrolment.
- 6 Industry or government policymakers wishing to increase individuals' private pension saving should consider policies that target individuals at the point when they finish repaying their mortgages. Such policies could have particular traction, as these individuals could increase pension saving without having to see spending on other goods or services fall at that point in time.

# 1. Introduction

Private pensions and owner-occupied housing are the two most important forms of wealth that the majority of individuals accumulate over their lifetimes. According to data from the Wealth and Assets Survey (WAS)<sup>1</sup> in 2017–18, 78% of individuals aged 50–59 had a private pension and 67% lived in a property that they owned either outright or with a mortgage. The mean level of private pension wealth was £230,000 and the mean level of primary housing wealth (net of any outstanding mortgage debt) was around £110,000.

How much to accumulate in these forms, and when, are difficult financial decisions. This difficulty is compounded by the fact that both these forms of wealth are relatively illiquid. Housing wealth can only be accessed after paying fixed costs: (re-)mortgage fees, advice fees, or stamp duty and legal fees if wealth is accessed through sale of the property. Pension wealth cannot be accessed at all until age 55 (rising to 57 in 2028), and even then not all accumulated wealth can be accessed flexibly. Individuals therefore face an important allocation choice when deciding whether to save a given sum of money in a private pension, to spend it on (invest it in) owner-occupied housing or to save it in some other more liquid form. The first two choices cannot easily be reversed.

How expensive a home an individual buys, compared with how much pension wealth they accumulate for retirement, will depend on (amongst other things): how much they enjoy having a nicer home rather than more money to spend on other goods and services – in both working life and retirement; the financial return they expect on their pension saving compared to the capital gain expected on housing; and their willingness to move or withdraw equity from their home to fund spending in retirement. These are easy to describe, but hard for individuals to know the

<sup>1</sup> See Office for National Statistics (2020a).

answers to, even for themselves, particularly if circumstances and/or preferences change over time.

When to save in different forms is also an important choice – and it is a particularly acute decision for younger adults buying their first property. Aspiring homeowners must choose how expensive a property to purchase and when, and consequently how aggressively to save the required deposit. Knowing what offers the best financial return – saving more in a pension, or getting on the housing ladder sooner or with a more expensive property – is challenging even for the most financially literate. The relative future performance of the stock market compared with house price growth will be crucial, but individuals also need to factor in the tax-advantaged nature of pension saving, potential employer contributions to pensions, government policies to assist saving for primary housing (such as the Help to Buy ISA), and mortgage interest rates that depend on loan-to-value ratios.

Decisions about the relative timing of pension saving and the accumulation of housing wealth are not restricted to those who purchase property. Throughout their working life, owner-occupiers choose between the rate at which they pay back their mortgage and the rate they accumulate pension saving. Some may choose to pay off their mortgage more rapidly during their working life and, once they have done this, increase their pension saving at that point. Others may choose a longer mortgage term (or choose to refinance their mortgage) and save more for retirement throughout their working life. Again, such a decision will depend on (amongst other things) attitudes to risk, the financial return to pension saving (including tax incentives and scheme incentives such as employer matches on employee contributions) compared with mortgage interest rates, and individuals' preferences for liquidity.

The choice individuals face between accumulating housing wealth, saving in a private pension or saving in some other form has become more pronounced over the past decade. The average house price in England increased by over 170% in real terms between 1997 and 2007, vastly outstripping the growth in average income (Cribb and Simpson, 2018). Rising house prices will mean that, for a given property, individuals have to save more for a deposit (either by saving more each year or saving for longer), and spend more repaying the mortgage (again either with higher annual repayments or a longer mortgage term). This might be expected to shift individuals' portfolio choices towards saving more in or for housing.

But pressures to save for retirement have also increased over recent decades – if somewhat less saliently. The moves away from earnings-related state pension provision (with the replacement of the State Earnings Replacement Pension System with the State Second Pension (S2P) in 2002, the reforms to S2P legislated in 2007, and the replacement of S2P with the new state pension from 2016) have increased the need for most employees to save privately for their retirement. Furthermore, the increases in the age from which the state pension can be accessed mean that individuals will need to save more privately if they want to retire before that point. Since 2012, these pressures have turned to explicit behavioural nudges, with the introduction of automatic enrolment. This policy has caused a dramatic increase in workplace pension membership among private-sector employees (Cribb and Emmerson, 2020).

Relatively little is known about how individuals decide between how much they save in private pensions and how much they spend on their home, or how the timing of saving in pensions interacts with the timing of property purchase or mortgage repayment. However, it is important for policymakers to seek to understand these decisions, in order to answer important questions, such as the likely effects of growth in house prices on pension saving and the adequacy of retirement income, or conversely the effect of automatic enrolment on individuals' ability to purchase a first home. The government has acknowledged the difficult trade-offs and allocation decisions that individuals face – this was demonstrated with the introduction of the Lifetime ISA, which allows some flexibility between saving for a first home and saving for retirement while, for many, preserving tax incentives to save. However, the effects of this policy, in terms of how the choices of individuals in different circumstances have been affected by the availability of this new asset, are again not yet known.

In this briefing note, we present and summarise research that is a first step in understanding how the timing of pension saving and the accumulation of housing wealth interact.

- In Section 2, we analyse data from the WAS to describe how saving in a pension overlapped with saving in housing before automatic enrolment began strongly nudging individuals' pension saving, and how this has since changed.
- In Section 3, we focus on young adults, and summarise the results of analysis that directly examines whether young adults traded off saving in a pension and saving for (or in) housing. Specifically, we estimate whether young employees

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who face higher house prices are less likely to join a workplace pension, using data from the Annual Survey of Hours and Earnings.

- In Section 4, we focus on older adults, and summarise the results of analysis that estimates whether individuals change their pension saving when they finish repaying their mortgage.
- In Section 5, we conclude and discuss the implications for policy going forwards.

## 2. Pension saving and housing tenure

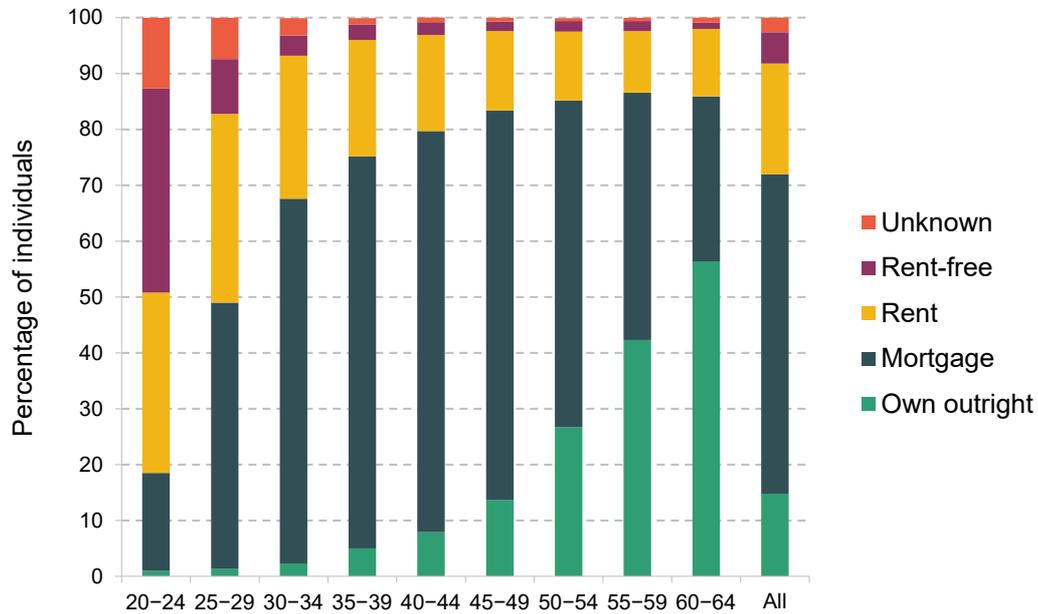
In this section, we examine the overlap between saving in a private pension and the accumulation of housing wealth, by documenting how private pension membership and contributions vary with individuals' housing tenure. We do so using data from the Wealth and Assets Survey (WAS).<sup>2</sup> This is a large survey run by the Office for National Statistics that collects detailed data on the wealth (and wider situation and attitudes) of a representative sample of households in Great Britain. We initially focus on data from 2006–08, in order to investigate the overlap in asset holdings before automatic enrolment started nudging individual behaviour, and then we turn to consider how the picture has changed since. Throughout, we restrict our attention to individuals doing paid work, as saving in a private pension is rarely undertaken by those not in work.

### Housing tenure

Housing tenure changes over the life cycle. The proportion of working individuals of different age groups for each housing tenure is summarised in Figure 2.1. Among workers in their 20s, most either still lived with their parents or lived in private rented accommodation. In contrast, among those aged 30–34, over two-thirds were owner-occupiers (virtually all with the help of a mortgage). The proportion of owner-occupiers was greater among older age groups, peaking at 85% among those working individuals aged 60–64. The proportion who own outright is greater at older ages, as mortgages are typically paid off over a number of decades, but 30% of those working and aged 60–64 still had a mortgage.

<sup>2</sup> See Office for National Statistics (2020a).

Figure 2.1. Housing tenure among workers in 2006–08, by age



Note: Working individuals only. Rent-free includes living with parents.

Source: WAS, 2006–08.

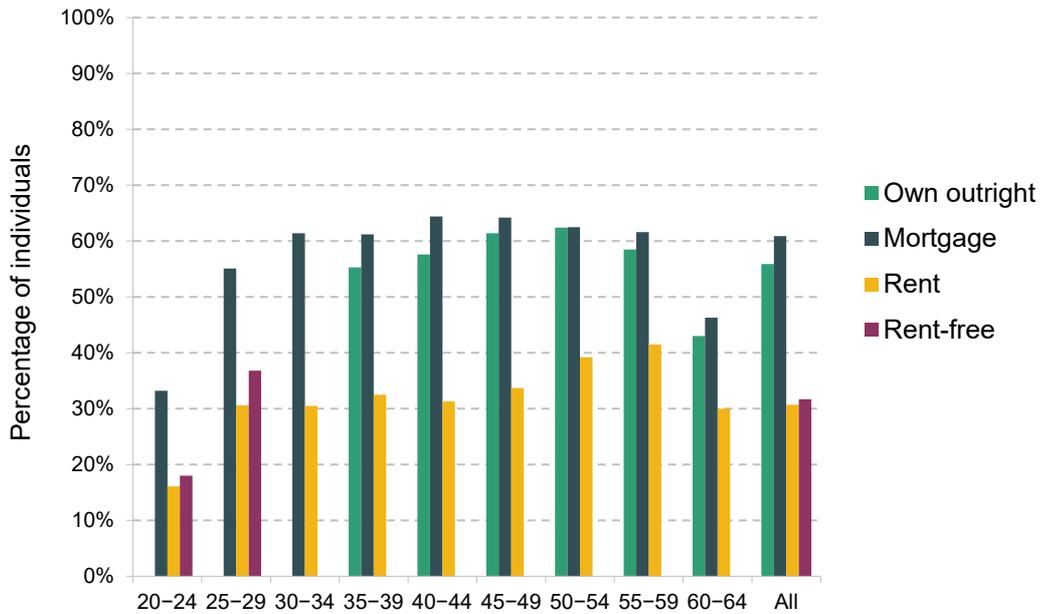
## Active pension membership

The overlap between pension saving and housing tenure, for each age group, is shown in Figure 2.2.<sup>3</sup> The proportion of workers contributing to a private pension is lower among renters and those living rent-free than among those with a mortgage. Pension membership rates are similar between those who are owner-occupiers with a mortgage and those who own outright. It is tempting to infer from this that those saving to get on the housing ladder are less likely to save in a pension because they are putting their savings towards accumulating a deposit. However, renters and owner-occupiers will differ on other dimensions that also affect pension membership – for example, renters are on average working for lower incomes and therefore are less likely to save in a pension for that reason. Somewhat harder to observe, those who are more ‘future focused’ (i.e. those who discount the future

<sup>3</sup> Note that not all tenures are shown for all age groups – there are only small numbers of young adults who own outright, and small numbers of older adults who live rent-free.

less heavily) are likely both to be keener to purchase their own home and to want to save in a pension rather than to have a greater amount to spend now.

**Figure 2.2. Pension membership among workers in 2006–08, by housing tenure and age**



Source: WAS, 2006–08.

To start to address this concern, we estimate a multivariate model, examining the association between pension membership and housing tenure while controlling for other observed individual characteristics. The results are presented in Table 2.1. We examine the relationship separately for three age groups: 20–34 (column 1), 35–49 (column 2) and 50–64 (column 3). The top panel shows the estimated association between pension membership and housing tenure when we do not control for any other characteristics. The results indicate that, relative to those who own with a mortgage, young renters are 33 percentage points less likely to be a pension member, middle-aged renters are 29 percentage points less likely, and older renters are 21 percentage points less likely.

Table 2.1. Association of housing tenure with pension membership

	Aged 20–34	Aged 35–49	Aged 50–64
<b>With no controls:</b>			
Own outright	–0.034 (0.046)	–0.046* (0.017)	–0.053*** (0.012)
Rent or rent-free	–0.328*** (0.012)	–0.285*** (0.012)	–0.207*** (0.017)
Saving for deposit	0.167*** (0.020)	0.099*** (0.025)	0.163*** (0.045)
Sample size	6,257	10,113	7,507
<b>With additional controls:</b>			
Own outright	–0.005 (0.042)	–0.043** (0.017)	–0.001 (0.013)
Rent or rent-free	–0.139*** (0.014)	–0.156*** (0.012)	–0.098*** (0.018)
Saving for deposit	0.029 (0.019)	–0.050* (0.025)	0.014 (0.044)
Sample size	6,149	9,910	6,635

Note: Results are from six linear probability regressions (one for each column and panel). The dependent variable is a binary indicator for whether the individual is contributing to a private pension. Estimation in the top panel includes only dummies for housing tenure and whether not someone is saving for a deposit as explanatory variables. Estimation in the bottom panel also includes controls for age, gender, whether in a couple, region, log(earnings), occupation, and dummy variables capturing individuals' responses to questions about (i) their preferences for a good standard of living today versus saving for retirement, (ii) whether they understand enough about pensions to save for retirement, (iii) whether they have thought about many years of retirement they might need to fund, (iv) whether they have saved in the last year, and (v) how often in the last 12 months they have had money left over at the end of the month. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Source: Authors' calculations using WAS, 2006–08.

The bottom panel shows the estimated associations when we control for age, gender, earnings, region, occupation, and a set of indicators that capture individuals' general saving preferences and capacity. Controlling for these characteristics lessens the relationship between housing tenure and pension membership – being a renter is now associated with a 14 percentage point lower probability of contributing to a pension compared with those with a mortgage for younger adults, 16 percentage points for middle-aged adults, and 10 percentage points for older adults.

The WAS questionnaire also asks respondents who reported having saved any money in the last year why they saved that money, with one of the possible responses being 'For a deposit to buy property'. The rows 'Saving for deposit' in Table 2.1 show how pension membership differs between those who reported saving in the last year for a deposit and those who did not, after controlling for housing tenure (top panel), and housing tenure and other observed characteristics (bottom panel). These results show that those saving for a deposit were more, rather than less, likely to also be saving in a pension (by 17 percentage points among those aged 20–34). However, this is largely driven by other characteristics that make individuals more likely to save in both forms – once other characteristics are controlled for there is only a small association (and one that is not typically statistically significantly different from zero) between saving for a deposit and pension membership.

## Pension contributions

We also examine how average annual pension contributions, for those making regular contributions, differ between workers with different housing tenures. The results of this estimation are set out in Table 2.2. As with Table 2.1, the model is run separately for three different age groups, with the results in three columns. In all cases, we control for the effects of other observed characteristics. The top panel gives the estimated difference in mean pension contributions among pension members, while the bottom panel gives the estimated difference in median pension contributions. The results show that, at older ages, housing tenure is significantly associated with the level of pension contributions made by savers. Renters are not only less likely to be contributing to a pension, but those that are contributing save around £180–£190 per year less, on average, than owner-occupiers with a mortgage. Those who own outright, in contrast, save more on average than those

with a mortgage. Mean pension contributions are around £150 per year higher, while median contributions are around £50 per year higher.

**Table 2.2. Association of housing tenure with annual pension contributions for those contributing to a private pension in 2006–08**

	Aged 20–34	Aged 35–49	Aged 50–64
<b>Mean contributions (£):</b>			
Own outright	–248 (133)	155* (67)	149** (52)
Rent or free	–97 (53)	36 (57)	–187** (72)
Saving for deposit	117 (80)	28 (130)	–40 (168)
<b>Median contributions (£):</b>			
Own outright	–128 (132)	24 (26)	48* (21)
Rent	–27 (26)	–33 (25)	–181*** (38)
Saving for deposit	61 (44)	47 (60)	95 (89)

Note: Results are from six regressions (one for each column and panel). The top panel estimates the relationship between mean pension contributions and housing tenure, and the bottom panel the relationship between median pension contributions. The sample is restricted to individuals saving in a pension.  $N = 2,523, 5,633$  and  $3,691$  for columns 1–3, respectively. All regressions include dummies for housing tenure and whether not someone is saving for a deposit, and additional controls for age, gender, whether in a couple, region,  $\log(\text{earnings})$ , occupation, and dummy variables capturing individuals' responses to questions about the following: (i) their preferences for a good standard of living today versus saving for retirement; (ii) whether they understand enough about pensions to save for retirement; (iii) whether they have thought about many years of retirement they might need to fund; (iv) whether they have saved in the last year; (v) how often in the last 12 months they have had money left over at the end of the month. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Source: Authors' calculations using WAS, 2006–08.

## Changes since automatic enrolment

The introduction of automatic enrolment has substantially increased workplace pension membership (Cribb and Emmerson, 2020), and particularly so among groups who were previously less likely to save in a pension – thus levelling

differences in rates of pension membership across individuals with different characteristics (Bourquin, Cribb and Emmerson, 2020). In particular, that research has shown that pension membership rates in 2016–17 among private-sector employees were similar, at around 90%, regardless of housing tenure.

The effect of automatic enrolment on pension contributions is less well established, and more complex. The policy may have altered the pension contributions of those who were active pension members before the policy, and those who would have started contributing even without automatic enrolment, as well as causing many individuals to start contributing. Table 2.3 reproduces the analysis presented in Table 2.2 using data from WAS collected in 2014–16, part way through the roll out of automatic enrolment. This shows larger differences in average pension contributions, between those who own outright and those with a mortgage, than in the earlier period – most likely as a result of a larger increase in pension

**Table 2.3. Association of housing tenure with annual pension contributions for those contributing to a private pension in 2014–16**

	Aged 20–34	Aged 35–49	Aged 50–64
<b>Mean contributions (£):</b>			
Own outright	–24 (302)	305* (134)	509*** (108)
Rent or free	–197* (99)	–303 (88)	–113 (106)
Saving for deposit	–6 (120)	352 (202)	770 (413)
<b>Median contributions (£):</b>			
Own outright	–345 (271)	61 (72)	211*** (43)
Rent	–174* (56)	–256*** (42)	–64 (50)
Saving for deposit	–162* (63)	67 (127)	280 (195)

Note: See Table 2.2. *N* = 1,139, 2,741 and 2,466 for columns 1–3, respectively.

Source: Authors' calculations using WAS, 2014–16.

membership among those with a mortgage than outright owners, and those being brought into pension saving typically having lower contributions. There are also now larger differences in average contributions between younger renters and those with a mortgage, with renters and those explicitly reporting saving for a deposit contributing less on average

### Summary

Before the introduction of automatic enrolment, pension membership rates were higher among those with a mortgage than among those renting or living rent-free. This is consistent with the theory that young individuals postpone pension saving until they have purchased a house – but the fact that this relationship is observed across all age groups, and the fact that there is little correlation between reported saving for a deposit and pension membership or contributions, suggest caution in interpreting the results in that way. With descriptive analysis alone, it is not possible to control for unobserved factors – such as individual preferences or personality – that might drive both pension saving and housing wealth accumulation. In Section 3, therefore we seek to shed light on this possible behaviour, by directly estimating whether younger adults make a trade-off between housing and saving in a pension.

Since the introduction of automatic enrolment, the differences in pension membership rates between those with different housing tenures have gone away. The implications of this will very much depend on the reasons why pension-saving decisions were initially different.

For older adults, both before and after the introduction of automatic enrolment, average contributions are higher among those who own outright than among those with mortgages, though the differences are small. This is consistent with the theory that some older adults save more when they have repaid their mortgages. However, again, we cannot claim to provide this from descriptive analysis alone as again this does not take account of the potentially important role of unobserved factors. In Section 4, therefore, we estimate directly whether pension saving increases when mortgages are repaid.

## 3. House prices and pension saving of young adults

The descriptive analysis in Section 2 has revealed that, prior to automatic enrolment, renters were less likely to be contributing to a pension, and to save less if they were saving in a pension, than those with a mortgage. However, we cannot distinguish from that analysis whether this is a causal relationship – for example, because renters are actively choosing to save for a housing deposit rather than in a pension – or whether there is some other unobserved factor that makes individuals both more likely to be a renter and less likely to save in a pension (such as general preferences for spending money now rather than saving it in order to have more to spend in future).

In this section, we summarise the results of analysis that seeks to unpick whether some individuals are indeed making a trade-off between saving in a pension and saving for a deposit.<sup>4</sup> To do so, we exploit geographical variation in house prices. In areas where house prices are higher, individuals would need to accumulate a larger deposit to buy a similar property. This could result in young adults saving more aggressively, and being more likely to postpone pension saving if they do have to make a trade-off between these activities. It is this relationship that we

<sup>4</sup> A more detailed description of this research is available in an accompanying paper (Crawford and Simpson, 2020).

estimate – whether higher local house prices affect the pension-membership decisions of young adults.

### Methodology

We estimate the relationship between house prices and pension membership of young employees using data from the Annual Survey of Hours and Earnings.<sup>5</sup> These are data on a 1% sample of employees, collected via a survey that is completed by their employers. We restrict our attention to individuals aged 21–35, as this captures the age range during which most individuals are saving for, and getting on, the housing ladder. We also exclude those working in London from our analysis – because house prices in London are likely to be less representative of house prices where individuals might choose to live than is the case in the rest of the country. Finally, we focus on individuals’ behaviour over the period 1997–2007. This was a time period with a relatively stable macroeconomic environment, and rising housing demand and prices.

We estimate the relationship between the median house price in the local authority in which an individual works and the probability that an individual is a member of a workplace pension. Importantly, we do so controlling for other factors that affect pension membership (age, gender, occupation, industry, earnings and employer size) and flexibly allowing for time trends (using sector-specific year dummies). We estimate our results with and without local area ‘fixed effects’. The inclusion of these additional controls eliminates the risk of time-invariant unobserved area characteristics driving our results, but at the cost of the precision with which we can estimate the relationship that we wish to uncover.

### Results

The main results are summarised in Table 3.1. The estimates in the first row indicate that among young adults as a whole there is little relationship between

<sup>5</sup> See Office for National Statistics (2020b).

average house prices in the area in which an individual works and whether or not they are a member of a private pension.

The second set of results examines whether the relationship between average house prices and pension membership is the same across the earnings distribution. These results show that while there is no relationship, on average, across all young people, this disguises a different picture for individuals depending on their circumstances. In particular, for young adults in the middle of the earnings distribution, if average local house prices are £100,000 higher (in 2018 prices) then this is associated with a 2 percentage point lower probability of contributing to a pension. In contrast, for young adults at the top and bottom of the earnings distribution there is little effect of house prices on pension membership.

Table 3.1. Estimated effect of local house prices on pension membership

Effect of £100,000 increase in house prices	Marginal effect (percentage point)	Standard error
<b>All</b>	0.0	(0.4)
<b>By earnings:</b>		
Lowest earning quintile	0.9**	(0.5)
Quintile 2	-1.1**	(0.4)
Quintile 3	-1.6***	(0.4)
Quintile 4	-0.6	(0.4)
Highest earning quintile	1.0**	(0.4)
<b>By sector:</b>		
Public sector	-3.0***	(0.6)
Private sector	0.7	(0.4)

Note: Each panel is the results of one regression model. All regressions additionally control for age, gender, earnings, occupation, hours, industry, firm size and sector-specific year effects. Equivalent results also controlling for local area fixed effects are available in Table 4 in Crawford and Simpson (2020).  $N = 374,584$ .

Source: Authors' calculations using the Annual Survey of Hours and Earnings.

One possible explanation for this is that those on the lowest earnings are unlikely to be saving privately for retirement, irrespective of local house prices. If earnings are temporarily low, then an individual would be better placed saving when earnings are higher, while if earnings are permanently low, then they can expect the state pension to compare favourably with their working-life earnings. At the other end of the spectrum, those on the highest earnings are more likely to be able to save for a house and in a private pension simultaneously, and so again the level of local house prices might matter less for the extensive margin decision of whether or not an individual contributes anything to a private pension. It is those in the middle of the earnings distribution who are most likely facing a trade-off between whether to save in a pension or whether to save for a housing deposit.

The final set of results in Table 3.1 also reveals a different relationship between house prices and pension membership depending on an individual's sector of employment. Among young adults working in the private sector, there is on average no relationship, while among young adults working in the public sector a £100,000 higher local average house price is associated with a 3 percentage point lower probability of contributing to a pension. However, within each sector there is a U-shaped relationship between average house prices and pension membership, with a negative effect for workers in the middle of the earnings distribution in both sectors.

The fact that public-sector workers are more likely to make a trade-off between contributing to a pension and saving for a property is, on some level, surprising. Public-sector workers have access to defined benefit pensions that have a generous employer contribution. Therefore, they potentially have more to lose by not joining the workplace pension offered to them. However, most public-sector pensions also involve mandatory employee contributions, and these are greater than the average contribution among young private-sector pension members. At least part of the explanation is therefore likely to be that some public-sector workers feel they cannot make the required contributions while saving for a deposit. This is supported by the finding that the negative effect of house prices on pension membership is smaller for those working for the civil service than for those working in education, health and other non-uniformed areas of the public sector – because the mandatory employee contributions are higher for the latter groups.

## Summary

This analysis has examined whether individuals make a trade-off between saving for (or spending on) housing and saving in a private pension, by directly estimating the effect of house prices on pension membership. There is evidence that before automatic enrolment some individuals were indeed making a trade-off between saving in these two forms: those in the middle of the earnings distribution, particularly those in the public sector, were less likely to save in a pension when they faced higher house prices. However, the estimated effects are modest, suggesting that most individuals were not explicitly postponing joining a pension until they were on the housing ladder. Whether individuals who joined a pension before buying a property increased their pension saving once they had done so is an important question for future research.

# 4. Pension saving and mortgage completion

The descriptive analysis in Section 3 suggests that, at older ages, workers who own their own homes outright, on average, made larger pension contributions than workers who were repaying mortgages. However, the differences were small before the introduction of automatic enrolment, with average contributions among pension members in 2006–08 being only £150 per year greater among those who owned outright. It is not possible to distinguish from these simple comparisons whether pension saving changes when housing tenure changes, or whether there are other differences between owner-occupiers and mortgage holders that drive these differences – for example, those who are more inclined to save are both saving more in a pension and paying off their mortgage sooner. In this section we therefore summarise the results of analysis that directly estimates whether older workers change their pension saving when they pay off their mortgages.<sup>6</sup>

## Methodology

Using data from a household survey – the English Longitudinal Study of Ageing (ELSA)<sup>7</sup> – we estimate whether working owner-occupiers aged 50 to the state pension age change their pension saving when they complete repayment of the mortgage on their primary residence. ELSA interviews the same individuals every two years, and so by comparing consecutive surveys we can identify those who finish repaying the mortgage on their main residence. Because ELSA also collects information on the remaining mortgage term for those with mortgages, we can distinguish those who completed repayment of their mortgage when anticipated two

<sup>6</sup> A more detailed description of this research is available in an accompanying paper (Crawford, 2020).

<sup>7</sup> See Oldfield et al. (2020).

years prior, and we focus on these individuals. Those who stopped repaying their mortgage before the end of their mortgage term are likely to have experienced a change in some other circumstances that might also affect pension saving.

We compare the change in pension saving over the two-year period during which mortgage repayment was completed, with the change in pension saving over two-year periods in which these individuals did not finish repaying their mortgage (either because they are continuing to repaying their mortgage, or because they had previously completed repayment), while also controlling for age, gender, whether an individual is in a couple, the change in their real earnings, and survey-year dummies. We focus on those aged under the state pension age, who were in work both before and after their mortgage repayment was completed, and who knew the level of their pension contributions (if they were contributing to a private pension).

## Results

The main results are summarised in Table 4.1. We find that, while average mortgage expenditures per person are over £200 per month prior to mortgage repayment being completed, pension saving changes little on average when these expenses cease. The results in column 1 indicate that completing repayment of a mortgage is associated with a £34 greater increase in monthly pension contributions compared with when an individual continues to pay a mortgage – but this modest difference is not statistically different from zero.

This small average difference is because while some individuals respond by increasing their pension saving, they are a small minority. The results in column 2 show that the probability of an individual increasing their pension saving by more than £150 per month increases by only 5 percentage points around the time a mortgage is completed, compared with when individuals continue to pay a mortgage. The size of the estimated effect reduces when larger increases in contributions are considered. This suggests that even the responsive individuals, assuming their mortgage repayments are similar to the average, do not increase their pension contributions to the extent that their mortgage expenses have fallen.

Table 4.1. Estimated effect of mortgage completion on pension saving

	Monthly pension contributions (£)	Probability of increasing pension contributions by more than £150 per month (percentage points)
Complete mortgage	34 (41)	5.4** (2.7)
Continue to own outright	0 (23)	4.4 (4.0)

Note: Effects are relative to an individual who continues to pay their mortgage. Column 1 gives estimated marginal effects from the OLS regression. Column 2 gives estimated average marginal effects from the probit model. Regressions additionally control for gender, age (five-year bands), whether an individual is in a couple, change in real earnings and survey-year dummies. Standard errors in parentheses. \*\* indicates statistical significance at the 5% level. Observations: 897.

Source: Authors' calculations using ELSA.

## Discussion

These results suggest that the difference in average pension contributions between older individuals who own outright compared with those who have a mortgage is, at least in part, driven by changes in individual behaviour when mortgages are repaid. However, only a small minority of individuals increase their pension saving at this point, which is why the difference in average pension contributions is small.

These results do nothing to assuage concerns about the inadequacy of individuals' private retirement saving. Specifically, the behaviour of current older workers suggests it is not the case that many individuals are timing their pension saving in such a way that it will increase when mortgage expenditures fall. It is therefore appropriate to be concerned if current levels of saving are deemed too low, as these may not increase later in life given current patterns of behaviour. However, these results also suggest a potential opportunity. If policymakers wish to influence behaviour and increase pension saving, then policies that target individuals at the point at which they finish repaying their mortgages could have particular traction. These individuals could increase pension saving without a reduction in the levels of (non-housing) spending that they will have been accustomed to prior to paying off their mortgage.

## 5. Conclusions

Private pensions and owner-occupied housing are the two most important forms of wealth that the majority of individuals accumulate over their lifetimes. How much to accumulate in these forms, and when, are difficult decisions – requiring individuals to consider both their own preferences for housing versus non-housing consumption (both now and in the future), and the relative financial return from different choices given possible future asset price movements, tax incentives, pension scheme rules, and so on.

The research summarised in this report has taken an important first step in understanding how the timing of individuals' pension saving interacts with the accumulation of housing wealth. The descriptive analysis shows an association between individuals' housing tenure and pension membership (before automatic enrolment) and pension contributions (both before and after automatic enrolment). However, it is challenging to unpick whether this is a causal relationship – with housing circumstances directly affecting pension-saving decisions for any given individual (or, conversely, pension saving affecting housing choices) – or a correlation driven entirely by certain types of individuals behaving in certain ways with respect to both pensions and housing.

In Sections 3 and 4, we summarised the results of analysis that directly estimated whether younger and older individuals (respectively) were adjusting the timing of these forms of saving with respect to one another. The results indicate that such behaviours do occur – but they are far from common. Young adults in the middle of the earnings distribution are less likely to save in a private pension when house prices are higher, but by only 2 percentage points for each £100,000 increase in house prices. Older workers are more likely to increase their pension contributions by more than £150 per month when they finish paying off their mortgage, but by only 5 percentage points.

There is, of course, more that could, and should, be done to examine interactions between saving in owner-occupied housing and saving in pensions. Two particular examples include examining whether individuals change their pension contributions

when they purchase a first property (and are no longer saving for a deposit), and examining whether those who complete repayment of their mortgage before age 50 are more likely to increase their pension contributions at that point than those who complete their mortgage repayment at older ages.

However, on the basis of the research presented here, it seems that very few individuals actively time their pension saving relative to their saving for or spending on housing. This chimes with findings from recent research such as Bourquin, Cribb and Emmerson (2020), which shows that the large effects of automatic enrolment on pension saving are largely driven by the default mechanism. Most individuals are inert when it comes to their pension saving.

What are the implications for policy? These fall into three broad areas.

First, one potential adverse consequence of automatic enrolment is that it might make it harder for young adults to get on the housing ladder – diverting resources into pensions at a time when house prices are already increasing faster than earnings. In some sense, the findings of this research are reassuring in that regard. It does not seem to have previously been the case that many individuals were delaying pension membership in order to save for a deposit. The defaults of automatic enrolment do not seem to be overriding behaviour that was explicitly geared towards housing saving. However, that said, automatic enrolment has increased pension saving among young adults and those contributions have come from somewhere. Unless spending on other goods and services has been reduced, making pension contributions will have reduced individuals' wealth accumulation, potentially delaying house purchase for some.

Second, there is continued concern about the levels of pension saving individuals are undertaking, relative to that which might be required to ensure adequate standards of living in retirement.<sup>8</sup> The findings in this paper do nothing to alleviate those concerns. Unless current working age generations behave differently, it does

<sup>8</sup> See Pensions and Lifetime Savings Association (2018) and Pensions Policy Institute (2019).

not appear that low levels of saving in younger working life will be offset by higher levels of saving in later life when mortgage expenses cease.

Finally, there are implications for the future development of automatic enrolment – in particular, whether and how default contribution rates might be altered. First, policymakers must consider the possible implications for access to owner-occupation from changing default contribution rates for young adults. While younger adults will gain more from compounding returns on any given amount of pension saving than older adults, these returns may need to be set against the financial return from being able to purchase a home sooner or from being able to purchase a larger home. Second, there may be merits in using changes in housing tenure as ‘nudge points’ for policy aimed at influencing individuals to change their pension contributions. In particular, those completing repayment of their mortgage could increase their pension contributions without reducing spending on other goods and services from the level they have been accustomed to, and so may be more receptive to suggestions to increase saving at that moment in time. Similarly, those getting on the housing ladder for the first time may have a greater capacity to save at that point, if mortgage repayments are lower than rental payments plus deposit saving, and so suggestions to increase pension saving targeted at that point in the life cycle might have more traction. There is an opportunity here for government and the financial services industry to work together, alongside broader initiatives such as the midlife MOT, to encourage individuals to consider saving more to improve their standard of living in retirement.

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