

Wealth accumulation in Great Britain 1995-2005: The role of house prices and the life cycle

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Editorial note

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Abstract

This paper examines trends in the distribution of household wealth in Great Britain from 1995 to 2005 using the British Household Panel Survey (BHPS). The data show that wealth is very unevenly distributed and reveal a widening absolute gap over the period between wealthier households and those with no or negative wealth. However, in relative terms, wealth grew fastest for households in the middle of the distribution and inequality measured by the Gini coefficient decreased. This mainly reflected housing wealth becoming a greater share of total net worth, more equally distributed, and the highest percentage increase in housing wealth taking place in the middle of the distribution. To estimate the distributional impact of the remarkable rise in house prices which defined this period, we simulate the distribution of net 2005 wealth in the hypothetical scenario in which house prices remained at their 1995 levels in real terms and find that the reduction in wealth inequality is almost entirely accounted for by changes in house prices. The paper also finds that, controlling for factors such as age, households that gained most from the house price boom were mortgagors, in particular those that were initially wealthier, and were advantaged in other ways such as by level of educational qualification.

Key words: Wealth, wealth inequality, house prices, life cycle
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1. Introduction

Empirical investigations into trends in the distribution of wealth focus on changes in the composition and value of wealth portfolios. The accumulation of assets can result from a net increase in the quantity of assets held by households, but changes in wealth values can also result from changes in asset prices. These will affect overall wealth inequality if the composition of wealth holdings varies by wealth level.

One approach to explaining wealth differences examines the motivations for the accumulation of assets across the life cycle. Households may, for instance, accumulate assets to smooth consumption over their lifetime or for making bequests. According to this approach, or the life cycle saving model, age differences alone are expected to account for a substantial proportion of observed wealth inequality as households save over their working life and decumulate in retirement (Atkinson, 1971).

However, previous empirical studies of the wealth-age relationship suggest that the observed concentration of wealth cannot be explained as the result of the expected life-cycle variation in wealth holdings between individuals and families at different stages (for reviews see Atkinson, 1983 and Kessler and Masson, 1988; for recent UK data, see Hills *et al.*, 2010). Other explanations include variations in rates of saving from income, in rates of return on wealth and in the receipt of inheritances (e.g. see Smith, 1999, on the USA).

In analysing changes in the distribution of wealth in Great Britain between 1995 and 2005, this paper explores in particular the role of changing house prices and how it compares with other factors, such as ageing or life-cycle accumulation and other household characteristics which are believed to influence wealth accumulation.

Past studies of the distribution of wealth in Great Britain have emphasised the importance of housing wealth as the largest asset component of lower and middle income households (Henley, 1998, quoting the Royal Commission on the Distribution of Income and Wealth for the 1970s). The rise in owner-occupation over most of the last century has been identified as one of the elements driving distributional change. Atkinson (1983) for instance points to the increase in owner-occupation between 1900 and 1970 as one of the factors underlying changes in the distribution of wealth in Great Britain. In more recent years, owner-occupation has continued to increase, dramatically in the 1980s and continuously in the 1990s and 2000s, stagnating, perhaps even declining, since 2004 (Appleyard and Rowlingson, 2010).

Recent years have also been marked by the dramatic rise in house prices in the 1980s, their levelling off in the 1990s and “explosion” in the early 2000s (Appleyard and Rowlingson, 2010). Between 1995 and 2005 house prices at least doubled in real terms in all of Great Britain’s regions (Hills, 2007).

There is still little agreement and limited evidence on the effects of rising house prices on overall wealth inequality or on patterns of household wealth accumulation. For

instance, Davies and Shorrocks (2000) argue that compared with increases in the value of financial assets, the gains from a rise in house prices are likely to have a more ambiguous impact, reducing the wealth shares at both ends of the distribution. At the same time, empirical evidence from some countries indicates that changes in the real price of homes primarily influence the centre part of the wealth distribution (e.g. for Sweden see Klevemarken, 2004).

In his study on Great Britain, Henley (1998) debates the possible distributional effects of changes in the distribution and price value of housing. He speculates that if gains were more likely to be experienced by more affluent households in regions with above average house price inflation, or by older households who already possessed initial housing equity at the start of the boom, then a widening of the distribution may have occurred. On the other hand, he observes, the greater proportion of total assets held in the form of housing by lower income households, associated with growing owner-occupation among such households suggests that the housing boom may have served to narrow the wealth distribution.

Against this background, this paper uses data from the British Household Panel Survey (BHPS), to investigate three related issues. First, it examines trends in the distribution of households' net worth and its components (financial and housing wealth) in Great Britain between 1995 and 2005. Second, it estimates the impact of changes in house prices on overall wealth inequality. Third, it studies the association between specific household characteristics and wealth change and identifies the biggest gainers from the house price boom. Throughout, we pay particular attention to household age to uncover the extent to which changes in wealth holdings are associated with life cycle patterns, compared with other household characteristics, and their interaction with changes in house prices.

The remainder of the paper is organised as follows. Section 2 describes the BHPS variables and the construction of wealth data undertaken for this research. It also outlines our approach to assessing the effects of trends in house prices on the distribution of wealth and to examining the association between household characteristics and wealth change. Section 3 presents summary information on trends in the distribution of household net worth and its components in 1995, 2000 and 2005, cross-sectionally. Section 4 summarises changes in the distribution of wealth between 1995 and 2005 for a panel of households, estimating the impact of rising house prices and reporting average changes by household characteristics. Section 5 reports results from multivariate analysis aimed at isolating the association between specific household characteristics and wealth accumulation or decumulation. The paper's main results are summarised and discussed in Section 6.

2. Data and empirical strategy

Data

The British Household Panel Survey (BHPS) is an annual longitudinal representative survey of individuals living in Britain. It is household-based, interviewing every member of the household. Throughout this paper, the unit of analysis is the household.¹ Several forms of wealth are jointly held by a household and even though it is possible for some of these to identify the primary owner, for others it is not.²

We define household wealth as household net worth, given by the sum of net financial wealth and net housing equity. It does not include pensions, consumer durables or other physical possessions. Our analysis is restricted to the three years for which we are able to compute net worth using BHPS: 1995, 2000, 2005. While the value of housing wealth is recorded annually, financial holdings are recorded only for these three waves.

We define housing wealth as the value of housing wealth and other property or land held by households, net of any outstanding mortgages or loans on these assets.³ In valuing the main home and other property, we use respondents' own valuation, based on the amount they would expect to get for their home if they sold it on the day of the interview, also referred to as the estimated current value (ECV). The value of outstanding mortgages and loans is also self-reported.⁴

¹ Note that we present figures unadjusted for household size or composition. This reflects the lack of a robust way of assessing the relative importance of wealth to different kinds of household in the way that equivalence scales are sometimes applied to household incomes.

² For instance, BHPS questions on the ownership of land or property other than the main home refer to property owned by "you or anyone else in your household".

³ Only banded data are collected for the BHPS question on the value of other property or land prior to wave 10, so point estimates are imputed (within each band) using a hot-deck procedure, based on data for later waves. This introduces a potential measurement error which should be borne in mind when interpreting the point estimates of results on housing wealth presented in this paper.

⁴ As in Hamnett and Seavers (1995), we also generated an 'adjusted purchase price' (APP) estimate of the value of the main home; the original purchase price, as reported by the respondents, uprated for general movements in house prices since the purchase date, using Community and Local Government's regional house price index. The main advantage of the APP method is that it is based on actual prices paid for the property (if recalled accurately), rather than an estimated value. However, it does not take into account differential growth in house prices within regions and between different types of property since the date of purchase. The estimated current value (ECV) method does, in theory, give an up to date estimate of values, although only assuming that householders are perfectly informed about the state of their local housing market. Comparison of the two suggests that the ECV estimates may be more reliable. This method is also less data-intensive so the sample is larger and more representative.

Our financial wealth variable includes savings, investments and other debt. Savings are defined as interest-bearing deposit accounts; investments include shares, unit trusts and Personal Equity Plans; while debt includes a wide range of products including loans, overdrafts and amounts outstanding on mail orders. For details on the imputation of household financial wealth see Karagiannaki (2011).

Comparison with other data sources on wealth for Great Britain highlights the advantages and limitations of the BHPS. Beyond this general survey, the two main sources of data on wealth holdings are HMRC's estate-based series, which use the 'mortality multiplier' method to generate wealth estimates (estate multiplier estimates) and ONS's recent purpose-designed Wealth and Assets Survey. Compared with estimates from these sources, the BHPS appears to underestimate financial wealth, particularly for the highest wealth-holders. This is of particular importance in interpreting the results on overall wealth trends presented in this paper as it means that the BHPS may overstate the reduction in overall wealth inequality over the period.

This reflects two characteristics of the BHPS. First, as a general multi-purpose survey it has a limited number of questions about assets, particularly financial assets. Second, given its sample structure and size, the coverage of small groups such as the wealthiest is relatively limited. In contrast, the purpose-designed WAS yields more detailed wealth information and has a larger sample of the wealthy. At the same time, as a longitudinal survey, the BHPS has the currently unique advantage (until several waves of WAS are available) that we can examine how the same people's assets change over a whole decade. Moreover, in addition to estimates of the savings and assets of households, it offers information on a range of other personal and household characteristics that can help account for differences in wealth and wealth accumulation patterns.

The two alternative data sources each present some advantages over the BHPS's shortcomings, but are not without limitations, including ones that would rule out their use in the analysis proposed here. The WAS yields more detailed information, yet data are only available for 2006/08 and cannot yet be used to analyse change over time (although data for 2008/10 will shortly become available, giving a two year panel for later research). The 'mortality multiplier' method, generates a longer time-series, yet appears to have less good coverage of housing assets across the population as a whole and presents more limited information on other relevant variables (for a more detailed discussion of the limitations of estimates obtained from the valuations of estates, see Atkinson, 1983; Davies and Shorrocks, 2000; and see Hills and Bastagli, forthcoming, for comparison of the results from the three sources).

Empirical strategy

The initial part of the analysis examines the evolution of the distribution of wealth in Great Britain between 1995, 2000 and 2005, reporting net worth and its components in the three years. This analysis is cross-sectional, comparing wealth holdings of different households over time, and highlighting changes in the composition of net worth and in the distribution of its components.

For a closer understanding of patterns of wealth accumulation and decumulation, we then restrict our attention to a panel of households for which we have observations in 1995 and in 2005. For this group, in addition to changes in the composition and distribution of wealth components, we examine the distributional effects of changes in house prices and the association between particular household characteristics and wealth change.

One advantage of using panel data is that, while cross-sectional analysis compares age cohorts whose starting points may be very different and conflates age and cohort effects, restricting the study to a panel of households permits a clearer identification of patterns of wealth change associated with ageing. Following the same household over time also permits us to analyse the impact of house price trends, both on the full wealth distribution of the full sample and taking different household characteristics into account.⁵

The restriction of the analysis to the households for which we have observations in 1995 and 2005 implies a smaller sample size. To avoid comparing what for younger adults may have been the wealth of the parental household at the start with that of their newly-formed separate household, we further restrict the sample to those who are heads of households at the start and the end of the ten years. A limitation to this approach is that the sample on which the analysis is conducted differs from the full BHPS sample. Table 2 below reports the results on wealth composition and trends for the panel of households. A comparison with the estimates reported in Table 1 highlights how this is, unsurprisingly, a wealthier group than households as a whole, that the sub-sample is somewhat less unequal than the whole population at the start, and that inequality within it declines more rapidly. In interpreting the findings reported by this paper, it should be taken into account that the panel excludes both the youngest households in 2005, and generally older households that did not survive from 1995 to 2005.

The impact of rising house prices is estimated by simulating the distribution of net housing wealth in 2005 in the hypothetical scenario in which house prices remained at their 1995 levels (in real terms). We use the Communities and Local Government (CLG) mix-adjusted house price index (HPI) as the most reliable way to adjust property values to 1995 prices, taking differential house price growth by region into account.⁶ We also make an adjustment to the mortgages of those who became owners

⁵ We present results by the characteristics of the household reference person, referred to in the text as head of household. In the BHPS, a household is defined as one person living alone or a group of people who either share living accommodation or share one meal a day and who have the address as their only main residence. The household reference person is the person legally or financially responsible for the accommodation or the elder of two people equally responsible. This affects the gender composition – 61 per cent of the panel sample’s heads are male, identified in this way, 39 per cent female. Female heads of household tend to be single and older. This should be borne in mind in interpreting the results in Sections 4 and 5.

⁶ CLG HPI website:
<http://www.communities.gov.uk/housing/housingresearch/housingstatistics/housingstatisticsby/housingmarket/livatables/> (accessed January 2011).

after 1995 on the grounds that if house prices had not risen, they would not necessarily have borrowed so much.⁷ This is a rather cruder adjustment: we identify those who newly became owners in the first and second half of the periods (rather than year by year), then for each of these groups we reduce the value of their mortgages in 2005 in line with the change in real house prices between 1995 and the mid-point of each range. This removes what might otherwise be spurious low or negative equity that would be created by adjusting house prices but not associated mortgages. However, it does not remove it entirely, as we have not allowed for those who, for instance, ‘traded up’ during the period, and took on increased mortgages to do so.⁸

For an indication of the impact of house price trends, results are reported for wealth at actual 2005 house prices (RPI-adjusted) and at “adjusted” house prices (adjusted to remove real changes in the HPI after 1995). We use this approach to examine the contribution of house prices to trends in the overall distribution of wealth and in household wealth accumulation patterns over the ten years.

In examining the association between specific household characteristics and wealth accumulation, we take several household variables into account. Given the centrality of age and age-related saving in lifecycle accumulation theories, emphasis throughout is placed on a household’s age. To at least partly control for life cycle differences, we present patterns of wealth accumulation (average change) by age group at the beginning of Section 4. This is followed by patterns of wealth accumulation by additional household characteristics by age group for an indication of variations in wealth accumulation patterns by type of household, conditioned on age. Section 4 highlights both *between* age-group differences and *within* age-group differences.

For a closer examination of the association between household characteristics and patterns of wealth change we also present results from multivariate analysis (Section 5). We run quantile regressions (regression on the median/50th percentile) on final (2005) wealth, controlling for different household characteristics. This is our preferred regression tool since, compared with OLS regression, median regression is more

⁷ The adjustments are made to a household’s property values, main home and other properties, and mortgages on all properties. This raises questions regarding the suitability of using the HPI if, for instance, other properties include ones that are not houses. Based on this concern, we replicated the descriptive analysis on the restricted sample of households with only a main home and no additional properties (using a definition of housing equity excluding second homes and other property) and obtained similar results to those reported in this paper for the full panel sample. This may partly be explained by the small sample size of households in the panel with properties other than the main home, equal to 5 per cent.

⁸ Note also that by the relevant period a substantial proportion of mortgages were on an ‘endowment’ basis, where the mortgage is not repaid until the end of its term, but investments are built up through an insurance fund with the aim that enough will have been accumulated by the end of the term to repay it off, possibly with a surplus. It is unlikely that the current value of such endowment policies will be reported by most respondents, so the figures we report will understate the improvement in the position of their holders, until the point where the endowment matures and the mortgage is paid off.

robust to outliers (Cameron and Trivedi, 2009).⁹ The median regression specifies the changes in median 2005 wealth as a function of the household characteristics (regressors). The regression parameters estimate the change in median final wealth produced by a one unit change in the regressor variable; these coefficients are reported in the tables in Section 5.

Drawing from both theory and empirical evidence on wealth change, we consider the following household variables in the analysis of patterns of household wealth accumulation:¹⁰

Age: we include age of the head of the household in 1995 as a continuous variable (and age squared to represent the non-linear component of age). From the life cycle theories of wealth accumulation, we would expect wealth holdings to increase for households during their working age years, reaching a peak at or just before retirement and decreasing subsequently (Davies and Shorrocks, 2000).

Initial wealth: by taking initial, 1995, levels of household net worth we assess whether and to what extent a household's starting point matters to wealth accumulation.

Qualifications: we group households depending on whether the head of the household holds a qualification described as: "Degree or higher", "A-level or professional", "O-level", "Lower or none" in 1995. This variable is of interest since the association between education levels and earnings may affect a households' ability to save. Empirical evidence points to a positive relationship between education levels and saving (Crossley and O'Dea, 2010). Crossley and O'Dea (2010) remark that this association is seen because of "other observed characteristics that the more educated, as a group, tend to have, most likely the fact that they tend to have higher income, rather than the additional education *per se*" (2010, p. 69).

Housing tenure: we identify five main categories of changes in housing tenure status over the ten year period: "Outright owner in both years", "Mortgagor became outright owner", "Mortgagor in both years", "Tenant became mortgagor" and "Tenant in both years". We expect changes in housing tenure status to be relevant to patterns of wealth accumulation over this period given the trends in house prices and in the concentration of housing wealth highlighted by recent studies (e.g. Appleyard and Rowlingson, 2010). As a result of the rise in house prices we expect home owners as a broad category to have gained over this period. Here, we define a finer classification into different groups of housing tenure change over time, differentiating for example between outright owners, mortgagors, tenants and shifts between these categories over time.

⁹ Unlike the OLS regression that is sensitive to the presence of outliers and can be inefficient when the dependent variable has a highly non-normal distribution, the quantile regression estimates are more robust.

¹⁰ The variable breakdowns listed here are those employed in the multivariate analysis. For the initial descriptive statistics the variables may be grouped into broader sub-groups.

Partnership change: the panel analysis studies the wealth of households based on information for heads of households for whom we have records in both 1995 and 2005. This facilitates the identification of a single household and its wealth and ignores new households formed and heads of households that were not surveyed in 2005 (for instance because they have passed away or have not been re-interviewed for other reasons). Despite generating some degree of stability in the sample structure to permit the proposed analysis, households in the sample may of course experience changes and we identify the following possible partnership status changes over the period: “Couple in both years”, “Single in both years”, “Partnership formed”, “Partnership dissolved”.

Number of children: we also control whether households have children and how many, ranging from none to five. The presence of children may affect a household’s saving behaviour and capacity. Crossley and O’Dea (2010) for instance find that couples with children saved more than couples without children.

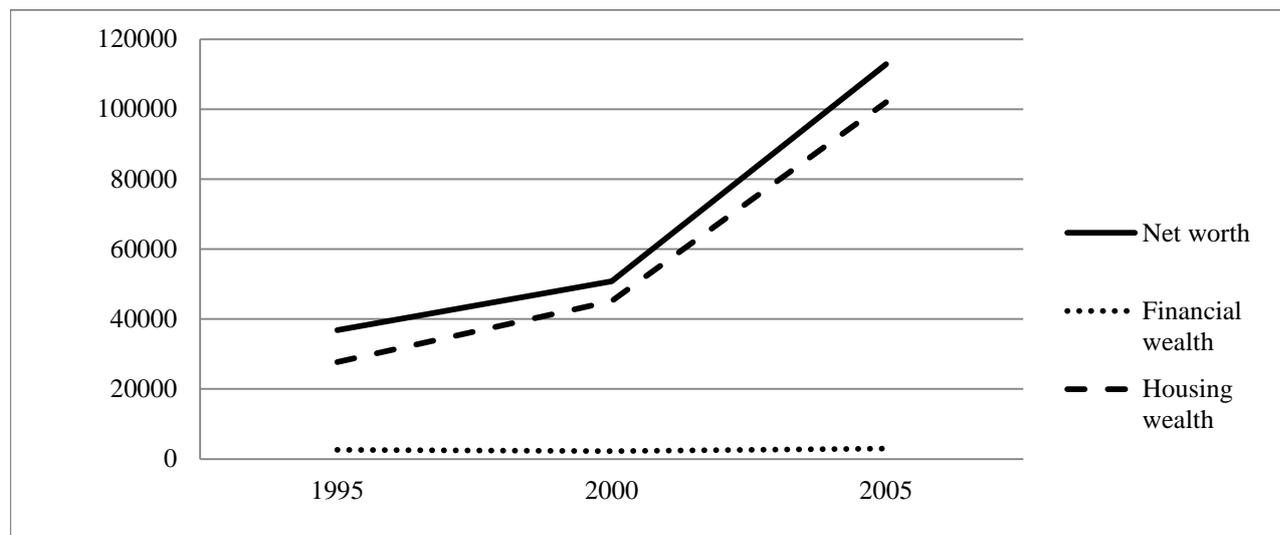
Region: we also consider the region in which the household was living in 1995 and use a classification of 11 regions.¹¹ There are considerable variations in wealth by region; the distribution of housing wealth by region is even more unequal than net worth. Also, levels of home ownership vary by region. For instance, London has the highest property wealth and the lowest levels of home ownership (Appleyard and Rowlingson, 2010).

3. Trends in the distribution of wealth in Great Britain 1995-2005

Figure 1 shows median estimated financial and housing wealth and total net worth in real terms (at 2005 prices) in the three years for which BHPS data are available. Between 1995 and 2005, median financial wealth recorded in the survey barely changed, rising from only £2,600 to £3,000 over the period. By contrast, median housing wealth rose from £28,000 in 1995 to £45,000 in 2000 and leapt to £102,000 in 2005 as the house price boom took hold. Reflecting this trend, median net worth rose from £37,000 to £113,000 over the period, most of the rise taking place in the second five year period.

¹¹ North, North West, Yorkshire and Humber, West Midlands, East Midlands, East Anglia, London, South East, South West, Wales and Scotland.

Figure 1: Median household net worth, housing wealth and financial wealth 1995, 2000 and 2005 (£, 2005 prices)



Source: Own analysis of the British Household Panel Survey (weighted).

Table 1 provides more detail, reporting total net worth and its components at different percentiles of the wealth distribution and changes in these variables over time. Three clear patterns emerge. First, Table 1 highlights the high degree of financial wealth inequality and its increase over the period. The tenth of households with the least financial wealth in 1995 had net debts of £1,900 or more. Their equivalents ten years later had net debts that had risen to £6,500 or more. Meanwhile, a tenth of households had financial assets exceeding £68,000 in 1995. This declined in 2000, but had risen back to £69,000 for their equivalents in 2005. At the median, financial wealth barely changed. The gaps therefore grew slightly in both absolute and proportionate terms over the period as a whole.

Second, Table 1 highlights the much greater changes recorded for housing wealth. More than a quarter of households had no housing wealth in any of the years. At the median, housing wealth nearly quadrupled to £102,000. At the same time, the cut-off for the tenth of households with the most housing wealth grew from £121,000 to £306,000. This was a much larger rise in absolute terms than for households in the middle of the distribution, but smaller in proportionate terms. This is reflected in a reduction in housing wealth inequality, the Gini coefficient for this component falling from 65 to 56 per cent.

Third, Table 1 reports the trends in the distribution of total net worth. As a result of the trends in its two components, median net worth at the tenth percentile remained close to zero. The large rise in wealth passed households at the bottom by. At the median, it rose from £37,000 to £113,000. At the ninetieth percentile, it doubled from £190,000 to £385,000. Those at the cut-off for the top tenth of households had wealth of £194,000 more than their predecessors in 1995.

Table 1: Net household worth in 1995, 2000 and 2005 (£000s, 2005 prices)

	Percentiles			Mean	Gini coefficient
	10	50	90		
1995					
Housing wealth	0	27	121	49	65
Financial wealth	-1.9	3	68	26	89
Net worth	-0.1	37	190	76	69
2000					
Housing wealth	0	44	197	75	64
Financial wealth	-4.3	2	53	19	94
Net worth	-0.1	51	247	94	65
2005					
Housing wealth	0	102	306	138	56
Financial wealth	-6.5	3	69	24	98
Net worth	0	113	385	163	59
Change in net worth, 1995-2005					
Absolute	+0.1	+76	+194	+87	-10
Percentage	<i>Na</i>	206	102	115	-

Source: Own analysis of the British Household Panel Survey (weighted).

In absolute terms, the gaps between the top and bottom and middle of the wealth distribution widened considerably. However, in proportionate terms, middle wealth households gained more. As a result, inequality as measured by the Gini coefficient fell from 69 to 59 per cent.

The fall in wealth inequality as measured by the Gini coefficient over this period is driven by two factors. First there was a shift in the composition of total wealth, with financial wealth decreasing as a share of total net worth and housing wealth increasing as a share of total net worth. Second, housing wealth increased by a greater proportion in the middle than in the top of the distribution, becoming more equally distributed. Despite an increase in financial wealth inequality, the much greater average values for housing wealth coupled with the shift in composition towards housing and its more equal distribution led to a reduction in overall inequality.

These results suggest that trends in the distribution of total net worth in Great Britain between 1995 and 2005 appear largely dominated by trends in housing wealth. In the sections that follow, we examine the extent to which this was purely a result of the house price boom and the role played by other factors, particularly ageing and life cycle saving.

4. Ageing, house prices and household wealth accumulation: Descriptive analysis

We now restrict our attention to a panel of households for which the BHPS reports information in both 1995 and 2005. By restricting the analysis of wealth change to the same households, we are able to examine: a) the contribution of trends in house prices to changes in the overall distribution of wealth and b) patterns of wealth accumulation by household characteristic (e.g. qualification level) and by changes in characteristics over time (e.g. changes in housing tenure and in partnership status).

This section summarises changes in the distribution of overall wealth over time and in average patterns of wealth accumulation by household characteristic, while Section 5 uses regression techniques to isolate the association of particular household characteristics with final (2005) wealth, holding other characteristics constant.

4.1 Trends in house prices and the distribution of wealth

For the panel of households, as in the full sample, the wealth distribution widened in absolute terms, with net worth remaining around zero for the tenth percentile, rising by £100,000 at the median to £146,000, and by more than £200,000 to £430,000 at the ninetieth percentile. However, in proportionate terms, the increase towards the top of the distribution was slower than at the middle and inequality fell. The 90:10 ratio of net worth for this group fell from 4.6 to 2.9 and the Gini coefficient from 65 to 53 per cent.

This compares with a fall in the coefficient for the full cross-sectional samples from 69 to 59 per cent over the period (Table 1). The restricted sub-sample is somewhat less unequal than the whole population at the start and inequality within it declines a little more rapidly.

For this group too, the overwhelming majority of the changes in net worth result from changes in housing wealth. The real value of the gain in mean net financial wealth recorded for this group was only £1,000, so it fell from a third to 15 per cent of net worth and its distribution became more unequal. In contrast, housing wealth grew to 85 per cent of total net worth and its distribution became more equal, its Gini coefficient falling from 65 per cent in 1995 to 56 per cent in 2005.

To examine the extent to which this change is driven by changing house prices rather than for instance increased home ownership or repayment of mortgages, we revalue the housing wealth of panel members from the amounts they recorded as the estimated capital value of their property net of estimated mortgages to remove the real increase in house prices (above general inflation) in that region between 1995 and 2005.

Table 2: Net household worth in 1995 and 2005: Panel dataset

	Percentiles			Mean	Gini coefficient (%)
	10	50	90		
1995					
Housing wealth	0	39	129	57	61
Financial wealth	-2.6	3	77	28	89
Net worth	-0.1	47	217	86	65
2005 – actual house prices					
Housing wealth	0	130	350	165	51
Financial wealth	-4.5	6	80	29	92
Net worth	0	146	427	194	53
Change in net worth					
Absolute	+0.1	+99	+210	+109	-12
Percentage	Na	208	97	127	-
2005 – adjusted house prices					
Housing wealth	0	48	144	64	61
Net worth	-0.6	61	223	93	64
Change in net worth – adjusted house prices					
Absolute	-0.5	+14	+6	+7	-1
Percentage	Na	29	3	8	-

Source: Own analysis of the British Household Panel Survey. 2,075 households for whom we have observations over the 10 year period.

The bottom section of Table 2 reports the change in housing wealth and in total net worth at adjusted house prices. According to this simulation exercise, had house prices remained fixed at 1995 values in real terms, instead of more than doubling, mean real net worth would have risen by £7,000 to £93,000, or by 8 per cent. At the median, the growth would have been by £14,000, or 29 per cent. Net worth at the ninetieth percentile would barely have changed, rising by only 3 per cent. With these far smaller changes, according to the simulation assumptions, overall inequality would have dropped but only by a little, with the Gini coefficient falling from 65 to 64 per cent.

This simulation exercise suggests that the fall in wealth inequality reported by the BHPS data was largely driven by the increase in house prices over the period. With the total net worth of ‘middle wealth’ households overwhelmingly made up of housing wealth, relative to ‘top wealth’ households, the rise in house prices boosted net worth at the middle of the distribution, making it more equal overall.

We now examine the characteristics associated with wealth gains and losses over the period and the role of house prices in mediating them.

4.2 Ageing, trends in house prices and household wealth accumulation

According to the “life-cycle” approach, household wealth is expected to rise and peak for those near or at retirement (Davies and Shorrocks, 2000). Younger people have had fewer opportunities to save or buy housing equity, build up savings and other assets over their working lives. After retirement, one would expect people to run down their financial assets and possibly trade-down, reducing their household wealth. The age-wealth profile is expected to have a pronounced hump-shape, with a peak occurring at or near the date of retirement.

Figures 2a and 2b plot the median wealth of each group (in terms of age of the heads of households) in 1995 and 2005. For instance, Figure 2a shows that the median net worth of households in the panel initially aged 45-54 grew from £73,000 to £190,000, an increase of £120,000 over ten years. Those aged 25-34 at the start increased their net wealth by £92,000 to nearly £100,000. If net wealth followed a purely life cycle pattern, we would expect to see wealth falling for the oldest cohorts, but it did not. For those aged 65-74 who survived the ten years (a group likely to be richer than all of those at that age at the start)¹², median net worth increased from £83,000 to £148,000.

Figure 2b plots median net worth at adjusted values, under the hypothetical scenario that house prices had remained at 1995 prices. Under the simulation assumptions, in the absence of the house price boom, the scale and pattern of wealth change are more in line with what might be predicted by life cycle savings patterns. Thus, for instance, median net worth would have risen by £10,000 for those aged 25-34 initially and by £22,000 for those aged 45-54 initially. Effective net savings – either through increasing financial assets or through paying off debt – at a rate of £1,000-2,000 per year for the working-age generation are also closer to what one might expect given their income levels.

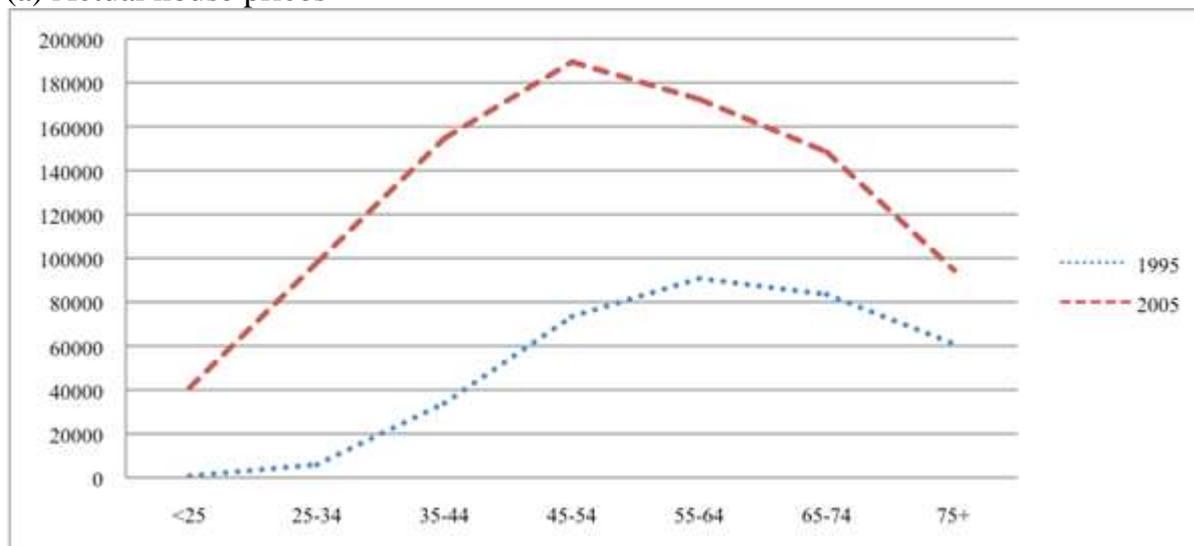
At the same time, the retired generation would have emerged as net dis-savers, with for instance median net worth falling by £8,000 for those initially 65-74 and by £7,000 for those initially aged over 75. Note though that net worth does not tend towards zero towards the end of life even on this basis: the oldest group would still have 88 per cent of their initial wealth ten years later, even if the house price boom had never happened.

In addition to differences in patterns of wealth change *between* age groups, we are also interested in differences *within* age groups. The following sections report the average changes in wealth for households by characteristics and conditioned on age.

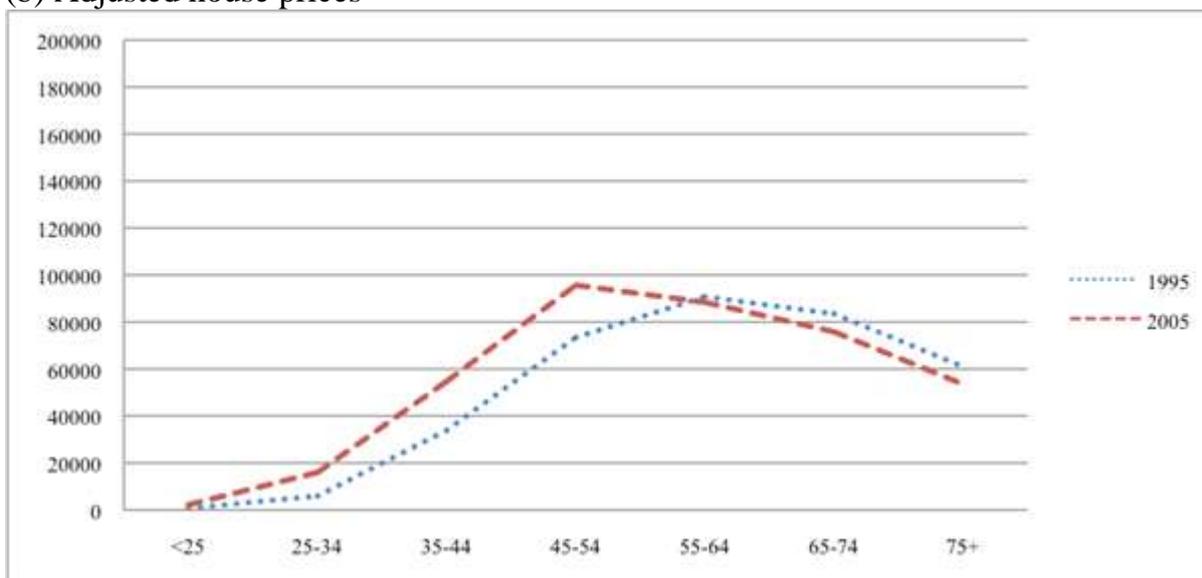
¹² Nazroo, Zaninotto and Gjonca (2008) show, using data from the English Longitudinal Survey of Ageing, that mortality rates after age 50 are strongly associated with wealth differences, so survivors will tend to have been wealthier than the cohort as a whole.

Figure 2: Age-wealth profile: Net household worth by age of head of household in 1995 (£, 2005 prices)

(a) Actual house prices



(b) Adjusted house prices



Source: Own analysis of the British Household Panel Survey. 2,075 households for whom we have observations over the 10 year period. Age is that of head of the household in 1995.

4.3 Ageing, other household characteristics and household wealth accumulation

Wealth accumulation and initial wealth

Table 3 shows the pattern of wealth accumulation for successive quartile groups of the initial distribution of wealth for those aged below and above 60 at the start (sample sizes make a finer division not possible, but this means that there will be significant age-related differences within each broad age group, which may be responsible for some of the patterns shown; the multivariate analysis below uses continuous age variables to avoid this).

At actual 2005 house prices, for those under 60, absolute changes were greatest for those who started with the greatest net worth, the top quartile group gaining £195,000 for instance, compared to only £56,000 for the bottom group. However, these meant greater percentage changes for those initially less wealthy. For those aged over 60, the pattern is fairly similar, although the absolute gains for the wealthiest quarter are slightly smaller – they end up with more than £400,000 (the same as their younger counterparts), but this is actually a smaller rise than that for the third group.

The wealth values expressed at adjusted prices suggest that these patterns were mainly driven by the house price boom. If the effects of this are removed, not only would the absolute changes have been much smaller, but also the absolute gains of the initially wealthiest and of those over 60. The initially wealthiest aged under 60 in 1995 (who will include some of those then nearest to retirement) would not have increased their average wealth at all if it had not been for the boom. And the initially wealthiest over-60s emerge as the ones who would have been dis-saving, their net worth falling from £330,000 to £238,000. What appears to be driving these patterns is that abstracting from changes in house prices, it is the wealthier older households that have significant assets they can run down in retirement, either through reducing financial wealth or through down-sizing their property. The scope for doing this is much smaller for the less wealthy.

Indeed, if one looks only at net financial assets (not tabulated), the group with by far the largest change was the quarter of household aged 60 or more with the greatest financial wealth. Their mean financial wealth fell from £177,000 to £104,000 over the period (at 2005 prices), so they were effectively dis-saving by £7,000 per year, boosting consumption by the equivalent of a third of median household net income.¹³ Other groups by age and initial financial wealth increased their financial assets on average, apart from the quarter of those aged under 60 initially with the most (but so likeliest to retire in the period), where it fell from £77,000 to £63,000.

¹³ Part of this dis-saving in real terms will be the result of the effects of inflation on assets denominated in nominal terms, such as bank or savings accounts.

Table 3: Mean household net worth by initial wealth group (£000s, 2005 prices)

	Quartile group of net worth in 1995			
	Bottom	Second	Third	Top
(a) Aged under 60 in 1995				
1995	-2	16	58	209
2005 (Actual house prices)	54	140	196	404
Absolute change	+56	+125	+138	+195
<i>Percentage change</i>	<i>Na</i>	766	240	93
2005 (adjusted house prices)	12	44	86	208
Absolute change	+14	+28	+29	-1
<i>Percentage change</i>	<i>Na</i>	169	50	0
(b) Aged 60 and over in 1995				
1995	5	61	111	330
2005 (actual house prices)	15	111	200	403
Absolute change	+10	+50	+89	+72
<i>Percentage change</i>	219	82	80	22
2005 (adjusted house prices)	11	60	108	238
Absolute change	+6	-1	-3	-92
<i>Percentage change</i>	142	-1	-2	-28

Source: Own analysis of the British Household Panel Survey. 2,075 households for which we have observations over the ten year period. Note: Age is that of head of the household in 1995.

Wealth accumulation and qualification levels

Another factor affecting people's ability to accumulate wealth and then to draw it down again is their lifetime income trajectory, and the ability to save in cash or to borrow and buy property, thereby benefitting from the house price boom over this period. One proxy for lifetime income trajectory is given by qualifications. Table 4 reports wealth change by initial qualification of the household head and broad age group.

This shows that the biggest wealth gainers were households whose head had degree-level qualifications and were aged 35-59 in 1995. Their net worth grew by £196,000 over the period to £280,000. Younger graduate households increased their wealth by almost as much, £179,000 (but from a lower starting point, so it only reached £189,000 by 2005). These increases, equivalent to £18-20,000 per year, are almost as great as total annual income for households of all kinds.¹⁴ The other groups shown

¹⁴ Equivalent net income for the UK population was £20,500 in 2007-08 (Hills, et al, 2010, table 7.1).

also increased their net worth, with a consistent pattern of this being by larger amounts for the best-qualified and for those initially aged 35-59.

Table 4: Change in median household net worth by age and education level (£000s, 2005 prices)

Highest qualification (in 1995)	Age group (in 1995)		
	Under 35	35-59	60 and over
a) Change in net worth at actual house prices			
Degree or higher	+179	+196	Na
A-level or professional	+89	+128	+92
O-level	+76	+105	+36
Lower or none	+41	+72	+41
b) Change in net worth at adjusted house prices			
Degree or higher	+41	+56	Na
A-level or professional	+9	+22	-14
O-level	+9	+23	-36
Lower or none	+8	+9	-7

Source: Own analysis of the British Household Panel Survey. 2,075 households for whom we have observations over the 10 year period. Note: Qualifications and age are those of household head in 1995.

Stripping out the impact of the house price boom modifies this pattern, but does not remove the steep gradient with qualifications. Even without any change in real house prices, graduate households aged 35-59 would have increased their wealth by £56,000, compared to only £9,000 for those without O level or equivalent qualifications. Without the house price boom, the net worth of the groups aged over 60 would have fallen (although the number of graduates in this age group in the sample is not sufficiently large for reliable analysis).

Housing tenure and wealth accumulation

Given the dominance of housing within personal wealth and of house prices in changes in wealth between 1995 and 2005, we expect housing tenure to be central to understanding wealth accumulation trajectories. In Table 5 we distinguish between five patterns: those who already owned outright in 1995 and still did in 2005; those who started with a mortgage, but ended as outright owners; those who remained as mortgagors; those who were tenants initially, but owned with a mortgage at the end; and those who were tenants in both years. This order is also that of their initial wealth levels, running in 1995 from £7,000 for those who would remain as tenants to £171,000 for those who would remain as outright owners. The bottom row shows the relative sizes of these groups within the sample.

**Table 5: Mean household net worth by housing tenure in 1995 and 2005
(£000s, 2005 prices)**

	Outright owner in both years	Mortgagor became outright owner	Mortgagor in both years	Tenant became mortgagor	Tenant in both years
1995	171	140	56	12	7
2005 (actual prices)	266	326	203	114	9
Absolute change	+95	+186	+146	+102	+3
Percentage change	56	133	263	858	40
2005 (adjusted house prices)	147	180	67	39	7
Absolute change	-23	+40	+11	+27	+1
Percentage change	-14	29	20	229	12
Number of observations	(497)	(334)	(646)	(118)	(378)

Source: Own analysis of the British Household Panel Survey, from 2,075 households for whom we have observations over the 10 year period. Note: The table only reports results for the categories of tenure status change over the period examined discussed in the text. For this reason the sample numbers reported in the table do not add up to 2,075. Results for all categories are available upon request.

The absolute change in net worth over the period was greatest for those who started as mortgagors, but became outright owners, an increase of £186,000 to £326,000. Those who remained as mortgagors also gained substantially, by £146,000. This shows the power over this period of the ‘gearing’ effect of owning with a mortgage: mortgagors gained from the increase in the value of the whole property, while the outstanding mortgage would for most not grow (indeed it would fall in real terms). The value of equity in the property therefore increased faster than the increase in house prices.¹⁵ For outright owners, the change was smaller partly for this reason and partly because they tend to be older and, as we have seen above, therefore more likely to be dis-saving in other ways. The biggest proportionate change, though, was for those – often younger – households who started with low net worth as tenants but then purchased, some of them fairly early in the period and therefore catching most of the impact of the house price boom. For those who remained as tenants, however, net worth started and remained very low on average.

Table 5 also shows that at “adjusted” values, the accumulation for mortgagors who become owners drops to £40,000, and for continuing mortgagors to £11,000. The difference between the two panels reflects the estimated contribution of changes in

¹⁵ At times when house prices fall, this process goes into reverse, for some creating the phenomenon of ‘negative equity’ as house values fall below outstanding mortgages.

real house prices to wealth accumulation implied by the simulation exercise (embodying the particular assumptions used).¹⁶

One might expect the initially wealthiest to be the biggest gainers from these accumulation processes, but Table 6 suggests that the picture is rather more complex than that. This shows changes in median net worth for the five tenure groups when they are each divided into thirds (tertile groups) of initial net worth. The biggest absolute gain at actual house prices was for the wealthiest third of continuing mortgagors, rising by £172,000 to £262,000. For the wealthiest third of those becoming outright owners, the increase was slightly smaller, £159,000, but this took them to £383,000. This put them ahead of the wealthiest third of continuing outright owners, whose median net worth rose from £274,000 to £363,000. But again, the most revealing figures are probably those in the lower panel, abstracting from the effects of the house price boom. Here one can contrast the large fall in median net worth for the initially wealthiest outright owners – those with the capacity to dis-save – and what would still be a considerable gain for the initially wealthiest tenants who became mortgagors. For the former group, the fall in median net worth would have been £74,000 abstracting from the house price boom. Indeed, looking at the initially wealthiest third of outright owners aged 60 or more in 1995, the fall would have been £97,000. In effect, this group had the capacity to draw down approaching £10,000 of wealth annually to contribute to their standard of living.

For those who became mortgagors, sample sizes are too small for results to be precise, but it is striking that the initially top third started with median net worth of £7,000 and increased it to £128,000 (with the boom), or £56,000 (without it). By contrast, those new purchasers who started with less (very little net worth for the middle group, and net debts for the least wealthy of these new purchasers) ended with only £70-75,000 (with the boom) or £18-19,000 without it. For some, having had a deposit of several thousand pounds available by 1995 could turn into more than £100,000 of net equity in 2005.

The table also isolates the way in which the house price boom had its largest effects for the initially wealthiest mortgagors. Indeed for the wealthiest third of mortgagors who became outright owners, net worth would have fallen without the house price boom. For the wealthiest third of continuing mortgagors, the gain of £172,000 with the boom would only have been £19,000 without it.

Finally, with or without the house price boom, for those continuing as tenants, it is those that started with something – median net worth of £8,000 for the top third – who dis-saved, effectively drawing out about £5,000 over the period.

¹⁶ Note that the differences between the figures for those becoming owners and continuing mortgagors may be over-stated through the way that the BHPS data are most likely not recording the increase in the value of accumulating insurance policies bought through endowment policies, while all of the value of this will be reflected when the endowment policies are realised.

Table 6: Change in median net worth by tenure and initial wealth (£000s, 2005 prices)

	Tertile group of net worth within ownership groups in 1995		
	Bottom	Middle	Top
(a) Change in net worth at actual house prices			
Outright owner in both years	+64	+81	+88
Mortgagor became outright owner	+128	+153	+159
Mortgagor in both years	+94	+107	+172
Tenant became mortgagor*	+78	+70	+121
Tenant in both years	-	-	-5
(b) Change in net worth at adjusted house prices			
Outright owner in both years	-1	-13	-74
Mortgagor became outright owner	+42	+29	-15
Mortgagor in both years	+4	+13	+19
Tenant became mortgagor ¹	+21	+19	+50
Tenant in both years	-	-	-5

Source: Own analysis of the British Household Panel Survey. 2,075 households for whom we have observations over the 10 year period. *Note:* * Based on only 39 cases in each wealth group.

Partnership change

While the survey results link the records of people who were in the sample at the start and the end of the period, for some of them their household composition will have changed, particularly through partnership formation or dissolution. For some this will imply an increase in household wealth, as theirs is joined to that of a new partner. For others, it will mean a decrease in wealth, as assets are divided up on divorce, for instance. Table 7 confirms this general pattern, although it also suggests that the differences in wealth accumulation between the groups shown are less stark than might have been expected. This is partly because of differences in the reasons for partnership changes: partnership dissolutions as a result of separation/divorce will affect wealth levels very differently from those arising from bereavement.

The wealthiest group both at the start and end are those who stay as couples, with median wealth rising from £57,000 to £179,000 at actual house prices (or £78,000 if house prices had not risen). Those who remain single have, interestingly, more than half these amounts at each point, although they gain less proportionately over the period (at least partly for age composition reasons, as the next table shows). Those forming partnerships have almost as large an absolute increase as those remaining as couples at actual house prices (and a little more at constant house prices), but this is proportionately very large. Even those whose partnerships dissolve (on separation or death of a partner) have much greater wealth in 2005 than in 1995, although without the house price boom there would have been little change.

Table 7: Change in median net worth by partnership status (£000s, 2005 prices)

	Couple in both years	Single in both years	Partnership formed	Partnership dissolution
1995	57	38	10	40
2005 (actual house prices)	179	99	126	105
Absolute change	122	61	116	64
Percentage change	216	163	1138	160
2005 (adjusted house prices)	78	44	37	39
Absolute change	21	6	27	-1
Percentage change	37	17	263	-3
(Number of cases in sample)	(1171)	(585)	(126)	(174)

Source: Own analysis of the British Household Panel Survey. 2,075 households for whom we have observations over the 10 year period.

Some of these differences are, however, driven by age differences between the four categories – younger people being more likely to form partnerships, and older ones to have them ending. Table 8 reports the absolute changes in wealth for the four groups divided into three age ranges.¹⁷ This suggests that within the central age group, the important factor was their partnership status at the end of the period. Those forming partnerships had a similar rise in wealth to those who were already and remained in one; those whose partnership dissolved had a similar rise to those who were single throughout. The same is true for the younger group for continuing couples and those becoming partners. But the younger group whose partnership ends had a much smaller increase in wealth than those who were single throughout. On the other hand, for those 60 or over in 1995 whose partnership ends, the gain in wealth is similar to that for those who remained as couples, presumably because this group is mainly those who are bereaved, where household wealth mainly stays with the surviving spouse.

While partnership change is an important part of the dynamics of wealth accumulation for some, these tables suggest overall, however, that it is not a dominant part of the overall patterns. This is both because the majority of people (85 per cent in this sample) do not change partnership over the period, but also because the differences between the groups (measured at their medians) are rather smaller than might have been expected, and less important than age-related differences, for instance.

¹⁷ Note that these are the ages of household heads, and the definition of these means that within the panel sample the majority (61 per cent) are male.

**Table 8: Change in median net worth by age and partnership status
(£000s, 2005 prices)**

Partnership status	Age group in 1995		
	Under 35	35-59	60 and over
(a) Change in net worth at actual house prices			
Couple in both years	+104	+135	+82
Single in both years	+60	+86	+43
Partnership formed	+104	+117	-
Partnership dissolved	+13	+91	+72
(b) Change in net worth at adjusted house prices			
Couple in both years	+8	+28	-11
Single in both years	+12	+12	-6
Partnership formed	+18	+15	-
Partnership dissolved	-2	+8	-8

Source: Own analysis of the British Household Panel Survey. 2,075 households for whom we have observations over the 10 year period.

5. Ageing, house prices and household wealth accumulation: Multivariate analysis

The previous section examined patterns in household wealth accumulation and reported averages by household characteristic separately, in some analyses conditioning on age to at least partly account for differences in accumulation patterns arising from age-related saving. In this section, we use regression techniques to isolate the association of particular household characteristics with final (2005) wealth, holding other observed characteristics constant. As outlined in Section 2, we run median quantile regressions on final household net wealth. The regressors included are: initial wealth (1995), age and age squared, qualifications, tenure status, partnership status, region and number of children.

All regressions are run for final wealth at 2005 (RPI-adjusted) prices and at ‘adjusted’ prices separately. The comparison of coefficients across regressions provides an indication of the extent to which the wealth gains and losses associated with specific household factors were the result of trends in house prices. Table 9 reports the coefficients obtained from the median regression on final wealth at 2005 prices (column 1) and at ‘adjusted’ values (column 2). Table A1 reports the estimates obtained from the same regression run separately for the group of households that ended up as owners and those that remained tenants throughout.

In line with what was suggested by the previous section (see Figure 2a and b), the regression analysis indicates that at 2005 prices, final wealth levels in 2005 are not

associated with a head of household's age in 1995. Age-related life cycle saving does not appear to be explaining final wealth levels in households' wealth over the period (Table 9, column 1).

However, when house prices are kept at their 1995 values, and mortgages are adjusted accordingly, the age of the head of the household is significantly associated with final wealth (Table 9, column 2). Wealth increases with age (coefficient positive and significant) but at a decreasing rate. Specifically, the age squared variable is negatively and significantly associated with final wealth at adjusted values, indicating that – under the simulation assumptions – had the house price boom not taken place, final wealth levels would first increase and then decrease with age. This pattern reflects trends predicted by the life cycle theory of wealth accumulation.

**Table 9: Median regression on final (2005) net worth:
At 2005 prices and at adjusted prices (£s)**

	Final wealth at 2005 prices	Final wealth at adjusted prices
Initial wealth	0.91*** (76.88)	0.55*** (85.92)
Age in 1995	1,056 (1.42)	1,308*** (3.18)
Age in 1995 squared	-9 (1.31)	-11*** (2.87)
QUALIFICATIONS: Omitted, Lower or none		
Higher degree	71,554*** (14.75)	33,028*** (12.39)
A-level	13,974*** (3.99)	6,517*** (3.38)
O-level	3,558 (0.79)	2,318 (0.94)
TENURE: Omitted, tenant throughout		
Outright owner throughout	78,426*** (17.04)	31,709*** (12.5)
Mortgagor throughout	93,522*** (20.52)	18,368*** (7.28)
Mortgagor to outright owner	126,952*** (25.38)	58,264*** (21.11)
Tenant to mortgagor	66,556*** (8.96)	18,029*** (4.42)
PARTNERSHIP STATUS: Omitted, Single throughout		
Couple throughout	13,826*** (4.07)	5,354*** (2.86)
Partnership formed	9,067 (1.41)	4,458 (1.25)
Separation	-6,548 (1.23)	-3,484 (1.19)
REGION: Omitted, West Midlands		
North	13,506* (1.93)	5,364 (1.4)
North West	2,913 (0.47)	-2,207 (0.65)

	Final wealth at 2005 prices	Final wealth at adjusted prices
Yorkshire and Humber	1,004 (0.16)	-2,034 (0.6)
East Midlands	4,403 (0.7)	2,353 (0.67)
East Anglia	6,630 (0.9)	629 (0.15)
London	33,819*** (5.2)	10,546*** (2.94)
South East	31,307*** (5.82)	8,127*** (2.74)
South West	17,807*** (2.89)	708 (0.21)
Wales	120 (0.02)	-4,778 (1.24)
Scotland	-11,331* (1.72)	408 (0.11)
NUMBER OF CHILDREN: Omitted, Zero		
1	1,486 (0.34)	-313 (0.13)
2	6,732 (1.5)	3,110 (1.25)
3+	-4,226 (0.69)	-3,782 (1.13)
Constant	-44,166** (2.19)	-39,989*** (3.58)
N	1,931	1,931

* p<0.1; ** p<0.05; *** p<0.01. Absolute value of t statistics in parentheses.

As highlighted by the previous section (Table 3), higher initial wealth levels are associated with higher wealth levels at the end of the period, for both younger and older age groups. In the multivariate analysis, controlling for age, qualifications, partnership status, region and number of children, a unit increase in initial wealth (1995 wealth) is associated with a 0.9 unit increase in final wealth. Controlling for other factors, households apparently ‘spent down’ their starting wealth to a small extent.

However, removing the impact of the house price boom, a unit increase in initial wealth is associated with only a 0.6 unit increase in final wealth levels. This suggests two things. Other things equal, those with initial wealth would have run it down significantly. But offsetting this, those with the greatest initial wealth were beneficiaries of the house price boom, which is why the coefficient on initial wealth at actual prices is higher.

As suggested in the previous section, the qualifications of the head of the household help explain wealth accumulation patterns over this period. Compared with households headed by someone with below O-level or no qualifications, households with a head with a higher degree have higher final wealth, by £72,000. Having an A-level or equivalent is also associated with higher final wealth (+£14,000) relative to those without a qualification.

The regression analysis confirms that tenure status and changes in tenure status over this period play a central role in understanding patterns of wealth accumulation. The biggest wealth gainers between 1995 and 2005 (at 2005 prices) were those households that went from being mortgagors to outright owners, followed by mortgagors throughout the period, as suggested in Table 6. Compared with similar households that remained tenants over the ten years, the first group record higher wealth in 2005 by £127,000; while mortgagors throughout gain £94,000 (Table 9). Households that were outright owners throughout the period and those that went from being tenants to mortgagors also record higher final wealth levels relative to households that were tenants throughout by £78,000 and £67,000 respectively (Table 9). This is on top of large regional differences, which will be driven by house prices for owners, adding a further £29,000 in London, for instance.¹⁸

¹⁸ The coefficients in Table 9 are derived from a regression covering households in all tenure groups. As we would expect the regional effects only to apply to home-owners, their size may be attenuated by the inclusion of tenants in the sample. We therefore ran the regressions separately for those who ended the period as owners and those that ended as tenants. The results of this are shown in Table A1. The regional coefficients do indeed rise substantially in the model for all those ending as owners, for instance to £72,000 for those in London at actual house prices. For tenants by themselves (where the results are unaffected by house prices), not only are the regional coefficients small and insignificant, but so are those on nearly all the other variables. That on initial wealth is reduced to 0.27, suggesting that tenants’ initial wealth would tend to be spent down considerably over the period, while the effect of having two or more children on final wealth emerges as significantly negative.

Tenure status is also significantly associated with final wealth levels at adjusted net worth. Comparisons with the coefficients obtained from the regression on final wealth at actual prices indicate that, relative to households that were tenants throughout, households that were mortgagors throughout the period experienced the highest absolute gains as a result of the house price boom, followed by those that went from being mortgagors to outright owners. Outright owners throughout and tenants who became mortgagors also gained from the boom.

Finally, in Table 9 we also examine the association between partnership status changes and final wealth. We find that, holding other observable variables constant, compared with heads of households that are single throughout the period, the households headed by a couple at start and end of the period have higher final wealth (+£14,000). The coefficient for households in which a partnership is formed is positive and points to higher final wealth compared with single households, while the coefficient for households that experience a separation is negative – but in both cases these results are not significant. The raw differences we observed in Table 8 appear to be more the product of other associated characteristics than of the partnership patterns themselves. Nor does the number of children emerge as significant in these regressions.

6. Summary and conclusions

This paper has analysed trends in the distribution of wealth of British households between 1995 and 2005. Using longitudinal BHPS data, it first examined the evolution of the distribution of wealth and its components, estimating the distributional impact of the rise in house prices on overall wealth inequality. It then focused on patterns of household wealth accumulation by household characteristic, paying particular attention to the role of ageing or life-cycle saving and the gains and losses associated with the house price boom. The following paragraphs summarise the paper's main findings.

Bearing in mind some of the limitations of the data, in particular the limited coverage of financial assets of the most wealthy, between 1995 and 2005, absolute differences in wealth widened considerably. Those with no wealth were left further behind. However, in relative terms, wealth grew fastest in percentage terms in the middle of the distribution, so that inequality measures such as the Gini coefficient fell sharply (from 69 to 59 per cent over the period). This reflected three factors: financial wealth that became more unequal, but represented a smaller share of the total; housing wealth becoming a greater share of total wealth and more equally distributed; and the most rapid percentage increase in housing wealth taking place in the middle of the distribution.

For the panel of households for which observations are available over the ten year period, the study found that if the house price boom had not taken place – under the hypothetical scenario that house prices had remained at their real 1995 levels and allowing roughly for effects on the size of new mortgages – wealth inequality would

have barely changed, with the Gini coefficient for the panel falling from 65 to 64 per cent. Under the simulation assumptions, the changes in wealth inequality are almost entirely accounted for by changing asset prices. The analysis suggests that without the house price boom, the wealth distribution in 2005 would have been very similar to that in 1995.

The house price boom also masked what might have been expected to be the life cycle pattern of wealth accumulation followed by decumulation. At actual house prices, all age groups substantially increased their mean and median wealth as they aged between 1995 and 2005, including older ones. For the same age groups, the gains were remarkable. For instance, median wealth grew from £73,000 to £190,000 for households initially aged 45-54. Within this, absolute gains were larger for those who were initially the most wealthy, but proportionate gains largest for the least wealthy groups. However, if house prices had remained at their real levels of 1995, mean wealth for the panel of households would have grown much less – by only 8 per cent – and there would have been a much clearer life cycle pattern, with the age groups initially aged 55-64 having unchanged real wealth and the older groups lower wealth in 2005 than they had in 1995.

If one abstracts from rising house prices, it is initially the wealthiest over-60s who would have been dissaving most – the wealthiest quarter drawing down nearly £10,000 per year on average – as it is they that have significant assets they could run down in retirement.

Households that experienced the highest wealth gains over the period (at actual 2005 prices) are mortgagors and those that are more highly qualified. For instance, those initially aged 35-59 with degrees increased their mean wealth by £196,000 (at actual house prices), compared to £72,000 for those with qualifications below O-level (Table 4). Even without the house price boom, those with degrees would have been wealthier by £56,000, but those with low qualifications only £9,000 wealthier. The multivariate analysis confirms these results, with households headed by someone with a higher degree gaining £72,000 by 2005 compared with households with no qualifications and their gains reduced but significant under the adjusted prices assumption (Table 9).

Those who ended up as owner-occupiers were both the most wealthy at the end, and had the largest wealth increases (Table 5 and Table A1). Gains averaged £186,000 for mortgagors who became outright owners, for instance (Table 5). Controlling for other household characteristics, both the households that went from being mortgagors to outright owners and households that were mortgagors throughout recorded large and significant wealth gains over the period relative to households that were tenants throughout (Table 9).

But wealth gains over the period were also large for those who started as tenants in 1995 and first became owners over the period: the initially top third of tenants who became owners started with median net worth of £7,000 and increased it to £128,000; new purchasers who started with little or negative net worth ended with only £70-75,000 (Table 7). Having a deposit of several thousand pounds available in 1995

could turn through the ‘gearing effect’ into more than £100,000 of net equity in 2005. By contrast, those who remained as tenants had very little change at all in their already very low wealth (also see Table A1).

Partnership change is an important part of the patterns we observe, but by no means a dominant one. Those who were in the same couple at start and end or who formed partnerships had the largest absolute wealth increases. Younger people whose partnerships dissolved had the smallest wealth increases; indeed their wealth would have fallen without the house price boom. But older people whose partnership ended – most often by bereavement – had gains in wealth as a result of the house price boom. In the multivariate analysis, partnership changes emerge as being a much smaller, and often less significant, factor than the others we examine.

Overall those who gained in particular from the house price boom were mortgagors, those in middle age and more highly qualified.

This paper has shown that wealth is very unevenly distributed in Great Britain, with its inequality, measured by the Gini coefficient and using BHPS data, at 0.59 in 2005. Moreover, the analysis has highlighted the widening absolute gap between households with some wealth and those with none or negative wealth. Between 1995 and 2005 financial wealth became even more highly concentrated. Although housing wealth is less unequally distributed than financial wealth and became less concentrated over this period, it continues to be unevenly spread, its Gini coefficient equal to 0.56 in 2005. Over this period, it is particularly the gap between home owners and non-home owners which has increased. While some households in the middle of the wealth distribution increased their share of wealth by becoming home owners over the period, those without housing wealth at the beginning of the period fell further behind.

Overall, between 1995 and 2005, the rise in house prices boosted ‘middle wealth’ – overwhelmingly made up of housing – relative to ‘top wealth’, a much larger part of which is made up of financial assets. This made the shape of the distribution more equal.

In proportionate terms, the impact of the boom on housing equity – capital values less outstanding mortgages – was also greater for the mortgagors in the middle of the distribution than for outright owners, many of whom were nearer the top. According to the BHPS data and the simulation assumptions, if the house price boom had not happened the overall shape of the distribution would have been little changed and the rise in net debt for those with the lowest financial wealth would have had more important effect on inequality measures.

Most of the changes in the period were ‘paper gains’ caused by the house price boom. In one sense, this could be taken as meaning that little really has changed: for the most part, owner-occupiers were in the same houses in 2005 and 1995, enjoying the same way of life and the increase in their wealth only happened on paper. However, in the long term the house price boom – unless reversed (which does not look likely at time of writing) – will have effects. First, some of those who own what are now more

valuable properties in cash terms will trade down and convert their paper gains into much larger financial assets than they could otherwise have done. Secondly, it means that inheritance flows will be much larger. In that sense, a lot will have changed, particularly for the next generation.

Table A1: Median regression on final net worth: At 2005 and at adjusted prices for households that were owners throughout or became owners and tenants throughout the period (£s)

	ENDED UP AS OWNERS		TENANTS THROUGHOUT
	Final wealth at 2005 prices	Final wealth at adjusted prices	Final wealth at 2005 prices and at adjusted prices•
Initial wealth	0.86*** (60)	0.56*** -51.38	0.27*** (69.89)
Age in 1995	4,887*** (4.84)	5,426*** (7.05)	6 (0.09)
Age in 1995 squared	-44*** (4.57)	-47*** (6.39)	-0.15 (0.26)
QUALIFICATION: Omitted, Lower or none			
Higher degree	93,036*** (14.67)	44,802*** (9.28)	-673 (1.02)
A-level	34,912*** (7.24)	12,560*** (3.44)	-76 (0.22)
O-level	16,168*** (2.59)	9,042* (1.9)	-10 (0.02)
PARTNERSHIP STATUS: Omitted, Single			
Couple throughout	24,456*** (5.22)	10,924*** (3.05)	160 (0.51)
Partnership formed	28,113*** (3.18)	14,512** (2.14)	-402 (0.66)
Separation	-2,474 (0.32)	-4,749 (0.81)	-55 (0.12)
REGION: Omitted, West Midlands			
North	16,342* (1.71)	13,163* (1.81)	-792 (1.19)
North West	-4,626 (0.55)	-2,167 (0.34)	-642 (1.07)
Yorkshire and Humber	3,505 (0.41)	1,887 (0.29)	-728 (1.2)
East Midlands	12,739 (1.47)	11,481* (1.74)	-398 (0.63)
East Anglia	23,588** (2.31)	13,406* (1.73)	-951 (1.4)

	ENDED UP AS OWNERS		TENANTS THROUGHOUT
	Final wealth at 2005 prices	Final wealth at adjusted prices	Final wealth at 2005 prices and at adjusted prices•
London	71,586*** (8.11)	28,861*** (4.26)	139 (0.22)
South East	56,769*** (7.89)	22,622*** (4.11)	-551 (0.95)
South West	39,717*** (4.85)	9,395 (1.51)	-1,062 (1.51)
Wales	-3,571 (0.38)	-6,772 (0.95)	-776 (1.05)
Scotland	-29,279*** (3.21)	572 (0.08)	-449 (0.73)
NUMBER OF CHILDREN: Omitted, Zero			
1	5,051 (0.88)	-5,022 (1.13)	-713 (1.62)
2	16,689*** (2.83)	1,647 (0.37)	-1,214** (2.14)
3+	-14,796* (1.76)	-15,385** (2.38)	-1,421** (2.35)
Constant	- 74,734.83*** (2.83)	-131,487*** (6.53)	1,306 (0.66)
N	1,509	1,509	364

* p<0.1; ** p<0.05; *** p<0.01. Absolute value of t statistics in parentheses.

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