

Financial Crisis Wealth Losses and Responses among Older Households in England*

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Abstract

Prices of real and financial assets fell substantially in the UK during 2008–09. The fourth wave of the English Longitudinal Study of Ageing (ELSA) was in the field throughout this ‘financial crisis’. We use these data, and earlier ELSA waves, to document the effect of the crisis on those aged 50 and over in England, importantly taking into account that a significant

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proportion of the wealth of these households is held in forms such as state pensions that will not be directly affected by movements in asset prices. We find that the median fall in wealth among individuals was 8 per cent of total household gross wealth with, on average, richer individuals having experienced a larger decline. We find some evidence that those who experienced greater wealth shocks were more likely to reduce their expected chance of leaving a large bequest and to reduce their spending on certain ‘semi-luxury’ items such as clothing and food consumed out of the home.

Policy points

- The financial crisis was associated with substantial asset price falls in the UK, which may have resulted in a significant wealth shock for some households.
- Understanding the size and distribution of these wealth losses is important for policymakers concerned with the ability of individuals to respond to, or weather, these shocks.
- We find that the median fall in wealth among individuals aged 50 and over in England was 8 per cent of total household gross wealth with, on average, richer individuals having experienced a larger decline.
- We also find some evidence that these individuals responded to their wealth shocks by reducing their expected bequests and reducing their expenditure on clothing and on food consumed out of the home.

I. Introduction

The financial crisis of the late 2000s was associated with large asset price falls in the UK. For example, over the course of the financial year 2008–09, the FTSE all-share index fell by one-third, while average house prices also fell by over 15 per cent. Taken together, these may have caused substantial, largely unanticipated, drops in the wealth of some households.

The first contribution of this paper is to document comprehensively the effect of these asset price changes on the wealth of those aged 50 and over in England. A particular advance of our paper is that we consider total wealth including the present discounted value of likely future streams of pension income. Pension wealth held in state pensions, held in private pensions that have already been annuitised or being accrued in private defined benefit (DB) schemes is insulated from movements in asset prices and is found to make up 40 per cent of the gross wealth of those aged 50 and over. This has important implications when thinking about the extent to which an individual’s wealth may have been affected by the financial crisis.

The group aged 50 and over is an interesting part of the population to consider. People who are close to retirement or who have already retired are

less able to respond to wealth shocks they experience by changing their saving behaviour, or their labour market behaviour, than younger individuals who have a much greater proportion of their working lives remaining. In addition, those close to but not yet retired are likely to be particularly exposed to asset price changes as they may have large stocks of accumulated wealth – for example, unannuitised defined contribution (DC) pension wealth. Gustman, Steinmeier and Tabatabai (2010) argue that older individuals have relatively little invested in the stock market and so even a sizeable decrease in the value of financial assets will only have small effects on their wealth. Engen, Gale and Uccello (2005) note that since those who do hold stocks are typically households with substantial wealth, fluctuations in stock market values can affect wealth without having much effect on retirement savings adequacy. However, Coile and Levine (2010) find that for individuals in the top third of the income distribution, long-term declines in the stock market in the years immediately preceding retirement do lower their incomes in retirement through a reduction in investment income. All of these are US studies, and we expect individuals in England to be affected differently due to differing portfolio compositions. Banks, Blundell and Smith (2003), for example, highlight that relative to the US, households in the UK tend to hold a smaller proportion of their non-pension wealth in equities and a larger proportion in housing. The recent financial crisis also involved a fall in house prices, and not only is housing wealth a more significant part of wealth holdings in England than in the US, but in both countries it accounts for a significant proportion of wealth across most of the income distribution.

The second contribution of this paper is to look beyond the declines in wealth experienced, at how individuals might have responded to these shocks. We document changes in individuals' levels of household expenditure, their expectations of leaving a large bequest and their expectations of having inadequate resources in future, and investigate whether these changes are greater for those who experienced greater wealth shocks than those who experienced smaller wealth shocks.

A number of papers have attempted to investigate the effect of the recent global financial crisis on wealth holdings, in both the US and the UK. Since data on wealth holdings in the years covered by the financial crisis are only recently becoming available, most of these studies simulate wealth losses using pre-crisis wealth holdings and national price indices. Bosworth and Smart (2009) find that, on average, US households aged over 50 lost nearly a fifth of their net wealth. Banks, Crawford and Tetlow (2010) consider UK households and estimate that, for older households, average declines in wealth arising from the crisis would have been relatively small as a share of either gross or net wealth, of the order of around 5 per cent. They have limited data on individual characteristics, however, and so cannot describe

what types of individuals would have been more or less affected by such losses. Johnson, Soto and Zedlewski (2008) use US data on wealth in the period covered by the financial crisis, and consider the losses in retirement accounts between September 2007 and September 2008. They find that the total funds accumulated fell by 18.3 per cent, with the median accumulated retirement account for households aged 50 and over in 2008 being around the level it was in 2005.

The structure of this paper is as follows. Section II describes the data used in this study and how we estimate the effect of the asset price changes associated with the financial crisis on the wealth of those aged 50 and over in England. Section III documents these potential wealth shocks, while Section IV describes how changes in expenditures and expectations might be associated with changes in wealth. Section V concludes.

II. Data and methods

1. The English Longitudinal Study of Ageing

The data used to document the potential effects of the financial crisis on older households are taken from the English Longitudinal Study of Ageing (ELSA) – a longitudinal biennial data set that is broadly representative of the household population of England aged 50 and over. ELSA is uniquely placed to provide the required data for this study for two main reasons. The first is the breadth and detail of the data it contains. The second is the timing of the survey.

The ELSA survey collects a substantial amount of detail on the components of financial and property wealth held by individuals and households. It also collects information on private pension scheme membership and sufficient detail on individuals' private pension schemes to enable likely future pension income to be estimated for those not yet in receipt of it. The present discounted value of these pension income streams from retirement to death can then be estimated as a measure of private pension wealth. State pension wealth is also estimated, based on individuals' reported current and past labour market behaviour along with various assumptions about past and future behaviour.¹

In addition to data on wealth, ELSA also collects quantitative information on individuals' expectations of the future using questions that ask the 'per cent chance' of various events occurring. These questions have been validated cross-sectionally and longitudinally both within ELSA and in other studies.² We consider individuals' expectations in two areas that represent

¹The methodology used to estimate private and state pension wealth for ELSA respondents is described in detail in Crawford (2012).

²See, for example, Hurd and McGarry (2002) and Emmerson and Tetlow (2006).

different margins along which older individuals may respond to wealth losses arising from the financial crisis. The first area we consider is bequests. Individuals are first asked what the chance is that they will leave an inheritance totalling £50,000 or more; then those individuals who stated a 0 per cent chance are asked what the chance is that they will leave any inheritance, whilst those who stated a positive probability are asked what the chance is that they will leave an inheritance totalling £150,000 or more. As it turns out, 85 per cent of the ELSA sample give a positive probability of leaving an inheritance of £50,000 or more and so we focus only on the question relating to bequests of £150,000 or more. The second area considered is the adequacy of resources. ELSA respondents are asked what the chances are that, at some point in the future, they will not have enough financial resources to meet their needs.

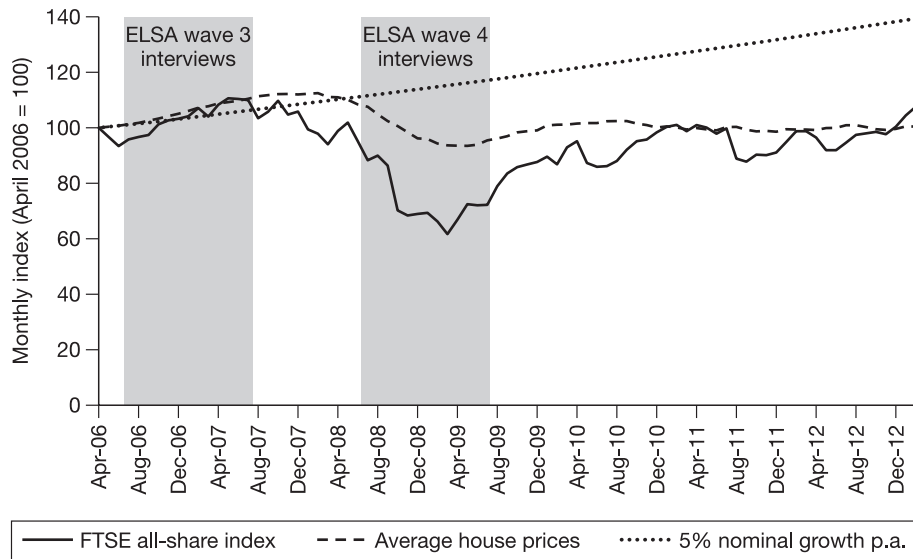
The final tranche of ELSA data that we make use of relates to consumption expenditures. In each wave of ELSA, households are asked about their monthly spending on takeaways and meals out ('food out') and their expenditure on clothes in the last four weeks ('clothes'). These are areas of semi-luxury expenditure, which households might be expected to adjust in light of a wealth shock. Expenditure data in ELSA are collected in a two-stage process: respondents are first asked to report a spending amount; then any respondent who either refuses or does not know the amount is routed into a series of questions designed to elicit an interval in which their spending lies. Expenditure is then imputed for these individuals (using a hotdecking procedure that conditions on age and household type³) and all expenditure figures are converted into annual amounts.

With respect to timing, ELSA was in the field throughout the period of the financial crisis, collecting its fourth wave of data over the period June 2008 to July 2009. The third wave of data, collected two years earlier in 2006–07, allows a directly comparable pre-crisis baseline for the same individuals. The timing of the ELSA surveys with respect to movements in UK asset prices is illustrated in Figure 1.

That ELSA was in the field during 2008–09 is advantageous in that it means those interviewed in the first half of the fieldwork period (before December 2008) will have experienced smaller asset price changes – and therefore a smaller wealth shock – between their 2006–07 and 2008–09 interviews than those interviewed in the latter half of the fieldwork period (December 2008 onwards). Comparing changes in expenditures and expectations over this period between these two groups of individuals can

³For details, see http://www.esds.ac.uk/doc/5050/mrdoc/pdf/5050_financial_derived_variables_and_imputations_procedures.pdf.

FIGURE 1
Change in asset prices since April 2006



therefore give us some indication as to how these changes might be associated with the wealth shocks experienced.⁴

When talking about wealth shocks, we are measuring them by the change in the nominal value of individuals' assets over the period of the financial crisis. Figure 1 suggests that, on that basis, there was a significant shock to wealth between 2007 and 2009. Our estimates provide evidence on the distribution of nominal changes in wealth over this period.

While asset prices may have recovered to their 2006 levels by 2011, this would still leave the value of assets below what individuals would have expected had they been anticipating any nominal growth in their value. For illustration, Figure 1 therefore also shows how movements in asset prices compare with an average 5 per cent a year nominal growth. This highlights that, to the extent that individuals were expecting an increase in asset values over time, we will be understating the shock to their wealth in this paper. Ideally, we would incorporate individual- (or group-) level data on expected asset returns over this period but, to the best of our knowledge, such information does not exist.

The supplementary data on asset price changes since 2006 that we use include: a monthly FTSE all-share index; the Land Registry monthly regional and national house price indices, which use sales data collected on

⁴The ELSA survey design was for the timing of an individual's first interview to take place at random during the fieldwork period, with subsequent interviews occurring approximately every two years thereafter.

all residential housing transactions in England (and Wales) to calculate indices based on repeat sales of property; and the FTSE Pension DCisions index, an index of total fund return (in other words, it assumes that any dividends are reinvested) that reflects the asset allocation decisions made by leading DC pension plans in their default investment strategies.

2. Measuring wealth shocks

We measure the wealth shocks older individuals experienced through the financial crisis in two ways. First, we simulate the change that the financial crisis caused to wealth holdings using data on pre-crisis wealth holdings and aggregate asset price changes. Second, we have changes in directly reported wealth between the third and fourth waves of ELSA.

To simulate wealth changes, we divide individual i 's household wealth as reported in 2006–07 into five broad categories, adjust each of these components of wealth (A_k) by the change in a relevant aggregate price index (I_k) between an individual's month of interview in 2006–07 (denoted by the subscript ' $i:(06-07)$ ') and May 2007, and then multiply this resulting wealth by the percentage change in I_k between May 2007 and March 2009 (these months correspond to the peak and trough of our FTSE all-share index), as described in equation (1). We refer to this as the 'simulated peak-to-trough' wealth change ($\Delta_{PT}\hat{W}_i$). The components of wealth and relevant price indices are detailed in Table 1.

TABLE 1
Wealth categories and assumed relevant price indices

k	Wealth category (A_k)	Includes:	Assumed price index (I_k)
	<i>FTSE-exposed</i>		
1.	Investments	Investment ISAs (share ISAs and life insurance ISAs), premium bonds, National Savings accounts, PEPs, shares, trusts, bonds, gilts	FTSE all-share index
2.	DC pension	Unannuitised DC pension funds	FTSE DCisions index
	<i>Property</i>		
3.	Primary housing	Gross value of an individual's main home	Regional house price index
4.	Other property	Net value of other property	England and Wales average house price index
5.	<i>Safe</i>	Current accounts, savings accounts, cash ISAs, TESSAs, physical wealth, current DB pensions, retained DB pensions, pensions in receipt, state pensions, debts (including mortgages)	Constant

$$(1) \quad \Delta_{PT} \hat{W}_i = \sum_{k=1}^5 A_{k,i} \left(\frac{I_{k,i:May07}}{I_{k,i:(06-07)}} \right) \left(\frac{I_{k,i:Mar09}}{I_{k,i:May07}} - 1 \right)$$

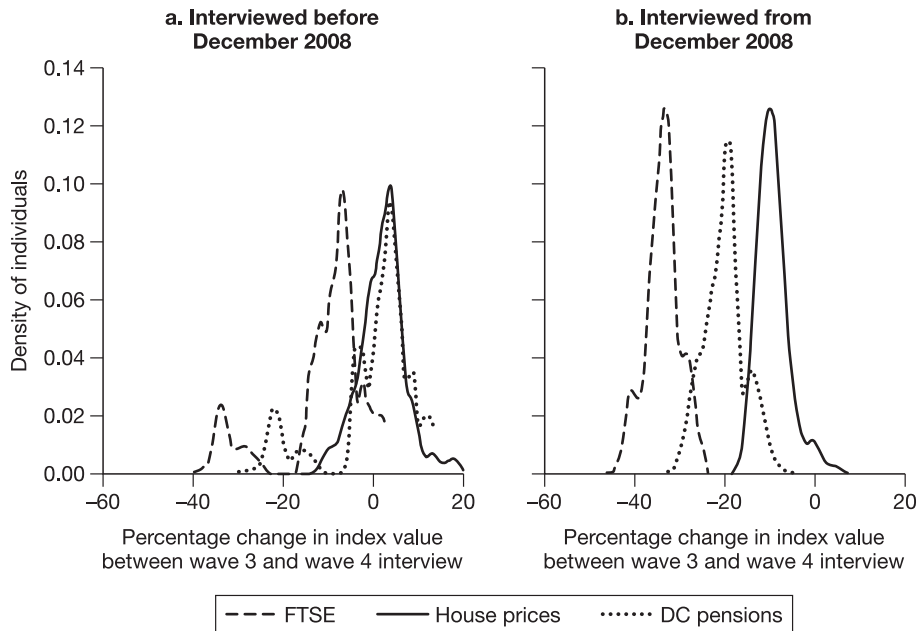
When we go on to consider the changes in expenditures and expectations, our data are on the change in the reported levels of these between an individual's 2006–07 interview and their 2008–09 interview. To be consistent with this, we therefore also simulate individual i 's household wealth change over the same period ($\Delta \hat{W}_i$), by using their 2006–07 wealth holdings (A_k) and adjusting these by the percentage change in a relevant aggregate price index (I_k) between the month of their 2006–07 interview and the month of their 2008–09 interview, denoted by the subscript ' $i:(08-09)$ ':

$$(2) \quad \Delta \hat{W}_i = \sum_{k=1}^5 A_{k,i} \left(\frac{I_{k,i:(08-09)}}{I_{k,i:(06-07)}} - 1 \right).$$

The distribution of the individual-level index changes used in equation (2) is shown in Figure 2. The distributions of the change in the FTSE all-share and FTSE DCisions price indices arise from the distribution of

FIGURE 2

Distribution of individual-level index changes for the ELSA sample



Note: Sample is 4,046 individuals interviewed before December 2008 and 3,254 individuals interviewed from December 2008.

interview dates in 2006–07 and 2008–09, while the distribution of house price changes arises from the distribution of interview dates and the distribution of region of residence. Panel a relates to those interviewed in the first half of the 2008–09 fieldwork period, while panel b relates to those interviewed in the second half of it. The difference between the distributions in the two panels clearly indicates that those interviewed in the latter half of the 2008–09 fieldwork period had experienced greater asset price changes between their two interview dates than those interviewed in the first half.

Our second measure of wealth shocks is based on reported household wealth from each individual in 2006–07 and 2008–09. This alternative estimate of the effect of the financial crisis on wealth holdings between individual i 's interview dates (ΔW_i) is obtained simply by calculating the change in reported wealth:

$$(3) \quad \Delta W_i = \sum_{k=1}^5 (A_{k,i;(08-09)} - A_{k,i;(06-07)}) .$$

Simulated and reported wealth changes will differ for three broad reasons: planned behaviour, behavioural responses to the financial crisis and measurement error. First, even in the absence of unexpected shocks to asset prices, we would expect changes in wealth over the approximately two-year interval between interviews. People who are still working and preparing for retirement we would expect to be saving and accumulating wealth, and this effect could be large given the stage of the life cycle of those aged between 50 and retirement. On the other hand, people who are retired or no longer working are likely to be drawing down savings and consuming their wealth. In addition to these active changes in wealth, stocks of wealth would be experiencing passive changes in value due to expected changes in asset prices.

Second, individuals who experience a wealth or income shock from the financial crisis or the associated recession are likely to respond in some way. For example, those who have experienced a negative shock to their DC pension fund wealth may opt to save more in order to make up the loss they have experienced and restore their pension resources. In this case, the change in reported wealth would understate the negative shock to wealth holdings experienced.

Finally, *both* the reported and simulated changes in wealth will contain measurement error (though of different types). Reporting detailed information on wealth is a challenging task for many ELSA respondents, and reported wealth information certainly contains reporting error. Moreover, where respondents did not know or refused an answer to a question about their wealth holdings, they were routed into 'bracketing' questions, and the relevant wealth was imputed from within the range given, thus adding to the

measurement error. Moreover, to the extent that measurement error in reported wealth levels is not fully persistent (not least because imputation is done on a cross-sectional rather than a longitudinal basis), differencing the data (to give changes) will worsen the noise-to-signal ratio. The simulated wealth changes will differ from the true shock because of heterogeneity in returns stemming from fine differences in portfolio compositions that we do not capture. This is also a kind of measurement error.

It is worth emphasising again that neither the simulated wealth changes nor the changes in reported wealth are a fully accurate measure of the wealth shocks experienced by ELSA panel members through the financial crisis. Taken together, however, these two measures provide useful indications of the likely wealth shocks experienced by older individuals in England through the financial crisis.

III. The effect of the financial crisis on wealth holdings

1. Exposure to asset price changes

The effect of the financial crisis on the wealth holdings of older individuals will depend on how much wealth their households had and how exposed it was to the asset price changes that occurred over this period. By way of introduction, therefore, Table 2 describes the mean household wealth holdings of ELSA respondents in 2006–07, with the sample split according to the timing of an individual's interview in 2008–09.

The most important single component of wealth was primary housing wealth, which accounted for around 36 per cent of gross wealth. Individuals' total household wealth therefore would, in general, have been fairly exposed to movements in property prices. Private pension wealth was also very important, with the present discounted value of the future stream of pension income contributing nearly one-quarter of gross wealth. However, the vast majority of this was held in the form of DB pensions or pensions already in receipt and therefore would not have been exposed to movements in asset prices. State pension wealth is also relatively important, on average contributing nearly a fifth to gross wealth, and (while subject to future political risk) this wealth is insulated from movements in asset prices. Financial assets are somewhat less important among this age group, with only around 5 per cent of gross wealth held in savings and around 6–7 per cent of gross wealth held in investments. Finally, debts among this demographic are also low, with mortgage debts on average across the sample of less than 2 per cent of gross wealth and negligible non-mortgage debts.

This description of average wealth holdings suggests that, on average, older individuals are not particularly exposed to movements in the prices of stocks and shares, since only a small proportion of household wealth is held

(explicitly or implicitly) in these forms, but they are quite considerably exposed to movements in house prices. The inclusion of the present discounted value of future pension income streams in wealth, a particular advance of our paper in the UK literature, has a considerable impact on this picture. On average, total wealth from state and private pensions contributes around 43 per cent to total gross household wealth, of which only the small proportion held in DC pensions is exposed to asset price changes. If we had not been able to take account of pension wealth, then investments would have accounted for 11–12 per cent of gross wealth holdings rather than 6–7 per cent and property would have accounted for around 70 per cent of wealth rather than 40 per cent, which would have implied that individuals were much more exposed to asset price changes than in fact they were.

TABLE 2

Average household wealth holdings among the ELSA sample, wave 3 (2006–07)

	Wave 4 interview before December 2008		Wave 4 interview from December 2008 onwards	
	<i>Mean (£)</i>	<i>Percentage of gross wealth</i>	<i>Mean (£)</i>	<i>Percentage of gross wealth</i>
Total gross household wealth	552,096	100.0	617,835	100.0
FTSE-exposed wealth	56,774	10.3	65,082	10.5
<i>of which:</i>				
Investments	37,871	6.9	38,581	6.2
DC pension wealth	18,903	3.4	26,501	4.3
Property wealth	222,857	40.4	248,173	40.2
<i>of which:</i>				
Primary housing wealth	201,422	36.5	224,504	36.3
Other property wealth	21,436	3.9	23,668	3.8
‘Safe’ wealth	272,464	49.4	304,580	49.3
<i>of which:</i>				
State pension wealth	109,374	19.8	118,735	19.2
Private pension wealth	110,160	20.0	116,991	18.9
Savings	29,945	5.4	33,120	5.4
Physical wealth	22,985	4.2	35,734	5.8
Debts	10,095	1.8	13,808	2.2
<i>of which:</i>				
Mortgage debts	8,392	1.5	11,813	1.9
Non-mortgage debts	1,703	0.3	1,995	0.3
Total net household wealth	542,001	98.2	604,027	97.8

Note: Sample is 4,046 individuals interviewed before December 2008 and 3,254 individuals interviewed from December 2008. Wealth is at the household level (unequalised).

Since there is likely to be much heterogeneity in the composition of wealth across different individuals, Table A1 in the online appendix⁵ provides a breakdown of the composition of wealth by various characteristics: age group, education, household structure, wealth quintile and labour force status. The proportions of property wealth in total wealth are quite stable across quintiles of total wealth, except for the lowest quintile where it represents a notably smaller share. State pension wealth is of steadily decreasing importance across higher wealth quintiles. FTSE-exposed wealth (investments and DC pensions) comprises a larger share of total wealth in the highest wealth quintile, for those currently working, for those aged 50 to 59 and for those in the mid and high education groups. This suggests that those whose household wealth was proportionately more exposed to the financial crisis were younger individuals, those still working, those with higher levels of education and those with the highest levels of wealth.

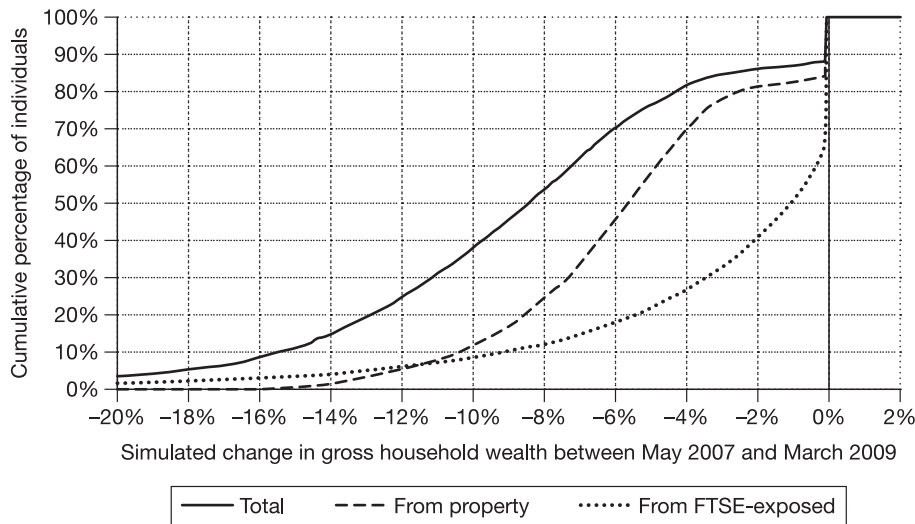
Compared with similarly-aged households in the US, households in England have slightly different exposure to asset price changes since they hold a smaller proportion of their total wealth in stocks but a larger proportion in property. For example, Gustman, Steinmeier and Tabatabai (2010) calculate, using data from the Health and Retirement Study, that US households aged 53 to 58 in 2006 held 26.7 per cent of their wealth in their house and other real estate and 19.9 per cent of their wealth in DC pensions, Individual Retirement Accounts (IRAs) and stock holdings. These figures compare with 36.5 per cent in property and 11.5 per cent in DC pensions and investments among ELSA households aged 50 to 59 in 2006–07 (as shown in Table A1).

2. Simulated wealth changes

We now turn to the simulated peak-to-trough wealth changes, for an indication of how individuals' household wealth may have been affected by the financial crisis. Figure 3 displays the cumulative distribution of changes to total wealth, as well as the distributions of changes in wealth arising from FTSE-exposed wealth changes and property wealth changes separately (the remainder of wealth is 'safe' and assumed not to be affected by the financial crisis). The median simulated wealth change among the ELSA sample was a decline of over 8 per cent of total gross household wealth, while 38 per cent of the sample has a simulated fall of more than 10 per cent of total household wealth. The largest declines arise from property wealth: the median percentage fall in total wealth arising from changes in property wealth was nearly 6 per cent, compared with just 1 per cent from changes in FTSE-

⁵http://www.ifs.org.uk/docs/fsjun13_banksetal_appendix.pdf

FIGURE 3

Distribution of simulated peak-to-trough household wealth changes

exposed wealth. This is because although movements in house prices were smaller than movements in the price of shares and value of pension funds, older individuals have a far greater proportion of their total wealth invested in housing than in investments or unannuitised DC pension funds.

The difference in the shape of the distributions arises because of the different portfolio share distributions of property wealth and FTSE-exposed wealth. Nearly 30 per cent of individuals are in households with no FTSE-exposed wealth, and of those who do have such wealth, many hold a relatively small proportion of total gross wealth in that form (for example, nearly 30 per cent hold less than 2 per cent of gross wealth in FTSE-exposed assets). Therefore only just over 70 per cent of individuals are simulated to have any wealth loss from FTSE-exposed wealth, and relatively few are simulated to have large losses. By contrast, over 80 per cent of individuals are in households with property wealth, and of those who do have such wealth, virtually all hold a relatively large proportion of wealth in property (for example, only 10 per cent are in households holding less than 25 per cent of gross wealth in property). Therefore fewer individuals are simulated to have no wealth loss arising from property, and a much greater proportion of individuals are simulated to have larger wealth losses, of the order of 4–8 per cent, from property wealth.

Since the size of household wealth holdings and the composition of that wealth in terms of the types of assets held differ for individuals with different characteristics, simulated wealth changes will vary with individual

TABLE 3
*Mean simulated peak-to-trough household wealth changes,
 May 2007 to March 2009, by characteristics*

	Pounds			Percentage of gross wealth		
	<i>Total</i>	<i>FTSE- exposed</i>	<i>Property</i>	<i>Total</i>	<i>FTSE- exposed</i>	<i>Property</i>
All	-59,992	-26,666	-33,359	-10.3	-4.6	-5.7
Aged 50–59	-70,765	-34,321	-36,284	-10.1	-4.9	-5.2
Aged 60–69	-65,306	-29,517	-35,805	-10.0	-4.5	-5.5
Aged 70+	-41,230	-14,493	-26,960	-11.4	-4.0	-7.4
Low education	-31,788	-10,117	-21,778	-9.3	-3.0	-6.4
Mid education	-62,694	-28,473	-34,421	-10.3	-4.7	-5.7
High education	-91,308	-44,748	-46,257	-10.8	-5.3	-5.5
Least wealthy	-9,400	-4,607	-5,007	-4.6	-2.3	-2.5
Quintile 2	-26,019	-7,466	-18,500	-7.7	-2.2	-5.5
Quintile 3	-41,185	-12,854	-28,227	-8.7	-2.7	-6.0
Quintile 4	-62,339	-22,317	-40,083	-9.9	-3.6	-6.4
Wealthiest	-162,465	-86,217	-75,585	-12.9	-6.8	-6.0
Single man	-35,415	-15,858	-19,562	-10.7	-4.8	-5.9
Single woman	-32,668	-12,254	-20,404	-12.6	-4.7	-7.9
Couple/extended	-70,079	-31,706	-38,398	-10.1	-4.6	-5.5
Working	-75,117	-35,377	-39,624	-10.2	-4.8	-5.4
Not working, retired	-50,280	-20,685	-29,727	-10.5	-4.3	-6.2
Not working, not retired	-45,622	-19,695	-26,061	-10.4	-4.5	-5.9

Note: Sample is 7,300 individuals. Wealth is at the household level (unequalised). Wealth changes as a percentage of gross wealth are calculated at the group level as mean wealth change in pounds divided by mean gross wealth in 2006–07.

characteristics as well. Table 3 describes these patterns. Across all individuals, the mean change in total household wealth was a decline of £60,000, comprising a £27,000 fall from FTSE-exposed wealth and a £33,000 fall from property wealth. This equates to a mean decline of 10.3 per cent of total gross wealth, of which 4.6 percentage points arise from the falls to FTSE-exposed wealth and 5.7 percentage points from the falls to property wealth. Perhaps unsurprisingly, household wealth declines are much larger, even as a fraction of total wealth, among higher wealth quintiles than among lower wealth quintiles. This arises because wealthier households typically hold a larger proportion of their total wealth in FTSE-exposed assets, particularly investments. Differences in simulated wealth declines are found to be much less variable by the other characteristics we examine. We find that simulated wealth declines are greater, on average, among those with the highest levels of education. In addition, simulated declines due to FTSE-exposed wealth in particular are higher at lower ages,

reflecting in large part the fact that, on average, fewer individuals at younger ages have annuitised their DC pension wealth.

As discussed previously, these estimates are the change in wealth induced by the asset price movements seen over the crisis. The true shock experienced by an individual will depend on how these wealth changes compare with what they expected. For example, if all individuals expected the nominal price of exposed assets to increase at a rate of 5 per cent per annum between May 2007 and March 2009, then the mean wealth shock over this period would have been a decline of 15.2 per cent of 2006–07 gross wealth rather than the 10.3 per cent described in Table 3. Simulating the wealth shock between May 2007 and February 2013 (the latest month for which asset price data are available), the mean decline in nominal wealth is around 4 per cent of 2006–07 gross wealth. Again, the size of shock this represents depends on individual expectations: if 5 per cent p.a. nominal growth in the price of exposed assets had been expected, then the mean wealth shock would have been a decline of 21 per cent of 2006–07 gross wealth.

3. Wealth changes between interview dates

We next describe the simulated changes in household wealth between an individual's two interview dates and the change in their reported wealth. This will then allow us to discuss changes in expenditures, expectations and both measures of wealth over a consistent time period.

The top half of Table 4 describes the distribution of simulated wealth changes between 2006–07 and 2008–09, with the sample of individuals split according to whether they were interviewed in the first or second half of the 2008–09 fieldwork period. Unsurprisingly, given the timeline described in Figure 1 and the distribution of individual-level index changes described in Figure 2, the simulated declines in wealth are greater among those interviewed later. The median simulated change in total gross household wealth among those interviewed in the first half of the period was an increase of 0.2 per cent, compared with a median fall of 5.3 per cent among those interviewed in the second half. Of those interviewed before December 2008, only 10 per cent are simulated to have seen a decline in their gross household wealth of more than 2.7 per cent, while of those interviewed in December 2008 or later, 75 per cent are estimated to have seen a decline of more than 3.0 per cent of their gross household wealth. The first half of the sample therefore represents a group whose wealth had been largely unaffected by the financial crisis by the time of their 2008–09 interview, whilst the second half of the sample are simulated to have experienced sizeable declines in wealth by the time they were interviewed.

TABLE 4
*Simulated and reported wealth changes between 2006–07 and 2008–09,
 by timing of 2008–09 interview*

	Change in total gross household wealth, 2006–07 to 2008–09				
	10 th percentile	25 th percentile	Median	75 th percentile	90 th percentile
Simulated ($\Delta \hat{W}_i$)					
<i>Interviewed before Dec 08</i>					
Total	-2.7%	-0.6%	0.2%	1.9%	3.8%
Property	-1.5%	0.0%	0.4%	2.0%	3.8%
FTSE-exposed	-1.5%	-0.5%	0.0%	0.0%	0.1%
‘Safe’	0.0%	0.0%	0.0%	0.0%	0.0%
<i>Interviewed from Dec 08</i>					
Total	-10.6%	-7.9%	-5.3%	-3.0%	0.0%
Property	-7.1%	-5.2%	-3.5%	-1.7%	0.0%
FTSE-exposed	-6.0%	-2.8%	-0.7%	0.0%	0.0%
‘Safe’	0.0%	0.0%	0.0%	0.0%	0.0%
Reported (ΔW_i)					
<i>Interviewed before Dec 08</i>					
Total	-24.8%	-7.6%	1.9%	15.8%	45.6%
Property	-12.3%	-2.9%	0.0%	4.5%	14.6%
FTSE-exposed	-8.9%	-2.0%	0.0%	0.9%	7.8%
‘Safe’	-11.4%	-2.4%	1.1%	8.9%	25.5%
<i>Interviewed from Dec 08</i>					
Total	-29.1%	-11.7%	0.0%	14.1%	45.2%
Property	-15.7%	-6.5%	0.0%	0.8%	13.4%
FTSE-exposed	-9.9%	-2.5%	0.0%	1.2%	8.6%
‘Safe’	-14.0%	-3.1%	1.1%	9.0%	25.5%

Note: The value of ‘safe’ assets is assumed to be unchanged when simulating $\Delta \hat{W}_i$. Sample is 7,300 individuals. Wealth is at the household level (unequalised). Wealth changes expressed as a percentage of 2006–07 total gross wealth are calculated at the household level.

Table 4 also presents the distribution of the change in reported household wealth among these samples of individuals. This distribution is much broader than that of the simulated wealth changes. For example, even among those interviewed before December 2008, half of individuals have an increase in reported wealth of more than 1.9 per cent (compared with a quarter of individuals according to the simulated wealth changes), with a quarter calculated to have seen an increase of 15.8 per cent or more and a quarter calculated to have seen a reduction in wealth of 7.6 per cent or more. It is also important to note that this greater dispersion is not entirely, or even largely, driven by changes in ‘safe’ wealth: there is greater dispersion in all categories of wealth.

Such differences are to be expected since changes in reported wealth will capture individuals' active accumulation and decumulation decisions. For example, those still working may be accumulating resources, particularly pension wealth, while those who are retired will be drawing down their wealth. Given the stage of the life cycle at which many of the sample are observed, accumulation behaviour might be expected to be particularly prominent. In addition, changes in an individual's portfolio composition will show up in changes in reported wealth. For example, if an individual downsizes their house, then their property wealth will fall while their FTSE-exposed or 'safe' wealth (depending on what is done with the net proceeds) will increase; if an individual annuitises their DC pension fund, then their FTSE-exposed wealth will fall while their 'safe' wealth will increase.

IV. Changes in expectations and expenditure

We now investigate changes in expenditures and expectations of the future, bearing in mind that the second half of the sample were more adversely affected by asset price changes between their interview dates in 2006–07 and 2008–09 than the first half.

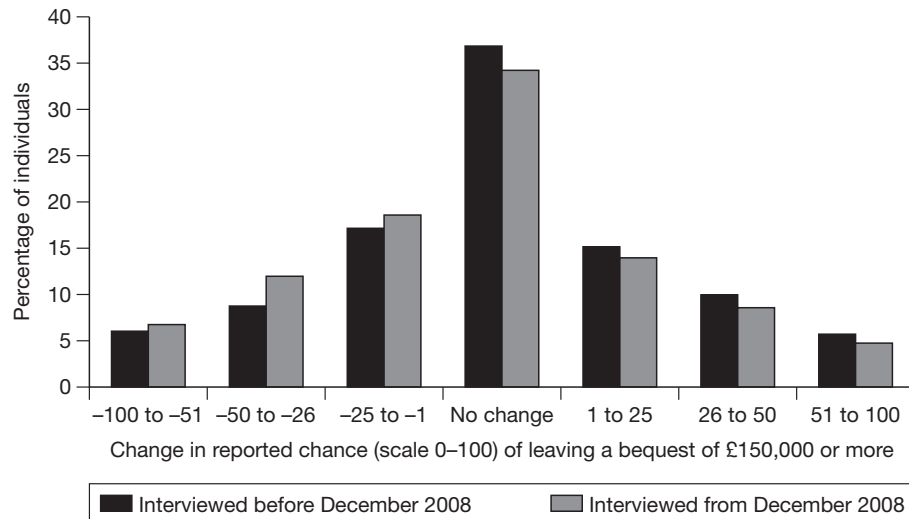
The first issue we consider is individuals' expected chance of leaving a bequest of £150,000 or more. Expectations of leaving such a bequest are high among the ELSA sample – in 2006–07, the median expected chance of leaving such a bequest was 80 per cent. This is perhaps not surprising, since individuals aged 50 and over are at a stage in the life cycle when they tend to have accumulated significant sums of wealth: as can be seen from Table A1 in the appendix,⁶ even among individuals in the lowest wealth quintile, mean gross household wealth excluding state pension wealth was over £100,000.

Figure 4 shows the distribution of changes in individuals' reported expectation of leaving £150,000 or more as a bequest. The most common occurrence is for individuals not to change their expectation, but most individuals do revise their expectation (some substantially) and the symmetry of the distribution is striking. There is a more noticeable deterioration in expectations, however, among those interviewed in the latter half of the fieldwork period (among whom 38 per cent reduced their expectation and 28 per cent increased their expectation) than among those interviewed in the first half (among whom 32 per cent reduced their expectation and 31 per cent increased their expectation). The median change in expectation is zero in both cases, but the mean change in expectation among those interviewed in the latter half of the fieldwork period was a reduction of 3.5 percentage points, compared with a mean reduction of 0.2

⁶ Available at http://www.ifs.org.uk/docs/fsjun13_banksetal_appendix.pdf.

FIGURE 4

Distribution of changes in reported chance of leaving a bequest of £150,000 or more



Note: Sample is 5,747 individuals. Changes are between 2006–07 and 2008–09.

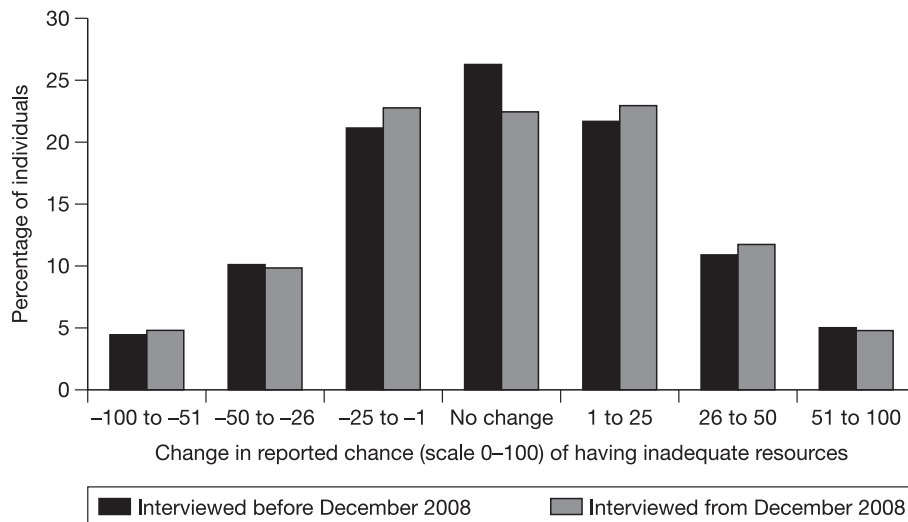
percentage points among those interviewed in the first half. Since the former individuals also experienced a greater decline in their wealth over this period, this could indicate that deteriorations in wealth impact upon expected bequests.

The second outcome we consider is individuals' expectations of not having enough financial resources to meet their needs at some point in the future. In general, ELSA respondents were reasonably optimistic that such an eventuality was unlikely: in 2006–07, the median expected chance of having inadequate resources was only 30 per cent.

Figure 5 shows the distribution of changes in individuals' reported expectations of having inadequate resources in future. Note that this question is about a negative event (whereas the bequest question is framed the opposite way round), and so an improvement in circumstances would be reflected in a decline in expectations. Again, the most common outcome is for an individual not to change their reported expectation (which is true of a quarter of individuals), although most people do revise their expectation (and some revise it substantially). The distribution of changes is again very symmetric: the proportion of individuals increasing their expected chance of inadequacy is only 2 percentage points higher than the proportion of individuals reducing their reported expectation, and this is no different between those interviewed in the first half of the fieldwork period and those interviewed in the latter half. The mean change in expectation of having

FIGURE 5

Distribution of changes in reported chance of having inadequate financial resources to meet needs at some point in the future



Note: Sample is 7,067 individuals. Changes are between 2006-07 and 2008-09.

inadequate resources is an increase of 0.7 percentage points among those interviewed in the first half of the fieldwork period and an increase of 1.0 percentage point among those interviewed in the latter half.

At first glance, it might seem surprising that such an outcome does not appear to be influenced by wealth shocks. However, it is worth bearing in mind that the interpretation of this question by ELSA respondents is much more subjective than, say, for the question on expected bequests. Some individuals may take account of state means-tested benefits in their financial resources, while others may interpret a reliance on means-tested benefits as having inadequate resources. Individuals could interpret their needs as being anything from the bare necessities to a standard of living similar to that which they currently enjoy (or even would like to enjoy). Given the generally low expected chances of having inadequate resources and the negative correlation between such expectations and wealth,⁷ it seems likely that the majority of individuals interpret this question more towards the absolute poverty end of the spectrum, in which case the financial crisis and associated wealth shocks would be less expected to have an impact. As described previously, the asset price changes are simulated to have had the largest effects on those with the largest and most exposed stocks of wealth. Since (almost by definition) these are wealthy individuals, losing a

⁷See Banks et al. (2005).

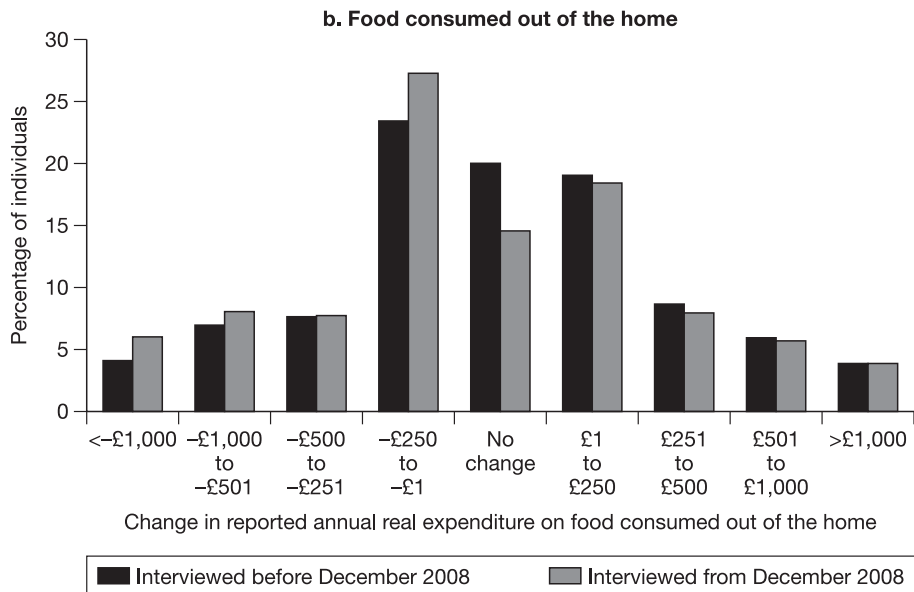
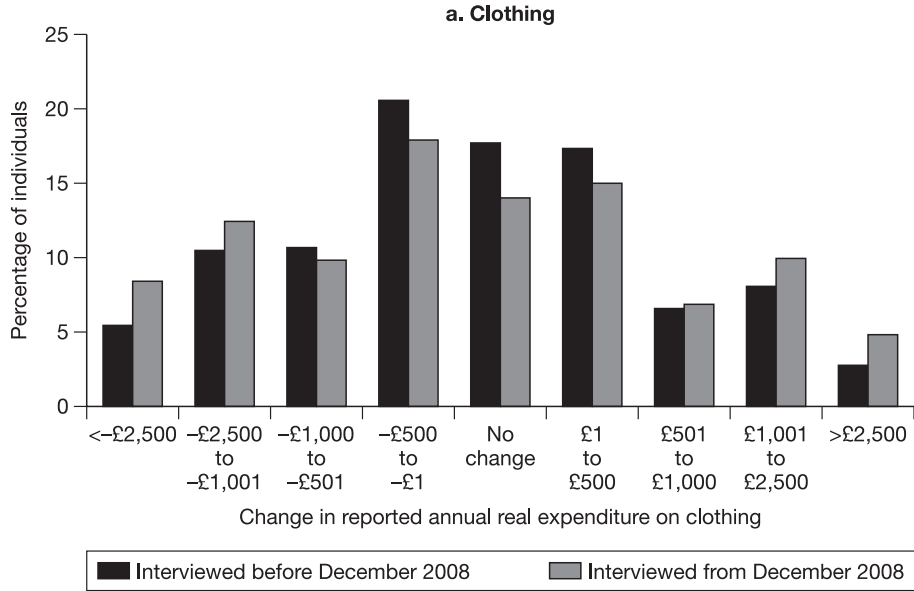
proportion of this wealth might have at most only limited impact on their expectations of being in poverty in future.

Finally, we consider changes in reported levels of real expenditure. The ELSA survey does not ask respondents about all areas of expenditure in all waves, and therefore there is no measure of total expenditure in the data. However, following Browning and Crossley (2009), we might expect spending on durables and semi-durables to be relatively more responsive to a household's financial circumstances and so we investigate spending on clothing. In addition, we consider spending on food consumed out of the home ('food out'), an area of semi-luxury spending that might be relatively more responsive to financial circumstances. Data on both spending on clothing and spending on food out are collected in the 2006–07 and 2008–09 waves of ELSA.

We adjust the reported expenditure figures using the change in the average price of clothing and of food out between an individual's ELSA interview dates in order to obtain a measure of real expenditure. The distributions of changes in individuals' reported real household spending on these areas are shown in Figure 6. In terms of real spending on clothing (panel a), a greater proportion of individuals were in households that reduced their spending between 2006–07 and 2008–09 than in households that increased it. This is true both of those interviewed in the first half of the fieldwork period (among whom 47 per cent were in households that reduced their real expenditure and 35 per cent were in households that increased it) and of those interviewed in the latter half (among whom 49 per cent were in households that reduced their real expenditure and 37 per cent were in households that increased it). The median change in reported real expenditure is zero in both cases, but the mean change in annualised expenditure on clothing was a reduction of £148 among those interviewed in the first half of the fieldwork period and a reduction of £230 among those interviewed in the second half.

In terms of real spending on food consumed out of the home (panel b), there is a greater difference between the two subsamples. Among those interviewed before December 2008, 42 per cent were in households that reduced their real expenditure and 38 per cent were in households that increased it, while among those interviewed in December 2008 or later, 49 per cent were in households that reduced their real expenditure and 36 per cent were in households that increased it. The mean change in annualised real expenditure on food out was a reduction of £74 among those interviewed in the second half of the fieldwork period, compared with a reduction of just £16 among those interviewed in the first half (once again, the median change in both cases is zero).

FIGURE 6
Distribution of changes in reported expenditure



Note: Sample is 3,985 individuals for clothing and 4,000 for food out. Expenditure is collected at the household level. Changes are between 2006–07 and 2008–09.

These results are consistent with the hypothesis that negative wealth shocks result in a reduction in spending on such semi-luxury goods. However, in addition, the average declines in real spending on these areas among those interviewed before the large asset price falls suggest that there may be other influences on spending changes than simply wealth shocks. These could just be time trends in expenditure, if real spending on these areas is on a declining trend, or could be indicative of anticipation effects or other uncertainty associated with the financial crisis that led some people to scale back their spending even before their wealth had been affected by falling asset prices.

V. Conclusions

The financial crisis of 2008–09, and the associated substantial falls in asset prices that occurred over that period, is likely to become viewed as one of the most important, and certainly one of the most studied, macroeconomic events in recent history. As individual- and household-level data covering that period and the immediate years following become available, we can begin to say more about the precise nature of the crisis, who was affected and how. This in turn is a key first step when seeking to understand people's reactions to the macroeconomic fluctuations and any longer-term consequences for other economic outcomes and behaviours.

A natural population group to study, and the one that we look at here, is people just approaching retirement or recently retired. These individuals have, on average, the largest stocks of accrued FTSE-exposed wealth and thus had the most to lose from the asset price fluctuations. In addition, with many having either left the labour force already or at least having only relatively few years of work remaining, the potential for future labour supply adjustments to offset these losses is limited. They are therefore a group of some interest to policymakers.

In this paper, we have calculated and described the size and distribution of the financial losses incurred by the population aged 50 and over in England, taking into account their entire portfolio of household wealth including public and private pensions. The losses were substantial. On the eve of the crisis, these older individuals held around one-third of their total wealth in housing and a further 10 per cent in FTSE-exposed assets such as investments and unannuitised defined contribution (DC) pensions. Given this exposure, even relative to a pessimistic counterfactual of no expected nominal change in asset values over the period May 2007 to March 2009, we simulate that the median loss among these individuals was around 8 per cent of total household gross wealth and that nearly 40 per cent of them were in households that lost more than 10 per cent.

But these average losses are perhaps not as great, when expressed as proportions of total wealth, as was suggested by the discussion at the time. Importantly, much of the wealth of older households is held in forms that were not directly affected: state pensions, private defined benefit (DB) plans or private pensions that have already been annuitised. One important contribution of our study has been to calculate these elements of wealth for the older population in England. Only by taking into account such wealth can we get a full and accurate picture of the proportionate value of the wealth losses incurred.

Our analysis also has two further dimensions. First, we have documented the distribution of the losses incurred within the population aged 50 and over and shown systematic variation, both in absolute values and in proportionate terms, as a result of variations in wealth levels and wealth portfolios across groups. When studying the financial behaviour of older households, it is important to remember the level of inequality in wealth at older ages, and the systematic correlation between wealth levels and portfolio shares in different types of assets (particularly when one includes state pension wealth). It is only recently that we have been able to say much that is substantive on these in England or the UK.

A second important dimension of our analysis has been to begin to look at the potential consequences of asset price changes during the crisis for a small number of financial behaviours and expectations. We have investigated changes in reported consumption expenditure and expectations among individuals in ELSA between their 2006–07 and 2008–09 interviews, and compared two groups with different wealth shocks, where the difference in size of the shocks was purely a result of when each set of individuals happen to have been interviewed. We find some evidence that those who experienced greater wealth shocks were more likely to reduce their expected chance of leaving a bequest of at least £150,000 and that they were more likely to reduce consumption expenditures on clothes and food consumed out of the home.

Of course, whilst illuminating in its own right, such analysis is only a first step on the road to a deeper understanding of the effects of the crisis; more analysis will be possible as future data come on stream. Subsequent research is needed to look at longer-term changes and outcomes in the dimensions we consider here, such as the persistence in expectations changes, the extent to which bequests actually do change in future years and the degree to which consumption levels remain low or even reduce further.

Such research will also be able to explore issues surrounding changing perceptions of the severity of the financial crisis. What we have picked up here are the ‘first-round’ or short-term effects, measured just after asset prices had fallen. At that point, individuals may have been unsure about the degree to which the fluctuations were to be transitory or permanent, and our

findings of relatively small changes in intended bequests or consumption may reflect this. The subsequent deepening of the financial crisis and its knock-on effects on other areas of both government policy and the international macroeconomy more generally will presumably have led to an increased perception of permanence that would cause further adjustments of expectations and behaviours. Future information on wealth, consumption and expectations, both in England and in other countries, will offer substantial research possibilities for those looking to study this effect and to understand the consequences of wealth and asset price shocks more generally.

References

- Banks, J., Blundell, R. and Smith, J. (2003), 'Understanding differences in household financial wealth between the United States and Great Britain', *Journal of Human Resources*, vol. 38, pp. 241–79.
- , Crawford, R. and Tetlow, G. (2010), *What Does the Distribution of Wealth Tell Us about Future Retirement Resources?*, DWP Research Report no. 665, London: Department for Work and Pensions.
- , Emmerson, C., Oldfield, Z. and Tetlow, G. (2005), *Prepared for Retirement? The Adequacy and Distribution of Retirement Resources in England*, IFS Report no. 67, London: Institute for Fiscal Studies.
- Bosworth, B. and Smart, R. (2009), 'The wealth of older Americans and the sub-prime debacle', Center for Retirement Research at Boston College, Working Paper no. 2009-21.
- Browning, M. and Crossley, T. (2009), 'Shocks, stocks and socks: smoothing consumption over a temporary income loss', *Journal of the European Economic Association*, vol. 7, pp. 1169–92.
- Coile, C. and Levine, P. (2010), 'Recessions, reeling markets, and retiree well-being', National Bureau of Economic Research (NBER), Working Paper no. 16066.
- Crawford, R. (2012), 'Pension wealth derived variables: methodology', Institute for Fiscal Studies (IFS), mimeo.
- Emmerson, C. and Tetlow, G. (2006), 'Labour market transitions', in J. Banks, E. Breeze, C. Lessof and J. Nazroo (eds), *Retirement, Health and Relationships of the Older Population in England: The 2004 English Longitudinal Study of Ageing (Wave 2)*, London: Institute for Fiscal Studies.
- Engen, E., Gale, W. and Uccello, C. (2005), 'Effects of stock market fluctuations on the adequacy of retirement wealth accumulation', *Review of Income and Wealth*, vol. 51, pp. 397–418.
- Gustman, A., Steinmeier, T. and Tabatabai, N. (2010), 'What the stock market decline means for the financial security and retirement choices of the near-retirement population', *Journal of Economic Perspectives*, vol. 24, no. 1, pp. 161–82.
- Hurd, M. and McGarry, K. (2002), 'The predictive validity of subjective probabilities of survival', *Economic Journal*, vol. 112, pp. 966–85.
- Johnson, R., Soto, M. and Zedlewski, S. (2008), *How Is the Economic Turmoil Affecting Older Americans?*, Washington DC: Urban Institute.