The long term impacts of financial capability: Evidence from the BHPS

Report prepared for The Consumer Financial Education Body

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About the Consumer Financial Education Body

The Consumer Financial Education Body (CFEB) is an independent body, responsible for helping people understand and manage their money better. We do this by giving unbiased information education and advice.

We provide free, impartial advice online and over the phone. We also offer face-to-face appointments in several priority areas across the UK, and from spring 2011, these will be available nationwide. Alongside this, we run strategic programmes that are targeted at helping people through critical stages and events in their lives. To reach people at the right time in the right place, we deliver these programmes in partnership with industry, government, consumer groups, professional bodies, voluntary organisations and the media.

About this publication

We commissioned this report to investigate whether your ability to manage your money well and take control of your finances at one point in time has an effect on your outcomes at some point in the future. That is, are there long-term benefits or costs associated with your level of financial capability?

The analysis is based on the British Household Panel Survey (BHPS). The survey offers a rich longitudinal dataset, and provides a unique opportunity to study the behaviour of individuals over time. The survey collects data on various aspects of people's lives and, for the purposes of this study, analyses the impact of a person's financial capability in 1991 on future outcomes; namely subsequent levels of financial capability, psychological wellbeing, employment status, lifestyle, household incomes and saving behaviour.

There are several aspects to being financially capable. CFEB's work is focused on five different domains of financial capability: making ends meet, keeping track of your finances, planning ahead, choosing financial products, and staying informed about financial matters. It is important to note that given the data available in the BHPS, the definition of 'financial capability' used in this report corresponds most closely to the 'making ends meet' domain, and is therefore narrower than the definition used by CFEB more widely.

About the author

Mark Taylor is a reader at the Institute for Social and Economic Research at the University of Essex. His research interests include the causes and consequences of employment status changes and residential mobility, wage structure and determination, and the determinants of financial and psychological wellbeing. He has recently published in the Journal of the Royal Statistical Society, Economica, Labour Economics and Psychological Medicine.

Foreword

This research completes a jigsaw. Previous pieces have established the level of financial capability in the UK, the financial impact that losing a job, having a baby and other major life events can have, and the link between money management and mental health and well being.

This new analysis confirms that the consequences of managing money badly are felt for years and decades, not just days and months. Just as a period of unemployment can affect your financial and psychological wellbeing in years to come, the findings suggest that poor control of your money can leave a scar that lowers your income and continues to detract from your satisfaction with life even years later.

I would like to thank both the teams from the Institute for Social and Economic Research and my colleagues at CFEB for producing such an authoritative study, the conclusions of which make it even more clear to me that by offering free, unbiased money advice to help people make the right choices and get the most out of their money, CFEB can help improve the quality of their lives.

Tony Hobman

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1 Summary

1.1 Introduction

This report presents the analysis from the project 'The long term impacts of financial capability', which investigates whether a person's ability to manage and take control of their finances (their 'financial capability') at a particular point in time has an effect on a number of different outcomes at some point in the future – are there long-term benefits (costs) associated with financial capability (incapability)? We use data from the British Household Panel Survey (BHPS) to examine the extent to which people's financial capability in 1991 is associated with outcomes between 1996 and 2006, using a range of descriptive and multivariate statistical techniques that allow us to control for observed and unobserved characteristics of individuals and the households in which they live.

1.2 Data

This research uses individual-level data from the first sixteen waves of the British Household Panel Survey (BHPS), covering years 1991–2006. Every year the BHPS follows and interviews the same individuals, collecting information about their incomes, financial behaviour, labour market status, housing tenure and conditions, household composition, education, health, psychological wellbeing and many other aspects of people's lives. The BHPS is unique among British data sets in providing annual repeated measures for the same individuals (and for all individuals within their household) over a relatively long time period. Changes in people's lives can therefore be identified over a fifteen year period.

1.3 Constructing a measure of financial capability

We examine the degrees of association between the various indicators of financial capability that are available at all BHPS waves and construct an indicator of people's financial capability in 1991. Analysis of average inter-item and item-rest correlations indicate that a reliable and consistent financial capability measure can be constructed from variables capturing: people's perceived financial situation; whether their financial situation has worsened since the last year; whether they save from their current income; whether they have housing payment problems; whether the problems required borrowing; whether the problems required cutbacks; and whether or not they have been at least two months in housing payment arrears in the last 12 months. The FSA's Baseline Survey[1] identified five domains of financial capability. The measure of financial capability used in this report relates most directly to the making ends meet domain (with some aspects of planning ahead), rather than the keeping track, planning ahead, choosing products or staying informed aspects. We adjust the measure for household income so that a person's financial capability is independent of income.

Based on this measure, people with relatively high financial capability on average have good health, are older (aged 65 and above) with higher levels of education. They are in full-time work and do not have resident children, and own their home outright. In contrast, people with relatively low financial capability are more likely to have poor or very poor health, with no (or low) education and be in unemployment or economic inactivity. They live in households with dependent children, and have a mortgage or are social tenants.

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1   Financial Services Authority (2006) Levels of financial capability in the UK: Results of a baseline survey

1.4   Summarising the outcomes of interest

We explore the relationship between people's financial capability in 1991 and their financial capability, psychological wellbeing, labour market status, lifestyle, saving behaviour and household income in later years. Financial capability in later years is defined analogously to capability in 1991. We use people's GHQ scores, reported life satisfaction and whether or not they have a health problem relating to anxiety or depression as measures of psychological wellbeing. Their labour market status is captured using three variables indicating whether or not they are in employment, whether or not they are in full-time employment and whether or not they are unemployed. Respondents' lifestyle and living standards are measured by the number of the following that the households in which they live are able to access or do: keep their home adequately warm; pay for an annual holiday; replace worn out furniture; buy new clothes; eat meat on alternate days; and feed visitors once a month. Savings behaviour is captured using three variables which identify whether or not people save from their current income (other than to meet regular bills), whether they save regularly (as opposed to from time-to-time), and whether their savings are mainly long-term savings for the future (as opposed to short-term savings for things needed now or unexpected events).

1.5   Financial capability in 1991 and outcomes in later years

Descriptive statistics suggest that financial capability, psychological wellbeing, employment status, lifestyle and living standards, saving behaviour and household income in subsequent years are strongly related to people's financial capability in 1991. In particular we find that higher financial capability in 1991 is associated with: higher financial capability; better psychological wellbeing; higher chances of employment (and full-time employment); lower chances of unemployment; being able to afford more items, and with saving, saving regularly and saving long-term, as well as higher incomes in later years. However, there may be mediating variables that jointly determine an individual's financial capability at any particular point in time and these outcomes of interest in later years.

1.6   Estimating the effect of financial capability in 1991 on later outcomes

There are a number of issues which need to be addressed in investigating whether financial capability in 1991 has a genuine impact on the outcomes of interest in later years. The first is that there are likely to be both mediating and confounding factors that are associated both with a person's financial capability in 1991 and with the outcomes of interest. A second issue is that there are also likely to be both unobservable factors and unobserved factors that are similarly associated with both financial capability in 1991 and subsequent outcomes of interest. A third issue is the extent to which financial capability in 1991 determines financial capability in later years, and therefore whether the impacts of financial capability in 1991 on outcomes in later years persist once we allow for people's current financial capability. Our statistical models allow us to control for other (observable) characteristics of individuals and the households that they live in that might be correlated with both the outcome of interest and financial capability in 1991. We also estimate panel data models that allow us to control for the effects of individual-specific unobserved characteristics that are fixed over time, and that might also be correlated with other explanatory variables.

1.7   The effect of financial capability in 1991 on later outcomes

Results from our multivariate models indicate that financial capability in 1991 does have persistent effects on outcomes in later years, even when controlling for a range of potentially mediating and confounding factors as well as individual-specific unobserved effects. We find evidence of persistence in financial capability over time, as having relatively low financial capability in 1991 is associated with having lower financial capability and with having a higher probability of relatively low financial capability in subsequent years. Low rather than high financial capability in 1991 doubles the probability of low financial capability in later years for both men and women (from about 15% to 30%).

Financial capability in 1991 also has statistically significant impacts on people's life outcomes:

- Life satisfaction: Among men, having low rather than high financial capability in 1991 is associated with lower life satisfaction in later years, equivalent in size to the impact of being unemployed rather than in full-time work.

- Saving behaviour: Men with low financial capability in 1991 are approximately 20% less likely to save in later years than those with high financial capability in 1991, all else equal. Among women, the effect is about one half of that for men (about 10%). These are sizeable impacts, if smaller than those of current financial capability.

- Income: Having high rather than low financial capability in 1991 is associated with higher household incomes in later years, by about £120 per month for men and £60 for women.

- Lifestyle and living standards: Having low financial capability has a statistically significant impact on lifestyle in later years, particularly for women (such as our ability to keep our homes adequately warm or afford an annual holiday).

These effects remain even when allowing for contemporaneous financial capability. However, we find that financial capability has little impact on employment status in subsequent years once we control for a range of other observed and unobserved characteristics and current financial management skills.

1.8   Summary and conclusions

The results from our analysis lead us to conclude that a person's financial capability at a point in time has, in some cases, relatively large and statistically significant impacts on their outcomes in later years. This suggests that improving people's current financial management skills – and in particular relating to their ability to make ends meet – will not only have immediate effects on, for example, their psychological wellbeing, but also have longer lasting effects on their mental health, living standards, savings behaviour and household income. Therefore the benefits of programmes that promote financial capability may reach beyond the more immediate into the medium to long-term. At the same time, our evidence suggests that the failure to help improve the financial management skills of individuals at the bottom of the financial capability distribution may have longer term impacts across a number of different domains.

This research raises some other important and interesting issues that are worthy of investigation. For example, we have for data reasons focused on the making ends meet

(and some aspects of planning ahead) domain of financial capability, but what about other domains? What are the longer-term implications of being able to keep track, plan ahead, choose appropriate financial products and of staying informed? We have also explicitly focused on the relationship between people's financial capability in 1991 and their outcomes between 1996 and 2006, and found lasting impacts. But what are the longer term consequences of persistently high or low financial capability? Do people who consistently exhibit high financial capability over a number of years enjoy greater benefits in later years than those with more transient financial capability? Conversely, is persistently low financial capability associated with larger penalties than we report here? Finally, the dynamics of people's lives and their association with their levels of financial capability are worth exploring in more depth. How do financially capable and financially incapable people respond to change, such as a job loss or a birth for example? Do the financially capable forego some aspect of their lifestyle in order to maintain their capability status? Do, as we would expect, the less financially capable struggle more when faced with a negative financial shock? These are just some potential avenues that are worth investigating.

2 Introduction

This report focuses on identifying whether or not financial capability has long term impacts on people's outcomes. The motivation behind this research is to investigate whether a person's ability to manage and take control of their finances (their 'financial capability') at a particular point in time has an effect on their outcomes at some point in the future – are there long-term benefits (costs) associated with financial capability (incapability)? If so, this would place an even greater emphasis on the need to increase people's financial capability, as doing so would not only have an impact on, for example, their current psychological and financial wellbeing, but also on their psychological and financial wellbeing in the future. If such a relationship was found, it could potentially indicate that low levels of financial capability incur a longer term scar on individuals that affects their outcomes well into the future. This interest stems from research carried out by the Institute for Social and Economic Research (ISER), commissioned by the Financial Services Authority (FSA), on the associations between financial capability and psychological wellbeing, between financial capability and savings behaviour, and the determinants of financial capability. The research involves secondary analysis of data collected in the British Household Panel Survey (BHPS).

The concept of financial capability is receiving increasing interest among policy makers in the UK with the establishment of a National Strategy for Financial Capability in 2003, and also internationally. In 2007 the UK Government published its long-term aims to promote and improve financial capability, believing that such improvements will have lasting beneficial effects for individuals, the financial services industry and the wider economy. The expected benefits to individuals include reducing levels of problem debt, increasing savings, reducing welfare dependency, and an improvement in general skills (HM Treasury 2007). It is envisaged that such benefits will have knock-on effects on poverty, stress, ill-health, life-chances and financial and social exclusion. Its international importance is highlighted by a Financial Capability conference in March 2007 hosted by the European Commission, at which there were presentations from speakers from Germany, Hungary, Italy, the Netherlands, the UK, France and Sweden (EC 2007).

Financial capability reflects people's ability to manage their money and take control of their finances, and low financial capability is conceptually different from being on low income or suffering deprivation. Financial capability is concerned with making appropriate financial decisions, understanding how to manage credit and debt, and identifying products and services that are appropriate (Noctor et al 1992; Mason and Wilson 2000). People across society require financial management skills to be in control of their money regardless of how much money they have. Financially capable people may have low incomes and be classified as deprived using other indicators while others with high incomes who enjoy high living standards may have low financial capability.

During an economic downturn when additional pressures are placed on a household's finances, financial management skills become even more important. Furthermore as responsibility for making provisions for retirement increasingly falls onto individuals, the costs of higher education are increasingly borne by students, and credit becomes widely available, the consequences of a lack of financial management skills are more serious than ever before. Against this background, qualitative studies suggest that many people are not well informed about financial products, that most undertake little long-term planning or budgeting and most financial decisions are reactive rather than proactive (Financial Services Consumer Panel 2003a,b). We investigate the long term consequences of having relatively high or low financial capability at a particular point in time.

While the concept of financial capability is frequently used in policy discussion, it is more difficult to operationalise using survey data. How can financial capability be measured using responses to questions in large scale social surveys? Financial capability should capture a range of skills, behaviour and knowledge relating to a person's ability to manage their income. NIACE (2007) stress the importance of defining financial capability in terms of relating the skills needed to earn income with those needed to manage savings and consumption. Atkinson et al (2006; 2007) use a survey commissioned by the FSA to explicitly measure financial capability in the UK (FSA 2006) to identify five domains that contribute to the concept: making ends meet; keeping track; planning ahead; choosing products and staying informed. They create financial capability scores within each domain, and conclude that older people, people with higher incomes and those in couples with no dependent children have the greatest financial capability while younger people, people in couples with dependent children, single people and those with lower income have the least financial capability. Taylor (2009) finds the lowest financial capability among young unemployed adults and single parents with low incomes, living in households with other unrelated, non-working adults. In constrast older men and women with relatively high income in full-time work and with an employed spouse have the highest financial capability. Melhuish et al (2008) create a measure of financial capability for mothers on low income using survey responses to questions asking how well individuals are managing financially, how well they manage mortgage or rent payments, the number of unpaid bills, and the number of items which they cannot afford. Once corrected for income, this measure shows that greater financial capability is associated with higher psychological wellbeing. Similar results are reported in Taylor et al (2009) who find that having low financial capability has significant and substantial psychological costs over and above those associated with experiencing low income or deprivation more generally.

In this research we add to this knowledge by examining the longer term impacts of financial capability. The associated research tasks involve a number of steps:

1. To create an index of financial capability using data available in the British Household Panel Survey;

2. To identify and define outcome variables of interest, and the period to which these should relate;

3. Examine the relationship between individuals' financial capability in one year and the outcomes of interest in later periods, using suitable multivariate analysis and panel data models.

This report summarises the results from each step. Analysis in Step 1 provides an indication of the relative importance of relevant variables as contributors to the underlying concept of financial capability. We might conclude that some variables do not contribute to that concept at all, having failed the test of being 'linked and mutually reinforcing'. We test for the possibility that some or all of the variables might be combined into a single index. This index is then cross-analysed with a range of outcome variables defined in Step 2 to provide some initial results about how later outcomes are associated with financial capability at a particular point in time. The outcomes of interest we focus on are later financial capability, psychological wellbeing, employment status, living standards, saving behaviour and household income. We investigate the existence of causal relationships in Step 3 by estimating multivariate statistical models that help to control for potentially confounding and mediating factors.

Our results suggest that financial capability in 1991 does have persistent effects on outcomes in later years, even when controlling for a range of potentially mediating and confounding factors as well as individual-specific unobserved effects. We find evidence of persistence in financial capability over time, as having relatively low financial capability in 1991 is associated

with having lower financial capability and with having a higher probability of relatively low financial capability in subsequent years. Having relatively high financial capability in 1991 is associated with having higher financial capability and with having a lower probability of relatively low financial capability in subsequent years. Financial capability in 1991 also has statistically significant impacts on people's life satisfaction, lifestyle, propensity to save and to save regularly, and household income in later years, and these effects remain even when allowing for contemporaneous financial capability. People with low financial capability in 1991 have lower life satisfaction, enjoy lower living standards, are less likely to save (and save regularly) and have lower household incomes than those in the middle of the capability distribution. However we find that financial capability 1991 has little impact on employment status in subsequent years once we control for a range of other observed and unobserved characteristics and current financial capability.

The remainder of the report is divided into seven main sections. Section 3 introduces the data set used in the project (the BHPS), the variables used in constructing our measure of financial capability and the longer term outcomes of interest. Section 4 documents how our measure of financial capability is constructed. Section 5 introduces and describes the outcomes of interest that we focus on, and Section 6 presents some descriptive analyses of how these outcomes are associated with initial financial capability. Section 7 introduces the statistical techniques used in the multivariate analysis, while Section 8 presents and discusses the results from the statistical models. Section 9 summarises and draws some conclusions.

3 The data

To be able to examine the extent to which financial capability affects people's outcomes at some point in the future requires panel data that follow the same individuals over time. Such data allow us to link an individual's responses to questions at one point in time to their outcomes at future points in time. This research uses individual-level data from the first sixteen waves of the British Household Panel Survey (BHPS), covering years 1991–2006.[2] Every year the BHPS follows and interviews the same individuals, collecting information about their incomes, financial behaviour, labour market status, housing tenure and conditions, household composition, education, health, psychological wellbeing and many other aspects of people's lives. The BHPS is unique among British data sets in providing annual repeated measures for the same individuals (and for all individuals within their household) over a relatively long time period. Changes in people's lives can be identified over a fifteen year period.

Some data collected in the BHPS relate specifically to individual adults, while others refer to the household context. We use the individual adult as the unit of analysis, although sometimes the personal measure relates to the household context – we allocate the household level variable to each individual adult living within that household.

As with any panel survey, potential biases arising from non-random attrition are of concern. The BHPS uses a number of methods to minimise such problems. Firstly, it employs comprehensive respondent tracking techniques to maintain contact with respondents throughout the year, and any changes of address are entered on a database to ensure respondents are not lost to the sample. If a respondent no longer lives at an address when approached for an interview, interviewers are required to seek a forwarding address or phone number from other respondents, any new residents, or neighbours. Failing this they are asked to consult local phone directories, shops or the post office where appropriate. Secondly, thorough refusal conversion processes are employed to attempt to minimise attrition due to refusal to participate in the survey or other forms of non-response. Response rates for the BHPS are high compared to other similar surveys around the world. Almost 90% of eligible individuals interviewed at wave 1 were again interviewed at wave 2, and these year-on-year response rates have increased to 95%. Thirdly, the BHPS includes a complex and comprehensive set of weights. A cross-sectional set of weights have been constructed that adjust the respondent sample for non-random non-response on a wave to wave basis, and therefore weights the wave-specific sample to be nationally representative. Longitudinal respondent weights select out cases who gave a full interview at all waves in the BHPS files. At each wave these cases are re-weighted to take account of previous wave respondents lost through refusal at the current wave or through some other form of sample attrition. (More details of these weights are available in Taylor et al 2009.) Appropriate weights are used throughout the analysis conducted for this report.

Our approach in this research involves constructing a measure of people's financial capability at the first wave of the survey in 1991 and examining whether, and if so how, this affects an individual's outcomes in later years.[3] This raises three important issues relating to (i) how to measure financial capability; (ii) identifying the subsequent outcomes of interest; and (iii) the time periods in which to measure the outcomes of interest. We discuss our approach to these issues below.

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2 The BHPS is nationally representative of Britain. Our analysis excludes Northern Ireland as data for a sample from Northern Ireland was not available prior to 2001.

3 We choose 1991 as the base year simply because it is the first year of the survey. We have re-estimated analysis using people's average financial capability over the period 1991–1995 instead, and results do not change noticeably.

3.1 Measuring financial capability

There is a range of information collected within the first wave of the BHPS in 1991 that captures different dimensions of financial capability, and for each the source of information is the respondent. The relevant questions asked in the BHPS are:

- Many people these days are finding it difficult to keep up with their housing payments. In the last 12 months would you say you have had any difficulties paying for your accommodation?

- Did you have to borrow in order to meet housing payments?

- Did you have to make cutbacks in order to meet housing payments?

- In the last 12 months have you ever found yourself more than two months behind with your rent/mortgage?

- How well would you say you yourself are managing financially these days? Would you say you are living comfortably, doing alright, just about getting by, finding it quite difficult, or finding it very difficult?

- Would you say that you yourself are better off, worse off or about the same financially than you were a year ago?

- Looking ahead, how do you think you yourself will be financially a year from now, will you be better than now, worse than now, or about the same?

- Do you save any amount of your income, for example by putting something away now and then in a bank, building society or Post Office account, other than to meet regular bills?

- About how much on average do you manage to save a month?

- Access to consumer durables (colour TV, VCR, washing machine, dishwasher, microwave, home computer, compact disc player).

Some of these questions reflect people's perceptions of their financial situation, which have been shown to be associated with psychological wellbeing (Wildman 2003). Others capture over-indebtedness and the ability to budget, plan for the future and manage money, which are often cited as key to financial capability (FSA 2006). Some of these measures relate specifically to individual adults (e.g. How well would you say you yourself are managing financially these days?), while others refer to the household context (e.g. Many people these days are finding it difficult to keep up with their housing payments. In the last 12 months would you say you have had any difficulties paying for your accommodation?). In all of the following the unit of analysis is the individual adult, although sometimes the personal measure refers to the household context – we have allocated the household level variable to each individual adult living within that household.

Details of responses over time to these questions in the BHPS can be found in Taylor (2009) and Taylor et al (2009). In Section 4 we focus on degrees of association between responses to these questions in order to construct a robust and reliable indicator of financial capability.

3.2   Outcome variables of interest

The BHPS covers many aspects of people's lives, and offers a number of potential outcomes of interest. In this research we focus on six outcomes of interest that are particularly relevant, and we summarise these below.

Financial capability

Does a person's financial capability in 1991 have an impact on their financial capability in later periods? This seems to be a particularly important question, and provides information on whether or not individuals' financial management skills improve with experience and over time. To examine this, we construct consistent measures of financial capability in later years, and examine the extent of a (causal) relationship between financial capability in 1991 and in later years. We discuss the construction of the financial capability measures in the next section of the report.

Psychological wellbeing

Previous research has found that people's psychological wellbeing is strongly related to their financial capability (Taylor et al 2009; Melhuish and Malin 2008). Other studies have suggested a strong relationship between financial distress, low living standards, housing payment problems and psychological problems and depression (Marmot et al 1997; Weich and Lewis 1998; Taylor et al 2007). An obvious extension to this work is to examine whether this relationship is long lasting – is an individual's current psychological wellbeing affected by his financial capability several years earlier? Do people suffer psychologically from having had low financial capability in the past, even if their financial capability has since improved? We examine this by using three measures of psychological wellbeing that are collected regularly in the BHPS: the General Health Questionnaire (GHQ), reported life satisfaction scores, and whether or not the respondent suffers from a health problem related to anxiety or depression.

The GHQ is asked at all BHPS waves and is one of the most widely applied self-completion assessment measure of minor psychiatric morbidity in the UK (McCabe et al 1996). It is a reliable indicator of psychological distress (Argyle 1989), which has been shown to be robust to retest effects making it a suitable longitudinal instrument (Pevalin 2000). The 12-item GHQ score has been used in all waves of the BHPS, and these take the form of responses to the following questions: "Have you recently:

1.   Been able to concentrate on whatever you are doing?*

2.   Lost much sleep over worry?

3.   Felt that you are playing a useful part in things?*

4.   Felt capable of making decisions about things?*

5.   Felt constantly under strain?

6.   Felt you couldn't overcome your difficulties?

7.   Been able to enjoy your normal day-to-day activities?*

8.   Been able to face up to your problems?*

9.   Been feeling unhappy and depressed?

10. Been losing confidence in yourself?

11. Been thinking of yourself as a worthless person?

12. Been feeling reasonably happy all things considered?*"

Answers are coded on a four-point scale running from 'Not at all/Much less than usual' (coded 0) to 'Much more than usual/Better than usual' (coded 3 – asterisked questions are coded in reverse). Added together these provide a total GHQ score of mental distress ranging from 0 to 36. High scores correspond to low feelings of wellbeing (high stress) and vice-versa.[4] The GHQ has been validated in both general and clinical populations (Werneke et al 2000; Hardy et al 1999). As it asks respondents to rate their level of experiencing each symptom in relation to what is usual, it captures short term changes in psychological health but may underestimate chronic conditions. For example, if a person is depressed and never feel as if they play a useful part in things, they may respond 'same as usual' to this despite being depressed.[5] However the focus on short-term fluctuations seems appropriate as our concern is with the impact of financial capability in 1991 on psychological health in subsequent years. Also we have repeated all analysis using the 12-point Caseness scale which may be less sensitive to short-term fluctuations in mental health, and the results are consistent with those presented here.

In BHPS waves 6–10 (1996–2000) and waves 12–16 (2002–2006), respondents were asked "How dissatisfied or satisfied are you with….. your life overall?" using a seven point scale where one equates to not satisfied at all and seven to completely satisfied. We use this as an alternative measure of psychological wellbeing.

Our third measure of psychological wellbeing relates to whether or not the respondent suffers from a health problem related to anxiety or depression, which is asked at all waves as part of a battery of questions about current health problems. At each wave, BHPS respondents were shown a card with various health conditions and asked whether they currently suffered from any of the listed problems. The condition most relevant to psychological wellbeing relates to health problems associated with anxiety and depression. Focusing on these three measures of psychological wellbeing provides consistency and comparability with previous research in this area (see for example Taylor et al 2009).

Employment status
Previous research (Taylor 2009) has indicated that the unemployed suffer from lower levels of financial capability than those in full-time work. However, it is plausible that a lack of financial management skills may also reflect broader issues that affect the ability of people to retain their jobs, to search effectively for a new job, or their attachment to the labour market. We therefore estimate the impact of financial capability in 1991 on an individual's propensity to be unemployed, in employment, and in full-time employment at later years.

Lifestyle indicators
The BHPS collects a range of other financial variables intermittently across waves, and which are therefore problematic in including in time-consistent measures of financial capability. One such variable, collected from wave 6 (1996) onwards, is a Townsend/Breadline Britain-type indicator. This asks:

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4 A number of recent papers have been published using alternative scoring schemes for the GHQ to measure positive wellbeing rather than mental distress (Huppert and Whittington 2003; Hu et al 2007). An alternative 'caseness' measure which takes values between 0 and 12 and indicates the number of items with which an individual strongly agrees could also be used. We use the 36-point Likert measure because it is more appropriately viewed as continuous and simplifies analysis. However all results presented in this report are robust to using the alternative caseness measure.
5 In fact this is one of the advantages of using the 36-point Likert scale rather than the more common 12-point Caseness scale. For the latter, responding 'same as usual' would score 0 points while for the former it scores one point.

"Here is a list of things which people might have or do. Please look at this card and tell me which things you (and your household) have or do?

     Keep your home adequately warm;

     Pay for a week's annual holiday away from home;

     Replace worn out furniture;

     Buy new, rather than second hand, clothes;

     Eat meat, chicken or fish every second day;

     Have friends or family for a drink or meal at least once a month."

We add together the number of items from this list that each household have or do to construct a measure of their lifestyle. This takes the value zero if the household in which the respondent lives has or does none of the listed items, to six if the household does all of the listed items, and provides an indication of the household's living standards at a particular point in time. Although previous research has suggested that current financial capability is positively correlated with current living standards (see Taylor et al 2009; Taylor 2009), in this analysis we estimate the impact of financial capability in 1991 on an individual's living standards and lifestyle in later years. Does financial capability at a point in time have a lasting impact on people's lifestyles?

Saving behaviour

The BHPS collects a range of information on people's saving behaviour. As discussed previously, at each wave respondents are asked the extent to which they save any amount of their income, other than to meet regular bills. This has been found to be an important component of financial capability (Taylor 2009; Taylor et al 2009). In addition from wave 10 (collected in 2000) onwards, respondents are also asked:

"Do you save on a regular basis or just from time to time when you can?"

"Would you say your savings are mainly long term savings for the future or mainly short term savings for things you need now and for unexpected events?

As these questions were not asked at each wave, they cannot be included in time-consistent measures of financial capability and therefore we use them as outcomes of interest. Previous research has suggested that responses to these questions are correlated with contemporaneous financial capability (Taylor et al 2009; Taylor 2009), and here we extend this by investigating the extent to which financial capability in 1991 affect an individual's propensity to save on a regular basis, or save for the long term, in later years.

Income

The final outcome of interest we investigate is household income. Household income is defined as the sum of all sources of income in a household, including for example labour income, investment income and benefit income, deflated to January 2006 prices. While we know there is an important association between income and financial capability (Taylor 2009, Taylor et al 2009; Melhuish and Malin 2008), we investigate whether financial capability in 1991 has an impact on people's household income in later years. We would expect this to be the case if, for example, more financially capable people make more informed decisions about expenditure and investment patterns which have an impact on their future (lifetime) income.

3.3 Identifying suitable time periods in which to measure outcomes of interest

The final data-related issue concerns when to measure these outcomes of interest. There are a number of considerations relevant here. The first is the extent to which we expect the impacts of financial capability to persist over time. If for example we examine the impact of financial capability in 1991 on outcomes in 2006 and find no effect, we might conclude that financial capability has no long term impacts. However, we may draw different conclusions if we examine its impact on outcomes in 2000. Therefore the timing of the analysis of outcomes could be crucial, and in itself could be revealing about the relationships between financial capability and later outcomes. A second issue relates to attrition and response rates in the BHPS data. Although response rates in these data are high, the numbers of people interviewed in 1991 will become an ever decreasing proportion of those interviewed in later years of the BHPS and this may introduce some sample size limitations. (Recall that sets of weights have been developed that enable calculations to take account of potential non-random attrition and non-random response, which we use where relevant.) To illustrate this issue, in Table 1 we summarise the number and proportion of those interviewed in 1991 that were re-interviewed in subsequent waves.

This shows that, of the 10,264 people who were interviewed in wave 1 of the BHPS in 1991, almost three quarters were again interviewed five years later in 1996 (7,430), 62.6% were interviewed at wave 10 in 2000 (6,427), and almost one half were interviewed at wave 16 in 2006 (4,964). Although sample sizes for analysis will be smaller than these numbers, due to item non-response for some key variables we use either as dependent or explanatory variables, these numbers suggest that sample sizes are sufficient for robust analyses of financial capability in 1991 in outcomes at later years of BHPS data.

Table 1: Sample sizes by year conditional on being in BHPS sample in 1991 (wave 1): BHPS 1991–2006

	1991	1996	2000	2006
	(wave 1)	(wave 6)	(wave 10)	(wave 16)
N individuals	10264	7430	6427	4964
As % of N in 1991	100.0	72.4	62.6	48.4

Given this, we examine the impact of financial capability in 1991 on outcomes in a number of different time periods, with a particular focus on 1996, 2000, and 2006 together with a pooled analysis on outcomes between 1996 and 2006.[6] This approach maximises the potential of the dataset being used by (i) examining if the impacts of financial capability in 1991 on subsequent outcomes weakens over time (and if so on which outcomes); and (ii) allowing us to incorporate unobserved time-invariant individual-specific characteristics that might otherwise bias the coefficients of interest. We discuss this issue in more detail later when introducing the estimation procedures.

In subsequent sections we describe how the measure of financial capability is constructed, and then examine patterns of how financial capability in 1991 is related to outcomes of interest in later years.

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6 We choose to measure outcomes in 2000 rather than 2001 because information on self-reported life-satisfaction was not collected in 2001 and therefore for consistency we use 2000 for all outcomes.

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4 Constructing a measure of financial capability

In this section we describe how we construct a measure of financial capability from BHPS data. We do so using factor analysis which uses correlations between variables to determine the underlying factor (financial capability) represented by the variables (e.g. Taylor et al 2004; Cappellari and Jenkins 2007). This allows us to construct a factor score for each BHPS respondent that measures the particular combination and weighting of variables used. Taylor et al (2009) and Taylor (2009) use the same method to construct an indicator of financial capability, together with a more straightforward sum-score method, and show that the two measures are highly correlated and yield similar results.

4.1 Correlations between measures

As a first step in developing our measure of financial capability, we present a correlation matrix which illustrates the degree of association between the available variables, shown in Table 2. Here we pool all 16 waves of BHPS data, conditional on being interviewed in 1991, for two reasons. Firstly, using as many observations as possible will increase the reliability and robustness of the resulting measure. Secondly, our interest is in constructing a consistent index of financial capability that can be applied across the whole sample period (rather than examining changes in associations between variables over time), so that we can, for example, examine correlations between financial capability in 1991 and financial capability in later years. Table 2 reports Spearman rank correlation coefficients, which are a measure of association taking a value between –1 (indicating perfect negative correlation) and +1 (indicating perfect positive correlation).[7] A value of zero indicates no correlation between the relevant variables. This table can be used to examine the degree of association between variables, allowing us to identify variables that are likely to be capturing a common underlying factor (financial capability). Variables that have the closest association (with rank correlation coefficients of 0.3 and above) are highlighted in bold. Those with correlation coefficients between 0.1 and 0.29 are in normal print, while those with the weakest association are in grey. By construction, the matrix is symmetrical around the lead diagonal.

This table shows that the strongest correlations (of above 0.3) are found between an individual's perceived current financial situation and their savings behaviour, and between an individual's perceived current financial situation and the change in their financial situation over the previous 12 months. This suggests that people reporting finding it difficult to get by financially are also more likely to report a worsening financial situation, and are less likely to save. (We've standardised the correlations so that the positive correlations always indicate that individuals in a difficult financial situation are less likely to save, to have had a negative change in their financial situation, have access to fewer consumer durables etc.) Other strong correlations are found between the housing payment variables, which are to be expected given the structure of these questions.

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7 We use the Spearman rank correlation coefficient rather than the more common Pearson's correlation coefficient because the former is non-parametric and less likely to be distorted when the normality assumption does not hold.

Table 2: Correlations between financial variables: BHPS 1991–2006										
	Financial situation	Change in situation (–)	Expected change in situation (–)	Saves (–)	Amount saved (–)	Housing payment problems	Required borrowing	Required cutbacks	Arrears	Durables (–)
Financial situation	1.00	**0.35**	0.01	0.29	**0.33**	0.28	0.14	0.26	0.14	0.16
Change in situation (–)		1.00	0.20	0.18	0.20	0.12	0.06	0.12	0.05	0.09
Expected change in situation (–)			1.00	0.03	0.03	0.06	0.05	0.05	0.05	0.08
Saves (–)				1.00	-	0.13	0.06	0.12	0.07	0.15
Amount saved (–)					1.00	0.13	0.07	0.12	0.07	0.18
Housing payment problems						1.00	**0.43**	0.90	**0.44**	0.08
Required borrowing							1.00	**0.39**	0.28	0.03
Required cutbacks								1.00	**0.41**	0.08
Arrears									1.00	0.05
Number of durables (–)										1.00
Mean	0.22	0.15	0.06	0.13	0.14	0.29	0.17	0.27	0.17	0.10

Notes: Figures reported are Spearman rank correlation coefficients. See text for how variables are constructed and defined.

The final row of the table shows the average correlation between each variable and the others. This indicates that the variables most highly correlated with the others are perceived current financial situation, having housing payment problems and housing payment problems required cutbacks. It is clear that the expected change in one's financial position over the coming year has little correlation with the other variables, and for this reason we discard it from the remainder of the analysis. This lack of correlation is explained by the fact that individuals' expectations about changes in their financial situation can be independent of their current financial situation. We now use the remaining variables to construct a measure of financial capability.

4.2   Constructing a measure of financial capability

We use factor analysis to construct a measure of financial capability, based on the correlations presented in Table 2. Here we describe in detail the procedure used in constructing this. Our aim is to construct a consistent measure of financial capability that can be traced over time, to allow comparisons to be drawn between financial capability in 1991 and in later years of the BHPS. The individual variables can be interpreted as reflecting a common, underlying characteristic ('financial capability') if there is a consistent tendency for an individual who scores highly on one also to score highly on each of the other variables. We test the internal consistency of such a summary measure constructed from the underlying variables using Cronbach's alpha which is calculated on the basis of the number of contributing variables

and the correlations between them. Alpha takes a value between 0 and 1, with one indicating perfect internal consistency. The literature suggests that a good summary indicator should have a value of alpha of at least 0.7 (Nunnally and Bernstein 1994). Before constructing a measure, we examine the inter-item correlations, which we present in Table 3 below. Because some of the variables have different scales (e.g. perceived current financial situation, amount saved, number of consumer durables), we have standardised all the variables to have mean zero and variance one.

Table 3: Standardised inter-item correlations: BHPS 1991–2006			
Variable	Item-rest correlation	Average inter-item correlation if item removed	Alpha if item removed
Financial situation	0.454	0.135	0.585
Change in situation (–)	0.197	0.165	0.640
Saves (–)	0.309	0.152	0.617
Amount saved (–)	0.231	0.161	0.633
Housing payment problems	0.602	0.120	0.551
Required borrowing	0.336	0.149	0.611
Required cutbacks	0.567	0.124	0.559
Arrears	0.351	0.147	0.608
Number of durables (–)	0.136	0.173	0.653
Total		0.152	0.642

The item-rest correlation shows the correlation between each variable and the measure that is formed by all the other items, while the average inter-item correlation shows the inter-item correlations excluding the relevant variable, and therefore indicates whether or not excluding the relevant variable would increase the average inter-item correlation. The last column of the table presents Cronbach's alpha for the measure formed by excluding the relevant variable, and therefore indicates whether the internal consistency of the index would be improved by excluding the relevant variable. The results presented in Table 3 indicate that the number of durables appears to be least well correlated with the other variables. It has the lowest item-rest correlation (indicating it is least well correlated with an index formed by all other items), and the average inter-item correlation and alpha would both increase if it were removed. This may be because this variable reflects individual preferences as much as financial capability. We remove this variable from the analysis, resulting in the inter-item correlations shown in Table 4.

Table 4: Standardised inter-item correlations: BHPS 1991–2006			
Variable	Item-rest correlation	Average inter-item correlation if item removed	Alpha if item removed
Financial situation	0.457	0.213	0.655
Change in situation (–)	0.242	0.252	0.700
Saves (–)	0.305	0.240	0.689
Amount saved (–)	0.225	0.256	0.706
Housing payment problems	0.624	0.186	0.615
Required borrowing	0.345	0.233	0.680
Required cutbacks	0.589	0.191	0.624
Arrears	0.357	0.231	0.677
Total		0.225	0.700

These indicate that the amount saved is least well correlated with the other variables. It has the lowest item-rest correlation (indicating it is least well correlated with an index formed by all other items), and the average inter-item correlation and alpha would both increase if removed. Therefore it appears it is the act of saving rather than the amount saved that is most correlated with an underlying measure of financial capability (see also Taylor et al 2009; Taylor 2009). This leaves us with the following variables from which to construct a measure:

- Perceived current financial situation;

- Perceived change in financial situation in the past year;

- Whether saves;

- Has housing payment problems;[8]

- Problems required borrowing;

- Problems required cutbacks; and

- Been at least 2 months in housing arrears in last 12 months.

These indicators mostly relate to the making ends meet domain of financial capability (with some aspects of planning ahead), rather than the keeping track, planning ahead, choosing products or staying informed domains. Subsequent results and analysis need to be interpreted with this in mind.

The internal consistency of a summary measure constructed from these variables yields a Cronbach's alpha of 0.71 and an average inter-item correlation of 0.26, which suggests it is a good summary indicator and that the individual variables all contribute to the underlying financial capability component in the same way. Wave-specific estimates show Cronbach's alphas that vary between 0.68 and 0.73, and average inter-item correlations that vary between 0.24 and 0.28, suggesting that the index has internal consistency across time. Because the underlying factor essentially measures financial incapability rather than capability (because of the way the variables are coded), we multiply the resulting measure by –1. Therefore higher values of the measure are associated with higher financial capability, and vice versa.

The distribution of financial capability is summarised in Table 5 and Figure 1. Figure 1 shows that although there is a long left hand tail to the distribution of the index, the majority of observations actually lie between zero and 0.652. Therefore, consistent with the Financial Services Baseline Survey,[9] most people are financially capable but those that are not can suffer extreme difficulties (hence the long left hand tail). Table 5 indicates that the index has a mean of zero and a standard deviation of 0.592 and varies between –4.229 (indicating low financial capability) and 0.652 (indicating high financial capability).

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8 We have experimented with a number of different combinations of the housing payment problems variables, including creating a single variable measuring the scale of the problems and including the separate variables independently of the others. The current specification appears to provide the most consistent index.
9   Financial Services Authority (2006) Levels of financial capability in the UK: Results of a baseline survey

Figure 1: Distribution of financial capability: BHPS 1991–2006

Source: BHPS 1991-2006

Table 5: Index of financial capability: BHPS 1991–2006				
	Mean	Std Dev	Min	Max
Financial difficulty index	0.000	0.592	−4.229	0.652

Notes: Index constructed using factor analysis from: Current financial situation; Change in financial situation since last year; Whether saves; Has housing payment problems; Problems required borrowing; Problems required cutbacks; and Been at least 2 months in arrears in last 12 months.

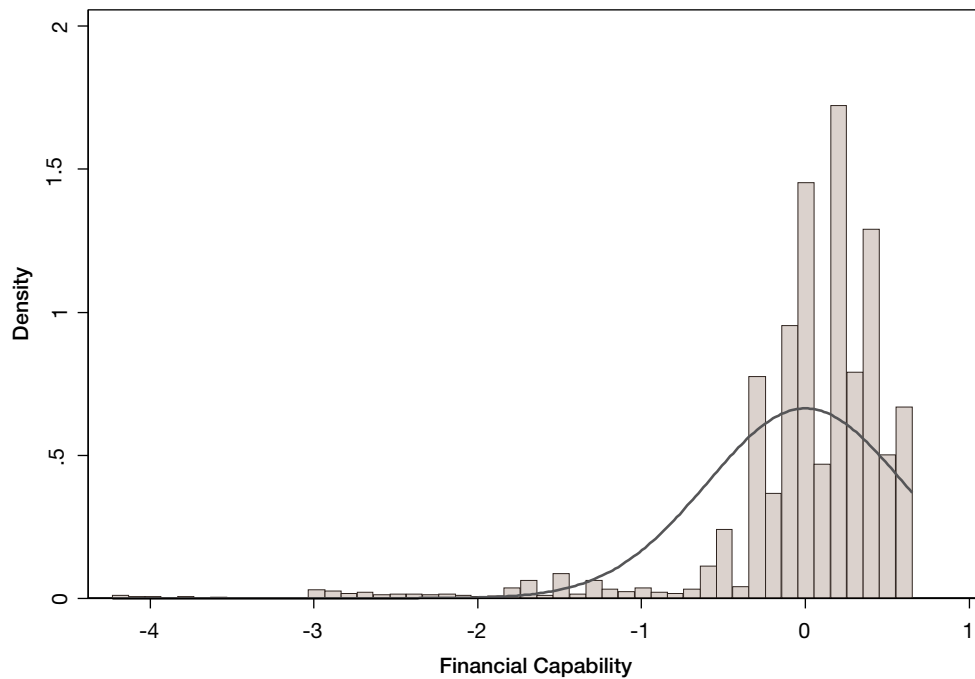## 4.3   Adjusting for income

Of course, financial capability is likely to be strongly related to income and it can be argued that any measure of financial capability should be appropriately adjusted for income. Financial capability should capture how capable people are at managing their finances independent of their income levels. Here we investigate the relationship between our index of financial capability and income, defined as real gross household income (in the month prior to interview, including income from all sources – labour income, transfers, investments and benefits), deflated to January 2006 prices. Our measure of financial capability yields a Spearman rank correlation coefficient with household income of 0.33, suggesting that financial capability increases with household income. To create an income-adjusted measure of financial capability, we follow the procedure adopted in Melhuish and Malin (2008), Taylor et al (2009) and Taylor (2009) and regress financial capability on real monthly household income (in January 2006 prices) and use the residuals to measure income-adjusted financial capability. The results from this Ordinary Least Squares (OLS) regression are shown in Table 6.

Table 6: OLS Regression of household income on financial capability: BHPS 1991–2006		
Variable	Coefficient	t-statistic
Real month household income (£1000s)	0.1157	35.76
Real month household income2 (£1000s)	−0.0053	17.08
Real month household income3 (£1000s)	0.0000	13.42
Constant	−0.2467	30.79
R^2	0.0562	
N individuals	95159	
N observations	9773	

Notes: Estimates from ordinary least squares regression where dependent variable is index of financial capability. Standard errors adjusted for clustering on individuals.

Figure 2: Relationships between financial capability and income: BHPS 1991–2006
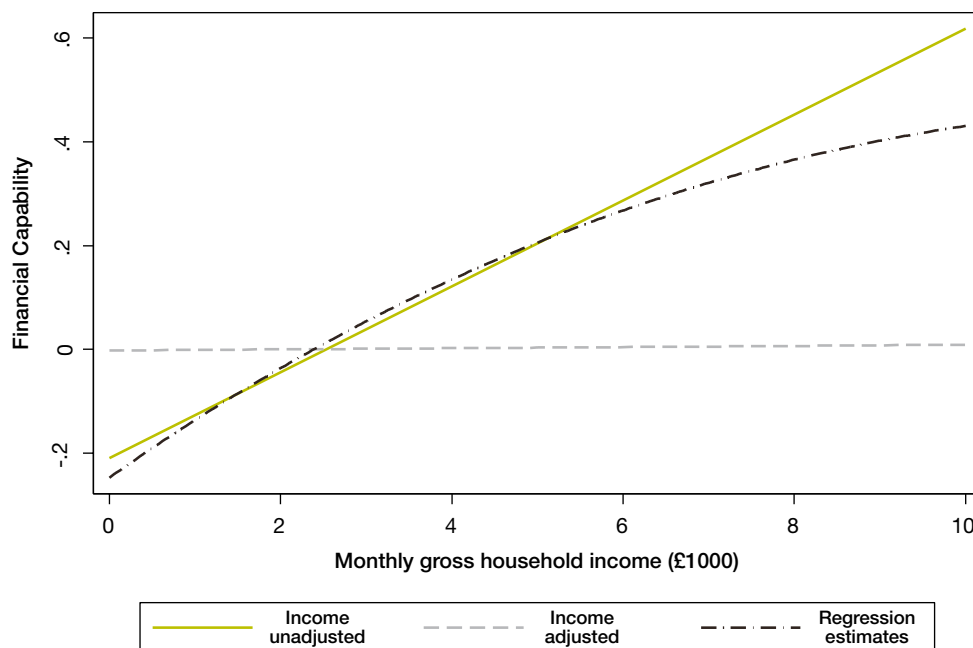
Source: BHPS 1991-2006

The residuals from this regression can be interpreted as the part of financial capability that is not explained by income, which we call income-adjusted financial capability. The relatively small (if statistically significant) coefficients on the quadratic and cubic terms suggest that the non-linearities in the relationship between income and financial capability are small. This is highlighted in Figure 2 which plots fitted financial capability, income-adjusted financial capability, and the estimated regression line.

The closeness of the estimated line to fitted income-unadjusted financial capability indicates that the income-adjusted and income-unadjusted measures will only differ at low and very high household income (below £1000 and above £6000 per month). Given that over 80% of income observations lie within this range, we expect income-adjusted and income-unadjusted financial capability to provide very similar results. This figure also confirms that income-adjusted financial capability is unrelated to income.

It is important to note that, according to Figure 2, financial capability increases much faster at the lower end of the income scale. For example, an additional £1000 per month in household income increases financial capability by more for an individual with a household income of less than £3000 per month than for one with an income of more than £5000 per month. Therefore increasing incomes of those at the bottom of the income distribution will have relatively larger effects on financial capability than increasing incomes of those at the top of the distribution.

Table 7: Income-adjusted index of financial capability: BHPS 1991–2006				
	Mean	Std Dev	Min	Max
Income-adjusted financial capability index	0.000	0.576	−4.505	2.052

Notes: Index constructed using factor analysis from: Current financial situation; Change in financial situation since last year; Whether saves; Has housing payment problems; Problems required borrowing; Problems required cutbacks; and Been at least 2 months in arrears in last 12 months.

Figure 3: Distribution of the income-adjusted index of financial capability: BHPS 1991–2006
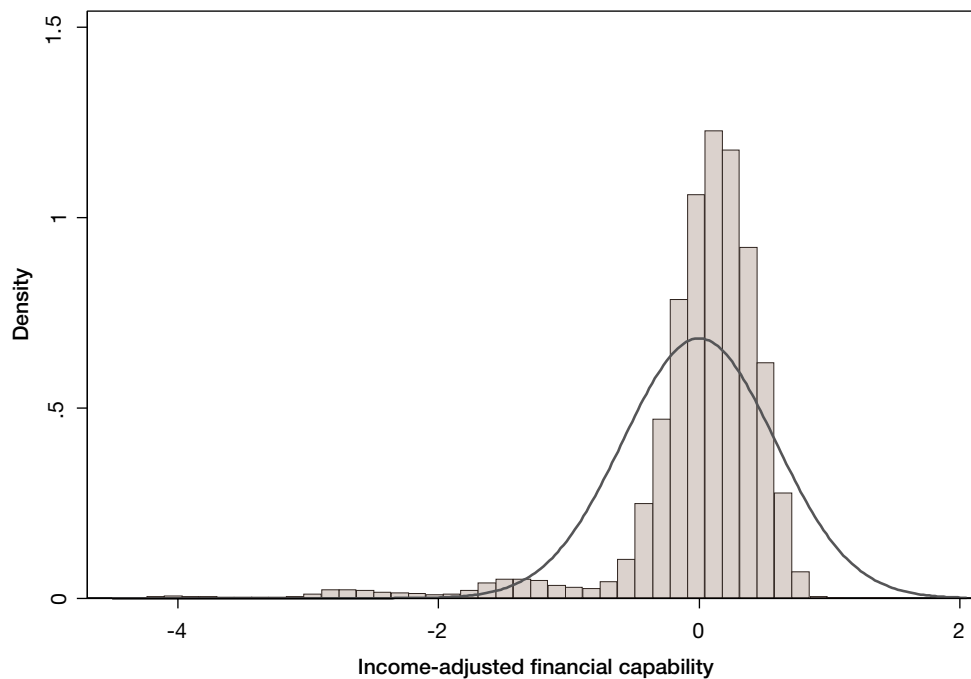
Source: BHPS 1991-2006

Table 7 and Figure 3 describe the distribution of income-adjusted financial capability. Table 7 shows that this has a mean of zero and a standard deviation of 0.576 and varies between −4.505 and 2.052. Figure 3 indicates that the income-adjusted measure also has a long left hand tail and that the majority of observations have values between −1 and 1. The clustering of observations at high levels of financial capability indicate that most people manage their finances relatively well, and the long left hand tail again indicates that those that have problems can suffer from extreme difficulty. Income-adjusted financial capability has a Spearman rank correlation coefficient of 0.9 with the unadjusted measure.

In the remainder of the report, we focus on income-adjusted financial capability in order to mitigate the potential impacts of household income. Tables of results using the income-unadjusted measure are presented in Appendix 1 for completeness and reference.

4.4   Who is financially capable?

Before describing the outcomes of interest in more detail, we first identify the characteristics of people who have relatively high and relatively low levels of financial capability. In particular, we summarise the characteristics of people who are in the lowest 20% and the highest 20% of the income-adjusted financial capability distribution. In doing so we pool all observations across all years of data and so look at averages across the sample period 1991 to 2006.

Table 8 summarises the gender, health and age of people by their position in the financial capability distribution. This indicates little relationship between financial capability and gender, men are slightly over-represented in both the lowest and highest financial capability quintile groups, accounting for 47% of people in the lowest 20% of the financial capability distribution and 46% of people in the highest 20% of the financial capability distribution compared to 45% of the sample as a whole.

Table 8: Gender, health and age by financial capability quintile group: BHPS 1991–2006			
	Lowest 20%	Highest 20%	Sample average
Gender			
Man	47.3	46.2	45.4
Woman	52.7	53.9	54.6
Health			
Good health	62.3	74.1	68.8
Poor/average health	37.7	25.9	31.2
Age			
Below 25	8.7	5.9	5.6
25–34	18.9	17.8	16.1
35–44	23.8	17.9	20.0
45–54	22.9	15.3	18.8
55–64	13.2	14.3	14.9
65 and above	12.6	28.7	24.6

Notes: Column percentages. Table reads, for example, that 47% of people in the lowest 20% of the financial capability distribution are men, while 53% are women.

People in good health are over-represented in the highest quintile group of the financial capability distribution, and under-represented in the lowest quintile group. The table indicates that 74% of those in the highest quintile group are in good health, compared with 69% of those in the sample as a whole and 62% of those in the lowest quintile group. High financial capability is associated with good health.

Younger workers (aged less than 35) are over-represented at the extremes of the financial capability distribution. Those aged less than 25 are particularly concentrated in the lowest 20% of the financial capability distribution (almost 9% of this group are aged less than 25 compared with less than 6% of the sample). Only 13% of those in the lowest quintile group of the distribution are aged 65 and above compared with 29% of those in the highest quintile group. From this we can conclude that older people manage their relatively low incomes well – they are more likely to have relatively high financial capability and less likely to have relatively low financial capability.

Table 9 summarises the relationship between marital status and financial capability. This shows that married people are under-represented in the highest financial capability quintile group (57% of this group are married compared with 62% of the sample as a whole). Only 5% of people in

the lowest capability quintile group are widowed, compared with 10% of the sample as a whole and 13% of those in the highest financial capability quintile group. Therefore widowed people are able to manage their (relatively low) incomes well. Widowed people are also likely to be older than those in other marital statuses, which might contribute to their relatively high financial capability.

Table 9: Marital status by financial capability quintile group: BHPS 1991–2006			
	Lowest 20%	Highest 20%	Sample average
Marital status			
Married	61.1	56.6	62.3
Cohabiting	7.8	5.8	6.2
Widowed	5.0	12.5	10.2
Divorced/separated	11.1	7.5	7.7
Single never married	15.0	17.6	13.7
Notes: Column percentages. Table reads, for example, that 61% of people in the lowest 20% of the financial capability distribution are married.			

Table 10: Highest qualification level by financial capability quintile group: BHPS 1991–2006			
	Lowest 20%	Highest 20%	Sample average
Qualification level			
Degree	7.4	16.9	10.9
Other higher qual.	21.0	31.1	24.8
A-Levels or equiv.	8.4	10.5	9.7
GCSEs or equiv.	18.1	17.4	18.3
Other qualification	10.6	7.6	9.6
No qualification	34.4	16.7	26.8
Notes: Column percentages. Table reads, for example, that 7% of people in the lowest 20% of the financial capability distribution have a degree.			

Table 10 suggests that those with higher levels of education are over-represented in the highest financial capability quintile group while those with less education are over-represented in the lowest quintile group. For example, 17% of people in the highest quintile group of the financial capability distribution have a degree, compared with just 7% of those in the lowest quintile group. In contrast, 34% of those in the lowest quintile group have no qualifications, compared with 17% of those in the highest quintile group. Therefore a clear relationship emerges between education and financial capability, with the more educated being concentrated in the highest financial capability quintile group.

Table 11 summarises the relationship between labour market status and financial capability. This indicates that the unemployed and economically inactive are concentrated in the lowest 20% of the financial capability distribution, even after allowing for their lower household incomes. About 7% of people in the lowest financial capability quintile group are unemployed, compared with 3% of the sample as a whole, as are 21% of the economically inactive (compared with 15% of the sample as a whole). In contrast, the retired and those in full-time work are over-represented in the highest financial capability quintile group.

Table 11: Labour market status by financial capability quintile group: BHPS 1991–2006			
	Lowest 20%	Highest 20%	Sample average
Labour market status			
Full-time job	45.1	49.1	44.2
Part-time job	11.8	10.6	11.4
Unemployed	7.4	0.9	2.8
Retired	14.8	29.9	26.5
Economic inactivity	21.0	9.5	15.0
Notes: Column percentages. Table reads, for example, that 45% of people in the lowest 20% of the financial capability distribution are in a full-time job.			

Table 12 describes the relationship between financial capability and household type, distinguishing between elderly and non-elderly single person households, couples with dependent, non-dependent and no children, lone parents and other households. We find that people in single person households have relatively high financial capability – they account for 26% of the highest capability quintile group (compared to just 11% of the lowest quintile group and 18% of the sample as a whole).

Table 12: Household type by financial capability quintile group: BHPS 1991–2006			
	Lowest 20%	Highest 20%	Sample average
Household type			
Single non-elderly	7.1	11.3	7.0
Single elderly	4.3	14.3	10.7
Couple no children	21.4	37.1	32.1
Couple dependent child	34.4	20.3	26.6
Couple non-dep. child	17.9	8.9	13.3
Lone parent	11.6	6.0	7.9
Other household	3.4	2.1	2.4
Notes: Column percentages. Table reads, for example, that 7% of people in the lowest 20% of the financial capability distribution are in single non-elderly households.			

A further 37% of those in the highest capability quintile group are in couples with no children (compared with 32% of the sample as a whole). In contrast, 34% of those in the lowest quintile group are in couples with dependent children (compared to 27% of the sample), and a further 18% are in couples with non-dependent children (13% of the sample). Therefore childless couples and singles are concentrated in the highest capability quintile group while those in couples with children are concentrated in the lowest capability group.

Table 13 summarises the relationship between housing tenure and financial capability, and indicates that home owners (and owners without a mortgage in particular) are over-represented in the highest financial capability quintile group. For example, 78% of those in the highest quintile group are home owners (34% have no mortgage) compared with 67% of those in the lowest quintile group (14% have no mortgage) and 75% of the sample as a whole. However, mortgage holders are over-represented in the lowest capability quintile group (52% of this group have a mortgage, compared with 46% of the sample as a whole). Also, 25% of people in the lowest quintile group are social tenants compared with 15% of those in the highest quintile group.

Table 13: Housing tenure by financial capability quintile group: BHPS 1991–2006			
	Lowest 20%	Highest 20%	Sample average
Housing tenure			
Own outright	14.4	34.4	29.0
Own mortgage	52.2	43.4	45.5
Social tenant	25.3	15.3	19.0
Private tenant	8.1	6.9	6.5
Notes: Column percentages. Table reads, for example, that 14% of people in the lowest 20% of the financial capability distribution own their home outright.			

Finally we examine the relationship between financial capability and total gross monthly household income. Although we have adjusted financial capability for income, there are other factors that are associated with both financial capability and income – for example older people tend to have relatively high financial capability and relatively low incomes – and hence a relationship between income and income-adjusted financial capability may still emerge.

Table 14: Gross monthly household income by financial capability quintile group: BHPS 1991–2006			
	Lowest 20%	Highest 20%	Sample average
Household income			
Mean	2739	2252	2521
Median	2215	1949	2115
10th Percentile	694	671	652
90th Percentile	5316	4000	4837

Table 14 suggests that those in the lowest financial capability quintile group on average have higher incomes than the sample average. For example, the mean household income of people in this group is £2739 per month, compared with £2252 among those in the highest quintile group and £2521 for the sample as a whole.[10] This suggests that factors other than income are important in determining people's position in the financial capability distribution (see, for example, Taylor 2009, 2011). People who we expect to have the highest household incomes – prime-aged individuals in full-time work – also tend to have the greatest financial commitments and the highest expenditures which, if financial management skills are lacking, may be difficult to juggle.

Therefore people with relatively high financial capability on average have good health, are older (aged 65 and above) with higher levels of education. They are in full-time work and do not have resident children, and own their home outright. In contrast, people with relatively low financial capability are more likely to have poor or very poor health, with no (or low) education and be in unemployment or economic inactivity. They live in households with dependent children, and have a mortgage or are social tenants. We use these measures to define a person's financial capability in 1991, and in the remainder of the report examine how this is related to the outcomes of interest in later years.

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10 The standard deviation of income however is lower for those in the highest financial capability quintile group. This suggests that people with low financial capability have relatively volatile household incomes compared to those with high financial capability.

5 Summarising the outcomes of interest

In this section we describe the outcome variables of interest and examine patterns over time across the sample period. This helps to place the later results into context.

5.1   Financial capability

The first outcome of interest relates to financial capability in later years – does financial capability in 1991 have an impact on financial capability in subsequent years? Here we provide some descriptive statistics that summarise patterns and trends in financial capability between 1996 and 2006. Figure 4 plots the evolution of financial capability over the period of interest. This indicates that financial capability initially increased from 1996 to 1998, and between 2000 and 2004. There is some evidence of a fall in financial capability since 2004.

Figure 4: Average financial capability: BHPS 1996–2006
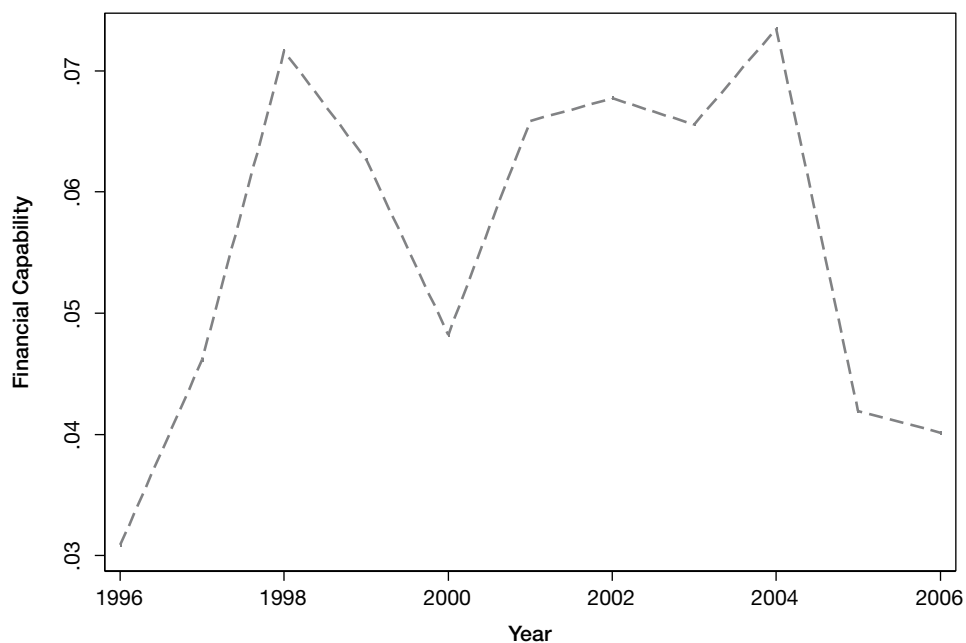
Source: BHPS 1991-2006

Table 15: Within-individual year-on-year change in financial capability: BHPS 1996–2006

	Means		
	t–1	t	Change
Financial capability	0.056	0.064	0.008
N	46947		

Notes: Table reads, for example, that on average individuals had a financial capability of 0.056 in year t–1 and of 0.064 in year *t*, indicating an average annual improvement in financial capability of 0.008.

Table 15 looks in more detail at how financial capability changes from one year to the next for each individual between 1996 and 2006. It summarises individuals' mean financial capability at two consecutive years as well as the average year-on-year change. The table indicates that on average over the period of interest people's financial capability increased between one year ("t–1") and the next ("t"). The average change was positive (0.008), showing that financial capability was improving.

Figure 5 plots the distribution of within-individual year-on-year changes in financial capability over the period. This shows that 30% had no change in their financial capability from one year to the next, which is clearly the modal value. Although this suggests that in 70% of cases individuals' financial capability changed from one year to the next – indicating substantial longitudinal flux – in most cases the amount of change was small.

Figure 5: Within-individual year-on-year changes in financial capability: BHPS 1996–2006

Within-individual year-on-year change in financial capabiltiy
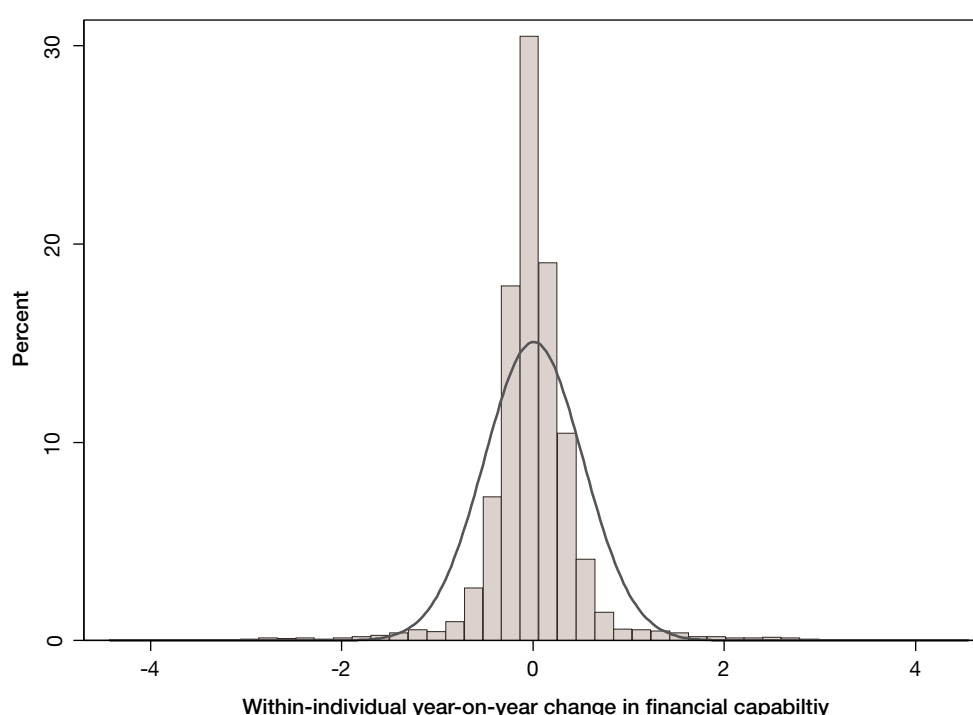
Table 16: Transitions between financial capability quintile groups: BHPS 1991–2006						
Financial capability at t–1	Financial capability at t					
	Lowest	Second	Middle	Fourth	Highest	N
Lowest quintile group	47.8	22.8	13.5	9.3	6.5	13700
Second quintile group	21.5	32.8	21.9	14.8	9.1	13868
Middle quintile group	11.9	21.9	30.1	20.8	15.3	13714
Fourth quintile group	7.8	14.5	21.2	33.2	23.3	13875
Highest quintile group	5.4	8.7	15.0	24.0	47.0	14103
Notes: Table reads, for example, that 47.8% of people in lowest quintile group of income-unadjusted financial capability in one year (t–1) remained in the lowest quintile group in the subsequent year (t).						

In Table 16 we examine changes between financial capability quintile groups from one year to another. This again reflects change from one year to the next in people's financial capability. For

example, less than half of people in the lowest capability quintile group remain within that group from one year to the next, with about 23% moving into the second quintile group, and more than 6% moving into the highest quintile group. Similar proportions (47%) of those in the highest quintile group in one year remain in the highest quintile group in the subsequent year, while 24% fall into the fourth quintile group and 5% fall into the lowest quintile group.

Such changes in financial capability may be associated with, for example, learning new skills or becoming aware of new products and services (or skill depreciation and failing to stay informed about appropriate financial products), or extreme financial shocks or other changes in household circumstances that require new or different financial management skills.

5.2   Psychological wellbeing

We use three measures of psychological wellbeing, each capturing a slightly different component. The first is the GHQ-12 which we score using the Likert method, giving a range of 0 (no mental health issues at all) to 36 (indicating serious mental health problems). The second measure of psychological wellbeing we use is whether or not a person reports suffering from a health problem related to anxiety or depression. This too has been collected at each BHPS wave, and is likely to more clearly capture any chronic psychological health condition. The third measure of wellbeing we use is reported life satisfaction. At waves 6–10 (1996–2000) and waves 12–16 (2002–2006) respondents were asked "How dissatisfied or satisfied are you with….. your life overall?" using a seven point scale where one equates to not satisfied at all and seven to completely satisfied.

Table 17: Measures of psychological wellbeing: BHPS 1996–2006			
Year	GHQ Score	Suffers anxiety/ depression	Life satisfaction
1996	11.25	0.072	5.266
1997	11.22	0.078	5.269
1998	11.16	0.078	5.344
1999	11.11	0.070	5.244
2000	11.48	0.081	5.154
2001	11.39	0.087	
2002	11.31	0.088	5.229
2003	11.25	0.082	5.270
2004	11.32	0.079	5.195
2005	11.48	0.077	5.116
2006	11.46	0.087	5.180
Average	11.30	0.080	5.232
N observations	50640	51493	46111

Notes: Table reads, for example, that in 1996 adults in the BHPS sample had a mean GHQ score of 11.25, 7.2% suffered from health problems relating to anxiety or depression, while average life satisfaction scores were 5.266. 'Average' shows data pooled from waves 6 to 16.

Table 17 summarises how patterns in GHQ scores, suffering from problems related to anxiety or depression and reported life satisfaction evolve over the outcome period of interest. The average GHQ score over the period was 11.3, and there is some evidence of an increase in GHQ scores (and therefore in mental stress levels) over the period. The average proportion of people reporting a health problem related to anxiety or depression was 8%, and again there is

some evidence of an increase over the period, with the highest proportion (8.8%) reporting a problem in 2002. Average life satisfaction scores were 5.2. These fell marginally over the period. Therefore these numbers suggest that psychological wellbeing got marginally worse between 1996 and 2006.

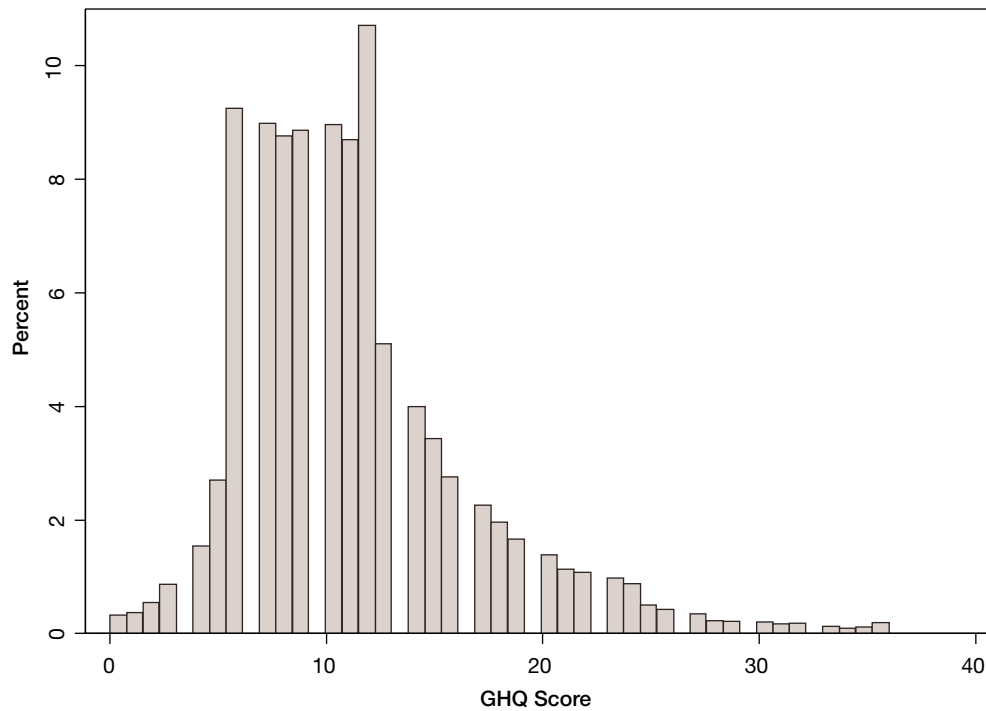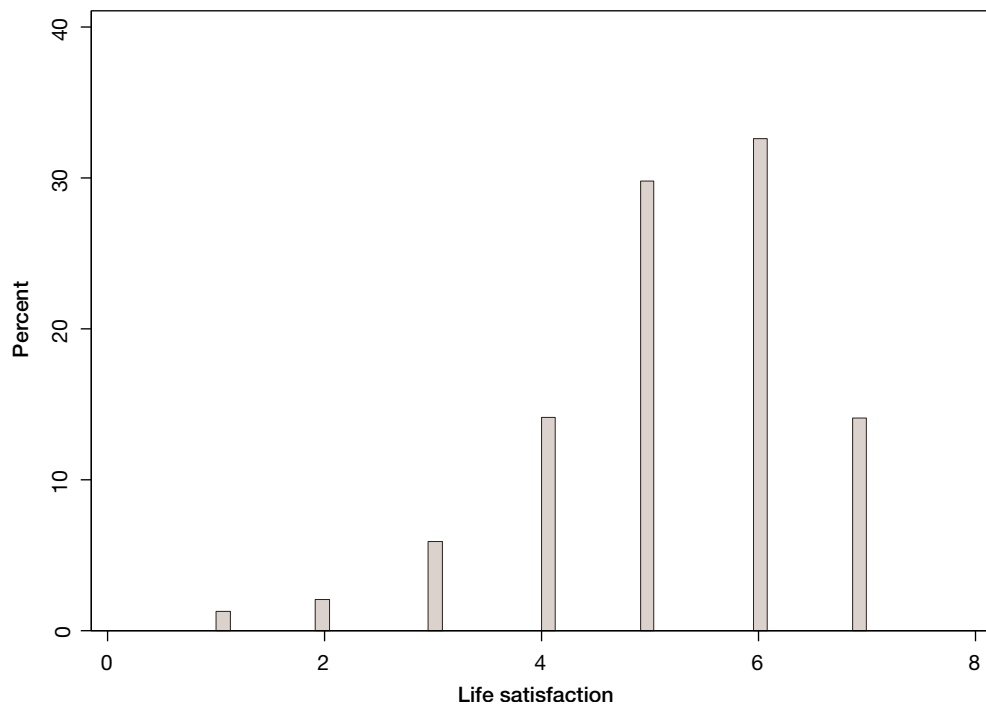**Figure 6: Frequency distribution of GHQ scores: BHPS 1996–2006**

Figure 7: Frequency distribution of life satisfaction scores: BHPS 1996–2006

However these averages tell us little about the distribution of GHQ scores or life satisfaction scores, which we explore in more detail in Figures 6 and 7. Figure 6 plots the frequency distribution of GHQ scores, and clearly shows that most people reported GHQ scores of between 7 and 14. Almost two thirds of all reported scores lie in this interval, with only 20% of observations having scores above 13 and 10% above 18. The median GHQ score in the sample is 11. Figure 7 plots the frequency distribution of life satisfaction scores and shows that the most common satisfaction scores were 5 and 6. In fact 30% of the sample reported a life satisfaction score of 5 and 33% a score of 6, with only 22% reporting a score of 4 or less. The median life satisfaction score in this sample is 5. Therefore the majority of people had good psychological health but a minority were suffering from acute psychological distress.

But how did individuals' psychological wellbeing change from year to year? Table 18 presents our first look at this. The table indicates that on average people's psychological wellbeing fell between one year ("t–1") and the next ("t"). The mean change in GHQ scores was positive while that in reported life satisfaction was negative, showing that psychological wellbeing fell over the period. The mean GHQ score increased from 11.21 to 11.27 between two consecutive years, while the mean reported life satisfaction fell from 5.26 to 5.24. The proportion suffering from a health problem related to anxiety or depression remained unchanged.

Table 18: Within-individual year-on-year change in psychological wellbeing: BHPS 1996–2006			
	Means		
Psychological wellbeing	*t*–1	*t*	Change
GHQ scores	11.21	11.27	0.07
Life satisfaction	5.26	5.24	−0.02
Anxiety/depression	0.07	0.07	0.00
Notes: Table reads, for example, that on average individuals had a GHQ score of 11.21 in year t–1 and of 11.27in year t, indicating an average annual increase in GHQ scores of 0.07.			

Figure 8 plots the distribution of year-on-year changes at the individual level in GHQ scores. This shows that in excess of 25% had no change in psychological wellbeing from one year to the next. While this is clearly the modal value, it indicates that in 75% of cases individual's psychological wellbeing changes from one year to the next, and in some cases the extent of this change was large. Again, this reflects the fact that the 36-point GHQ score is good at identifying short-term changes in mental health. Figure 9 reveals a similar pattern when looking at the year-on-year changes at the individual level in reported life satisfaction. Almost 50% of people report no change in their life satisfaction from one year to another, while a further 20% report either an increase or decrease in life satisfaction of one point on the 7-point scale. Therefore only about 10% report a change of more than one point in life-satisfaction from one year to the next.

Figure 8: Within-individual year-on-year changes in GHQ scores: BHPS 1996–2006
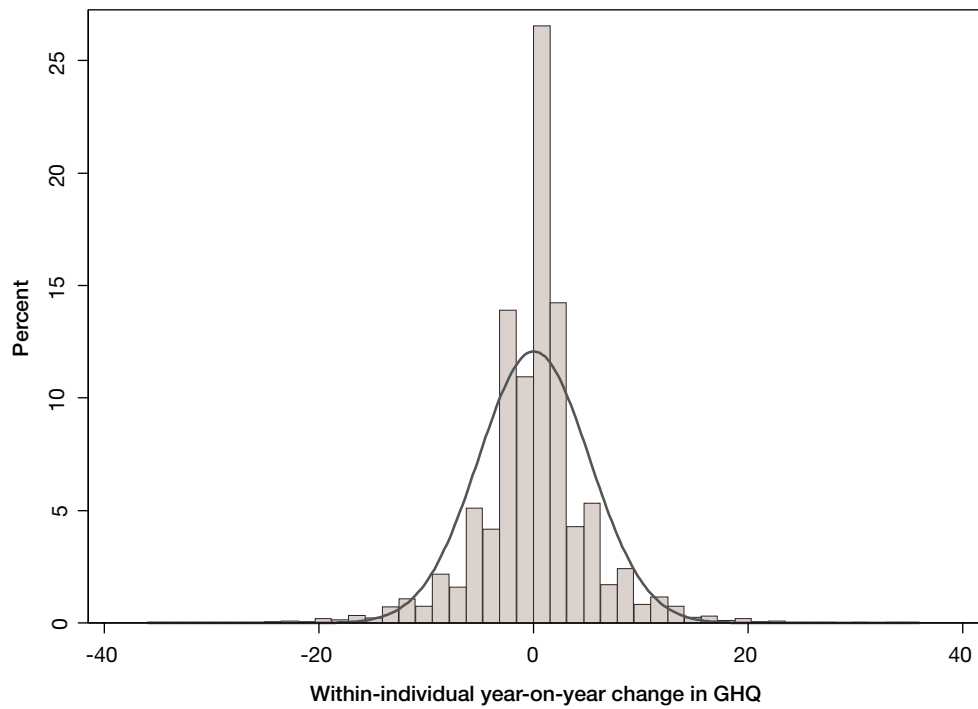
Figure 9: Within-individual year-on-year changes in life satisfaction scores: BHPS 1996–2006
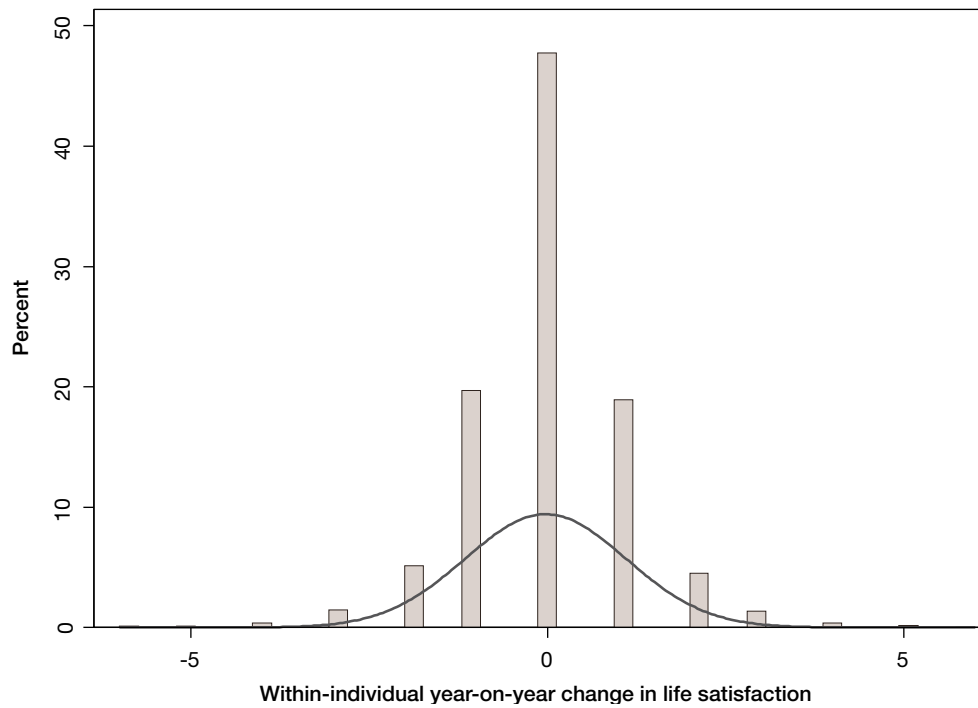
Table 19 reports year-to-year changes in reporting a health problem related to anxiety or depression. This shows that fewer than 4% of those who did not report such a health problem in one year were reporting a problem in the subsequent year. In contrast, almost 42% of those who in one year were suffering from a health condition related to anxiety or depression were no longer suffering the problem in the subsequent year.

Table 19: Year-on-year changes in anxiety/depression: BHPS 1996–2006			
	Anxiety/depression *t*		
t–1	No	Yes	N
No	96.3	3.7	43459
Yes	41.8	58.2	3470
Total	92.3	7.7	46929
Notes: Row percentages. Table shows, for example, that 96% of people who did not report a problem related to anxiety or depression in one year (*t*–1) were also did not report a problem in the subsequent year (*t*).			

5.3   Labour market status

The next outcome of interest relates to a person's labour market status – and in particular whether they are in employment, in full-time employment, or unemployment in later years. While the link between financial capability in one year and employment outcomes in later years is less obvious than for some of the other outcomes of interest, previous research suggests that unemployment is associated with lower financial capability (Taylor 2009, 2011). The lack of financial management skills may also reflect broader deficiencies that affect people's abilities to retain their jobs, to search effectively for a new job, or their attachment to the work. Because these outcomes are only meaningful for those of working age, we restrict analysis here to men aged between 16 and 64, and women aged 16 to 59 throughout the sample period. The majority of men and women above these ages are likely to be in retirement or out of the labour market, irrespective of their financial capability.

Figure 10 provides an initial illustration of employment rates, full-time employment rates and unemployment rates for working age individuals over the period of interest.[11] This indicates that employment rates among this sample remained relatively stable over the period at about 70%. The full-time employment rate also remained relatively constant at about 55%. The unemployment rate (defined as being out of work and looking for a job) fell at the beginning of the period in the late 1990s, and remained relatively constant from 1999 to 2006, at below 4%. However this figure tells us little about transitions between labour market states over the period. To investigate this, Table 20 focuses on average year-on-year transitions between labour market states, and reveals considerable change over time. (Here retirement is self-defined by the respondent, and economic inactivity includes all other non-work states such as looking after the home or family.)

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11 Employment here includes those that are self-employed.

Figure 10: Employment status of working age individuals: BHPS 1996–2006
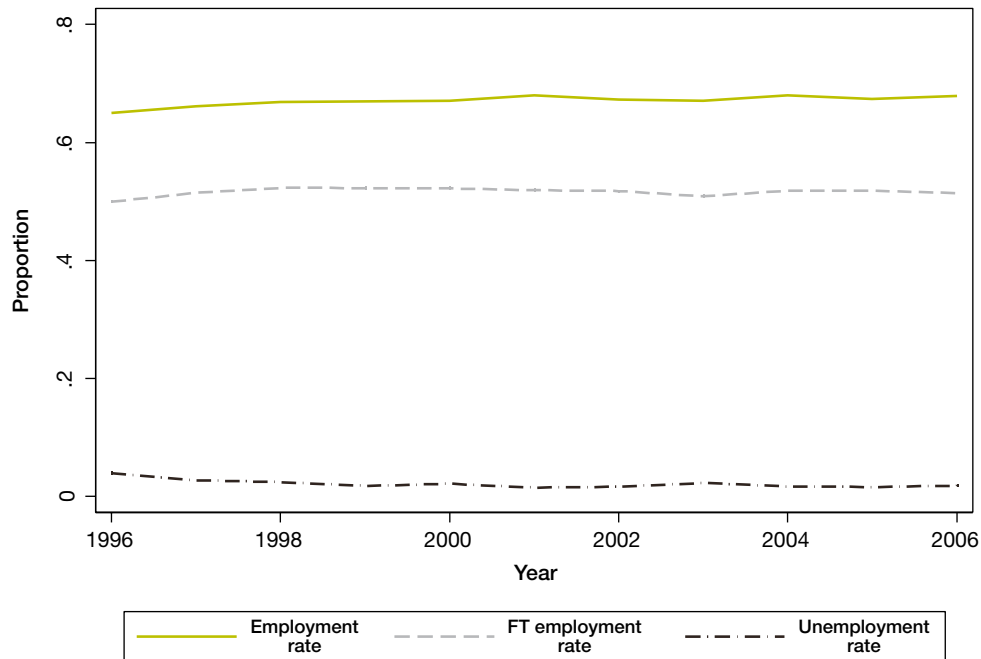
Table 20 indicates that the most stable employment status was full-time work. 94% of people in full-time work in one year were also in full-time work in the subsequent year, while 2.5% had moved into part-time work, 2% had entered economic inactivity and 1% had become unemployed. Part-time work was less stable, with 79% of those in part-time work in one year also in part-time work at the subsequent year. The most common destination for those who left part-time work was full-time work – 13% of part-time workers in one year were in full-time work at the next year, while 6% were inactive, 1% were unemployed and only a very small proportion were retired. About 15% of the working age sample was in part-time employment in any particular year.

Table 20: Year-on-year changes in labour market status: BHPS 1996–2006

Employment status at *t*–1	Employment status at *t*					
	Full-time	Part-time	Unemployed	Retired	Inactive	N
Full-time work	93.6	2.5	0.9	0.8	2.2	21045
Part-time work	12.5	79.4	1.3	0.8	6.0	5308
Unemployed	27.3	17.1	26.0	3.2	26.4	820
Retired	2.5	2.0	1.3	79.7	14.6	1043
Economic inactivity	6.9	7.3	4.5	4.6	76.6	5450
Total	62.3	15.4	2.2	4.1	16.0	33666

Notes: Row percentages. Table reads, for example, that 94% of people in full-time work in one year (*t*–1) were also in full-time work at the subsequent year (*t*).

Economic inactivity was also a relatively stable state, with 77% of those inactive in one year also inactive in the subsequent year. Almost 7% of the economically inactive in one year were in full-time work at the next year, a similar proportion were in part-time work, 4.5% were unemployed and 3% retired. Less than 3% of the working age sample was unemployed in any particular

year. Of these, 26% were also unemployed at the subsequent year, 27% had entered full-time work and a further 17% part-time work while 26% had become economically inactive. Relatively few people of working age across the period classified themselves as retired – only 4% did so. Of these, 80% remained in retirement at the subsequent year, while the majority of those leaving retirement remained economically inactive. Only 2.5% entered full-time work, while 2% entered part-time work and 1% entered unemployment. Therefore there is a considerable amount of labour market turnover from one year to the next, although full-time employment is a relatively stable state.

5.4 Lifestyle

Our lifestyle measure is derived from a Townsend/Breadline Britain type indicator. This collects information on the extent to which households in which people live are able to: keep their home adequately warm; pay for an annual holiday; replace worn out furniture; buy new clothes; eat meat on alternate days and feed visitors once a month. We add the number of these items that people are able to do to provide an indicator of each person's current lifestyle. Figure 11 summarises the average number of items afforded over the period of interest. This shows a continuous improvement in living standards over the period, with the number of activities a person does increasing from about 5 in 1996 to 5.4 in 2006.

Figure 11: Number of items afforded: BHPS 1996–2006
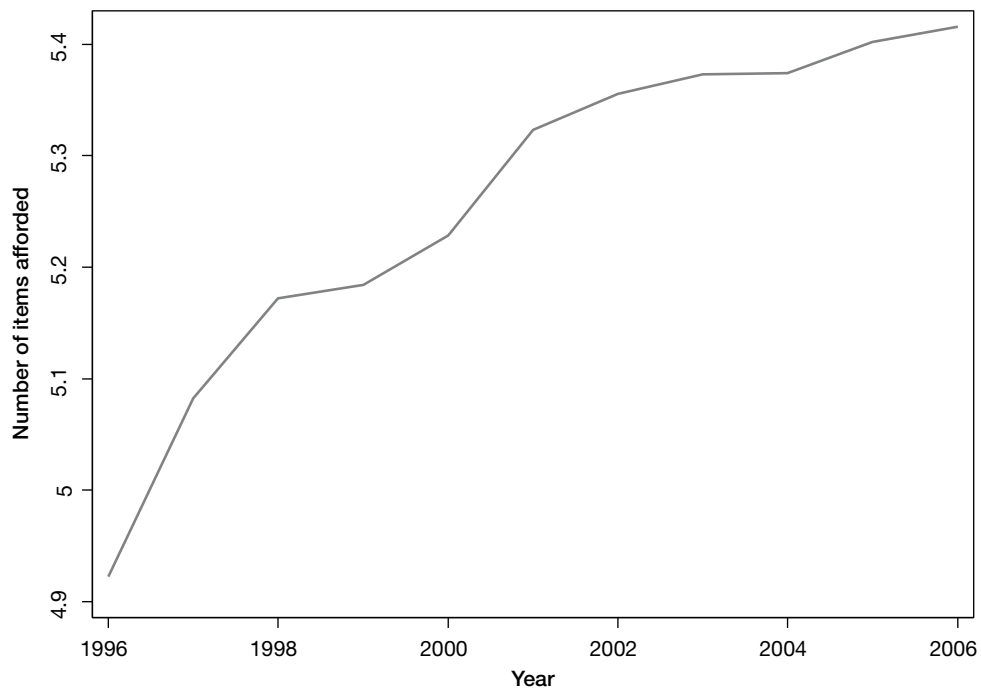
To investigate the extent of year-on-year change at the individual level, in Table 21 we summarise the number of items each individual is able to do over two consecutive years together with the average within-individual year-on-year change. This indicates that on average people's lifestyles improved over the period, with an average year-on-year increase in the number of items that people are able to do of 0.55.

Table 21: Within-individual year-on-year change in lifestyle: BHPS 1996–2006			
	Means		
	t–1	*t*	Change
Number of items	4.67	5.22	0.55
Notes: Table reads, for example, that on average individuals had 4.67 items in year *t*–1 and 5.22 in year *t*, indicating an average annual increase of 0.55.			

To illustrate the extent of year-on-year change more completely, Figure 12 focuses on average year-on-year change in the number of items people are able to do. This indicates that almost 60% experience no change from one year to another – there is a big spike at zero change. Despite the average increase in the number items people do over time, the figure shows that a substantial minority also experience falls in their lifestyle over time. About 10% for example are able to do one fewer activity in one year than in the previous year. Nevertheless, it is clear that on average people improve their living standards and lifestyle over time.

Figure 12: Within-individual year-on-year changes in lifestyle: BHPS 1996–2006
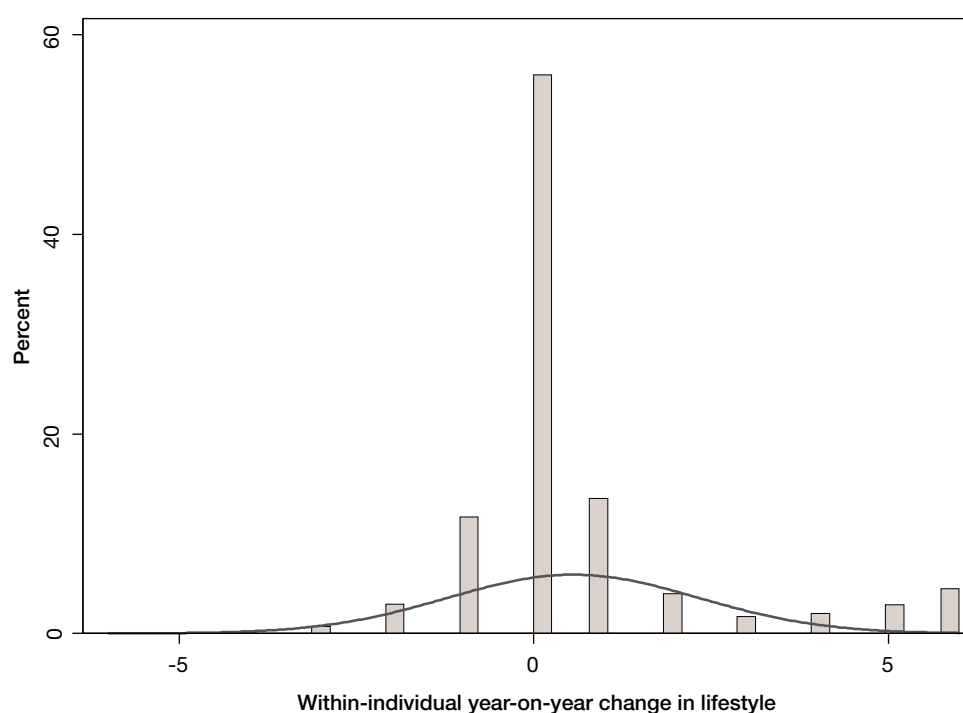
5.5   Saving behaviour

The BHPS collects a range of information on people's saving behaviour. They are at each wave asked the extent to which they save any amount of their current income, other than to meet regular bills. This was incorporated into our measure of financial capability. From wave 10 (2000) onwards, respondents were also asked the extent to which they save on a regular basis (rather than from time-to-time) and whether or not their savings are mainly long-term savings for the future, or short-term savings for things needed now or unexpected events. Figure 13 plots the proportion of the sample who were saving, saving regularly and who were saving long-term. Note that both here and throughout this report, not saving regularly and not saving for the long-term includes both people who do not save at all and those who do save, but not regularly or for the long-term respectively.

This indicates that the proportion of the sample who were able to save from their income remained relatively stable over the period at about 40%. The proportion who saved regularly rather than from time-to-time increased marginally between 2000 and 2006. In 2000 about 30% of respondents were saving regularly. This increased to 33% by 2006. In contrast the proportion that was saving long-term fell, from 16% in 2000 to 12% in 2006. However this figure tells us little about the dynamics of saving behaviour – how an individual's saving behaviour changes from one year to the next. To investigate this, Tables 22, 23 and 24 focus on average within-individual year-on-year transitions in saving behaviour.

Figure 13: Saving behaviour: BHPS 1996–2006
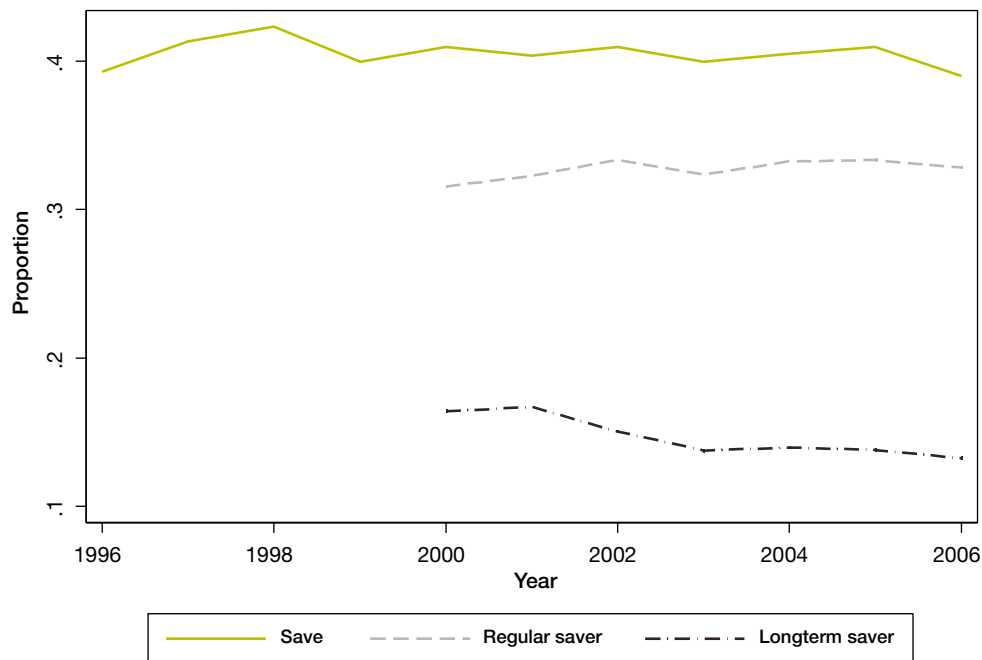
Table 22: Year-on-year changes in saving from current income: BHPS 1996–2006			
	Saves at *t*		
Saves at *t*–1	No	Yes	N
No	81.9	18.1	27607
Yes	26.9	73.1	19340
N	59.7	40.3	46947
Notes: Row percentages. Table shows, for example, that 82% of those not saving in one year (*t*–1) were also not saving in the subsequent year (t).			

Table 22 shows relatively high persistence in saving behaviour. About 82% of individuals who did not save in one year (t–1) were also not saving in the subsequent year (t), while 18% had started to save. There is relatively less stability among those who save, with 73% of people who save in one year also saving in the subsequent year, while 27% had stopped saving. Table 23 reveals similar stability in saving regularly. About one-third were saving regularly at any particular year. Of those saving regularly, 70% were also saving regularly in the subsequent year while 30% no longer saved regularly. Persistence in not saving regularly was higher, only 18% of those not saving regularly in one year started to save regularly in the following year.

Table 23: Year-on-year changes in saving regularly: BHPS 2000–2006			
	Saves regularly at *t*		
Saves regularly at *t*–1	No	Yes	N
No	81.9	18.1	19821
Yes	30.0	70.0	7662
N	68.0	33.0	27483
Notes: Row percentages. Table shows, for example, that 82% of those not saving regularly in one year (t–1) were also not saving regularly in the subsequent year (t).			

Table 24 focuses on year-on-year transitions in long-term saving. This indicates that fewer people start saving long-term from one year to the next – fewer than 10% of those not saving for the long-term in one year were saving for the long-term in the subsequent year. Furthermore, more than one half of people who were saving for the long-term in one year had stopped saving for the long-term in the subsequent year. Therefore persistence over time in long-term saving is relatively low.

Table 24: Year-on-year changes in long-term saving: BHPS 2000–2006			
	Long-term saving at *t*		
Long term saving at *t*–1	No	Yes	N
No	90.2	9.8	23927
Yes	52.2	47.8	3556
N	85.4	14.6	27483
Notes: Row percentages. Table shows, for example, that 90% of those not saving regularly in one year (t–1) were also not saving regularly in the subsequent year (t).			

5.6   Household income

The final outcome of interest we investigate is real gross monthly household income, deflated to January 2006 prices. This aggregates all sources of income from all household members, and we allocate this total household income to all individuals living in that household. We therefore assume income pooling among household members. This approach parallels the measurement of an individual's economic resources in terms of needs-adjusted household income, which is standard in the low income and poverty literature. Figure 14 plots how average household income has changed over the period of interest. This reveals an almost continuous increase in real household income, from about £2,500 per month in 1996 to £2,900 per month in 2006. Therefore this suggests that real household incomes increased by about £400 per month between 1996 and 2006.

This cross-sectional perspective does not examine how household income changes for the same individuals over time. Table 25 summarises individuals' mean household incomes over two consecutive years as well as the average within-individual year-on-year change. The table indicates that on average people's household income increased between one year and the next. The average household income increased from £2,612 per month in one year to £2,632 in the subsequent year – an increase of £20. This is consistent with Figure 14 – on average people's household incomes were increasing over the period.

Figure 14: Real monthly household income: BHPS 1996–2006
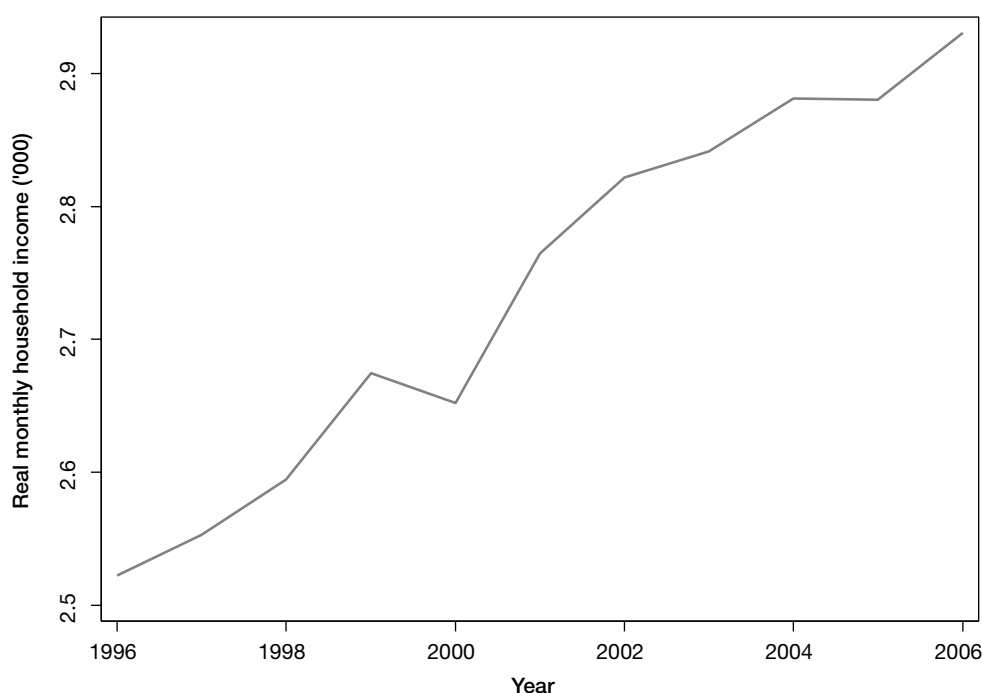
Table 25: Within-individual year-on-year change in household income: BHPS 1996–2006

	Means		
	t–1	t	Change
Household income	2612.42	2632.30	19.89

Notes: Table reads, for example, that on average individuals had a household income of £2612 in year *t*–1 and £2632 in year *t*, indicating an average increase of £20.

Figure 15 plots the within-individual year-on-year change in real gross monthly household income over the period. This indicates that about 10% of individuals experienced no year-on-year change in their real incomes. While this is clearly the modal value, it is also evident that there is a large amount of year-on-year change in household incomes. On average, more people experienced an increase in their household incomes than a decrease, but there are substantial proportions that experience falls in their household income from one year to another. Some of these changes are large – there are (relatively few) people who experience increases and falls in their monthly household income of £500 or more.

This section has introduced the outcomes of interest, and described patterns and trends in them across the sample period. A consistent picture that emerges is the amount of change at the individual level in most of these outcomes – people change their behaviour from one year to the next. In the subsequent sections of this report we focus on relating these outcomes of interest to people's financial capability in 1991. Initially we do this using simple descriptive statistics, before undertaking more complex statistical modelling to examine whether relationships are robust to controlling for potentially confounding and mediating factors.

Figure 15: Within-individual year-on-year change in monthly household income: BHPS 1996–2006

Within-individual year-on-year change in monthly household income

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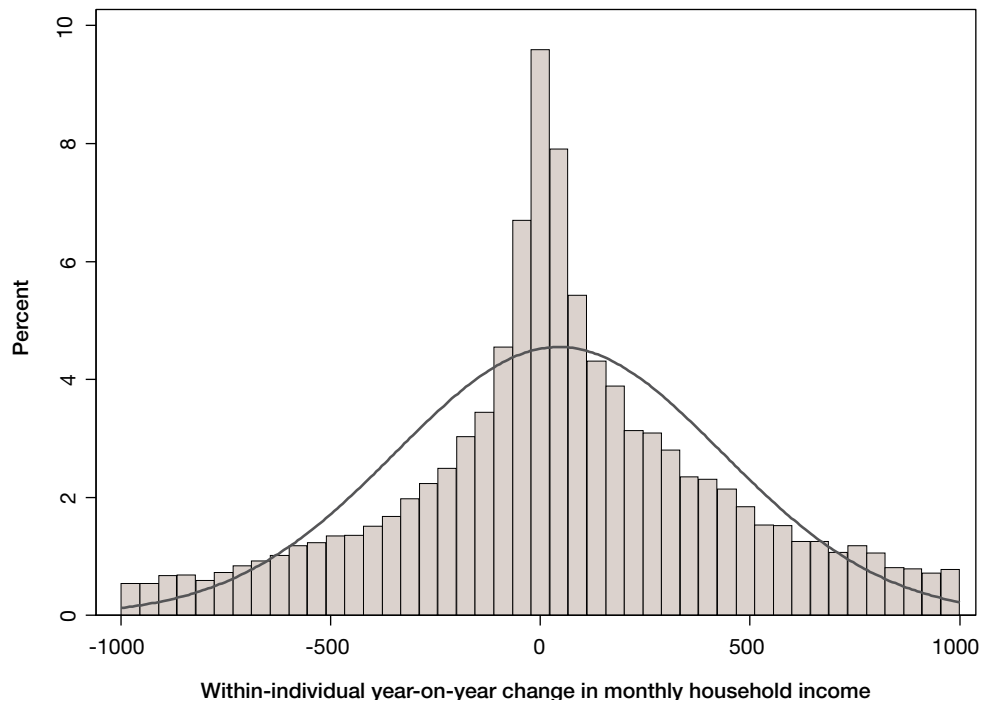
6 Financial capability in 1991 and outcomes in later years

In this section we provide some descriptive statistics as a first insight into the relationships between people's financial capability in 1991 and their outcomes of interest in later years.[12] This is the first analytical step towards developing an understanding of the links between financial management skills at one point in time and future outcomes. In all tables, the data have been weighted to take account of potential non-random attrition and non-random response and we include all adult respondents (aged 16 and above unless otherwise stated), irrespective of age. The focus is on adults who provide non-missing responses to the variables of interest. Of course, these descriptive tables do not take into account other individual and household characteristics which might potentially confound or mediate the effects shown. We present results from multivariate statistical models that do this later in the report.

6.1   Financial capability

We first investigate the relationship between a person's financial capability in 1991 and their financial capability in later years. A positive association would indicate that that people with high financial capability in 1991 also have high capability in later years.

Table 26: Correlations between financial capability in 1991 and in later years: BHPS 1991–2006				
	Correlation with financial capability in:			
	1996	2000	2006	1996–2006
Financial capability in 1991	0.286	0.227	0.214	0.228
N	5613	4887	3813	51501
Notes: Figures shown are Spearman rank correlation coefficients.				

Table 26 presents correlations between financial capability in 1991 and financial capability in 1996, 2000 and 2006. The final column presents correlations when pooling the data across all eleven BHPS waves from 1996 to 2006. These correlations are all positive, indicating that people with greater financial capability in 1991 also have higher financial capability in later years. For example, the correlation between financial capability in 1991 and 1996 is 0.286. The correlations are largest with financial capability in 1996, indicating that the strength of the relationship weakens over time. Despite this, correlations with financial capability in 2006 remain above 0.2.

Table 27 instead presents mean financial capability in 1996, 2000 and 2006 by financial capability quintile group in 1991. This indicates that people in the lowest financial capability quintile group in 1991 consistently have the lowest average financial capability in later years. Furthermore, there is a monotonic relationship such that people in higher financial capability quintile groups in 1991 have consistently higher average financial capability in later years.

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12 One issue is the extent to which 1991 can be seen as a representative, or average, year. The British economy was in recession in the early 1990s, and this is likely to have stretched the distribution of our financial capability measure. This has advantages for our analysis by allowing us to more accurately identify those with high or low financial capability (on the assumption that during a recession those with low financial capability will struggle to manage their finances more than those with high financial capability). Using a person's average financial capability over the period 1991–1995 yields similar results to those presented here.

Table 27: Average financial capability in later years by financial capability quintile group in 1991: BHPS 1991–2006				
	Average financial capability in:			
Financial capability quintile group in 1991	1996	2000	2006	1996–2006
Lowest financial capability	−0.188	−0.088	−0.087	−0.097
2	−0.030	−0.008	−0.042	−0.006
3	0.049	0.064	0.088	0.076
4	0.140	0.120	0.122	0.138
Highest financial capability	0.196	0.196	0.161	0.197
N	5613	4887	3813	51501

Notes: Table shows, for example, that people in the lowest financial capability quintile group in 1991 had an average financial capability of −0.188 in 1996, compared with an average financial capability of 0.196 for those in the highest financial capability quintile group in 1991.

As with the correlations in Table 26, there is some evidence that the strength of this relationship has weakened over time. For example, the difference in average financial capabilities in 1996 between those in the lowest financial capability quintile group and in the highest financial capability quintile group in 1991 was 0.384 (0.196 – (–0.188)). By 2006, this difference had fallen to 0.248 (0.161 – (–0.087)).

Figure 16: Financial capability 1996–2006 by financial capability quintile group in 1991: BHPS 1991–2006
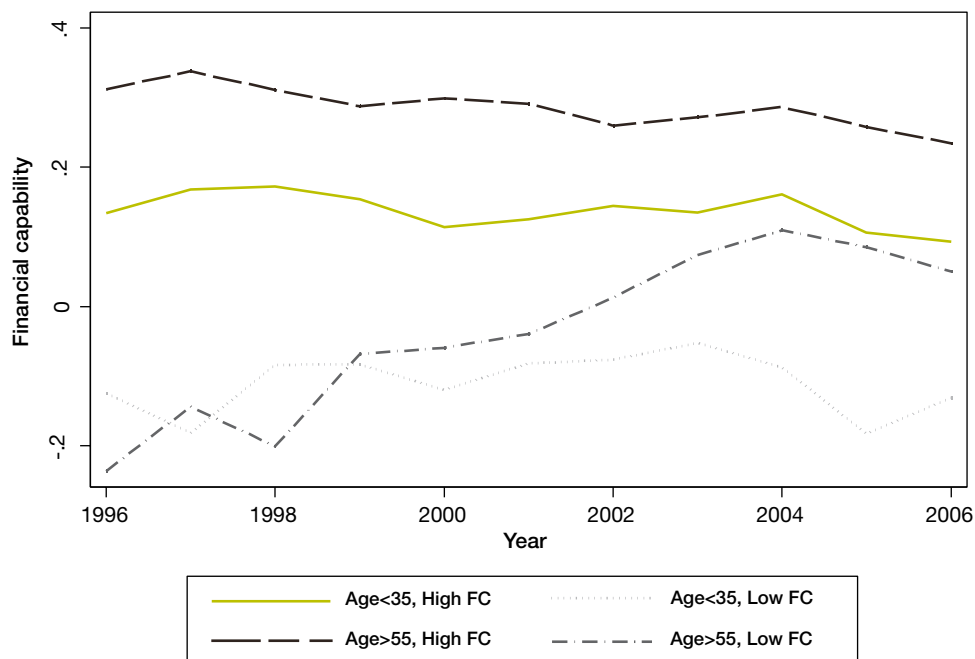
Source: BHPS 1996-2006

Figure 16 plots average financial capability between 1996 and 2006 according to financial capability quintile group in 1991 by age in 1991. This illustrates the extent of the relationship between financial capability in 1991 and in later years. Two processes can be observed in this figure. The first is that the average levels of financial capability after 1996 of those in the

lowest 20% of the financial capability distribution in 1991 were considerably below those of people with the highest financial capability in 1991. This is apparent among both age groups. For example, people aged less than 35 with high financial capability in 1991 had a financial capability in 1996 of about 0.15, compared with –0.15 for people aged less than 35 with low financial capability in 1991. This gap persisted between 1996 and 2006. People aged 55 or older with high financial capability in 1991 had a financial capability in 1996 of about 0.3, compared with –0.2 for people aged 55 or older with low financial capability in 1991. However this gap narrowed between 1996 and 2006, as the financial capability of those in the lowest fifth in 1991 improved over time while that of those in the highest fifth remained relatively stable. This narrowing of the gap among older people may reflect other life changes occurring at the same time, such as paying off a mortgage and children leaving the parental home, which are associated with a fall in the number of financial commitments faced.[13]

Table 28 describes transitions between financial capability quintile group in 1991 and quintile groups in later years, and illustrates substantial persistence. For example, one third of people in the lowest financial capability quintile group in 1991 were also in this group in 1996, and about 55% were in the bottom two quintile groups in 1996. Similar persistence occurs at the top of the capability distribution, with about 58% of those in the highest quintile group in 1991 in the top two quintile groups in 1996. This persistence remains, even over longer periods. For example more than one half of people in the lowest financial capability quintile group in 1991 were in the lowest 40% of the capability distribution in 2006, while about 30% were in the highest 40% of the distribution. Such persistence is also noticeable at the top of the capability distribution.

Therefore we find evidence of a positive relationship between financial capability in 1991 and financial capability in later years although there is some evidence it appears to weaken gradually over time. In our later multivariate analysis, we examine the extent to which this relationship holds once we allow for a range of individual and household characteristics.

Table 28: Transitions between financial capability quintile groups: BHPS 1991–2006						
Financial capability in 1991	Financial capability in 1996					
	Lowest	Second	Middle	Fourth	Highest	N
Lowest quintile group	33.7	20.8	17.1	13.7	14.7	1111
Highest quintile group	9.4	13.9	19.2	24.5	33.0	1180
	Financial capability in 2000					
Lowest quintile group	29.4	19.1	18.8	16.1	16.6	983
Highest quintile group	10.3	15.6	17.5	23.5	33.1	1020
	Financial capability in 2006					
Lowest quintile group	31.6	18.9	18.3	15.9	15.2	776
Highest quintile group	11.7	16.7	18.4	23.4	28.8	810
Notes: Table reads, for example, that 34% of people in the lowest quintile group of financial capability in 1991 remained in the lowest quintile group in 1996.						

6.2   Psychological wellbeing

We next investigate the relationship between financial capability in 1991 and psychological wellbeing in later years, with an initial focus on GHQ scores. As a first step, Table 29 presents Spearman rank correlation coefficients to illustrate the degree of association between financial capability in 1991 and GHQ scores. The correlation coefficients between GHQ scores and income-adjusted and unadjusted financial capability in 1991 are similar, at about –0.1. This

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13 It is also likely that people with the lowest financial capability will be more likely to drop out from the sample. Although weights take some account for such non-random attrition, it may still play some role in explaining the increase over time in financial capability among those with low financial capability. The data also indicate that financial capability among people with low financial capability is on average more volatile than among those with high financial capability – people with low financial capability are less able to react to and absorb any (negative) financial shocks that they experience.

indicates that higher financial capability in 1991 is associated with lower GHQ scores (and higher psychological wellbeing) in later years, although it is a relatively weak relationship. However the correlations remain stable over time.

Table 29: Correlations between financial capability in 1991 and GHQ scores in later years: BHPS 1991–2006				
	GHQ scores in:			
	1996	2000	2006	1996–2006
Financial capability in 1991	−0.110	−0.097	−0.109	−0.103
N individuals	5496	4784	3711	45718
Notes: Figures shown are Spearman rank correlation coefficients.				

Figure 17: Average GHQ scores 1996–2006 by financial capability quintile group in 1991: BHPS 1991–2006
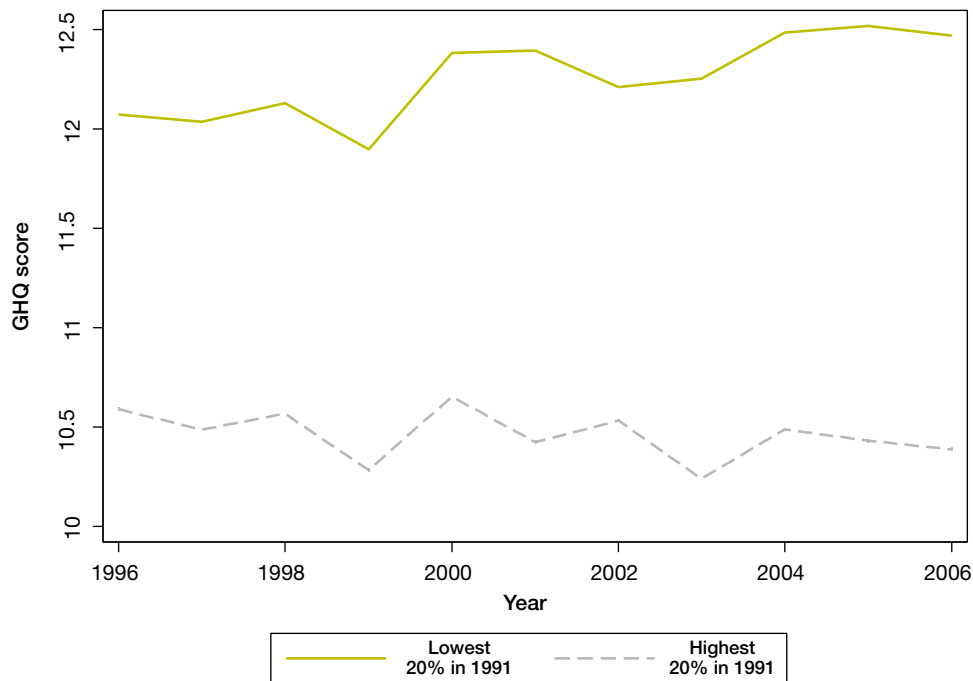
Figure 17 investigates this relationship in more detail by plotting average GHQ scores between 1996 and 2006 by financial capability quintile group in 1991. This reveals a consistent and relatively large difference in GHQ scores by financial capability in 1991. For example in 1996 people in the lowest quintile group of the financial capability distribution in 1991 had average GHQ scores of about 12, while those in the highest quintile group had average GHQ scores of about 10.5. The figure suggests that this gap has widened over time so that by 2006 the difference in GHQ scores between those in the lowest and highest quintile groups of the financial capability distribution in 1991 exceeded 2 GHQ points. Therefore we find evidence of a positive relationship between financial capability in 1991 and psychological wellbeing in later years when using GHQ scores.

Table 30 summarises the relationship between financial capability in 1991 and reported life satisfaction in later years using Spearman rank correlation coefficients. These are consistent with those in Table 29 and indicate a positive relationship between financial capability in 1991 and life satisfaction in later years, and the average correlations are higher with life satisfaction

than with GHQ scores. Therefore people with higher financial capability in 1991 reported higher life satisfaction between 1996 and 2006 than those with low financial capability. There is also some evidence that these correlations increased over time – the correlation between financial capability in 1991 and life satisfaction in 2006 is higher than that between financial capability in 1991 and life satisfaction in 1996.

Table 30: Correlations between financial capability in 1991 and life satisfaction in later years: BHPS 1991–2006				
	Life satisfaction in:			
	1996	2000	2006	1996–2006
Financial capability in 1991	0.145	0.146	0.163	0.144
N individuals	5565	4809	3736	46111
Notes: Figures shown are Spearman rank correlation coefficients.				

Figure 18: Average life satisfaction 1996–2006 by financial capability quintile group in 1991: BHPS 1991–2006
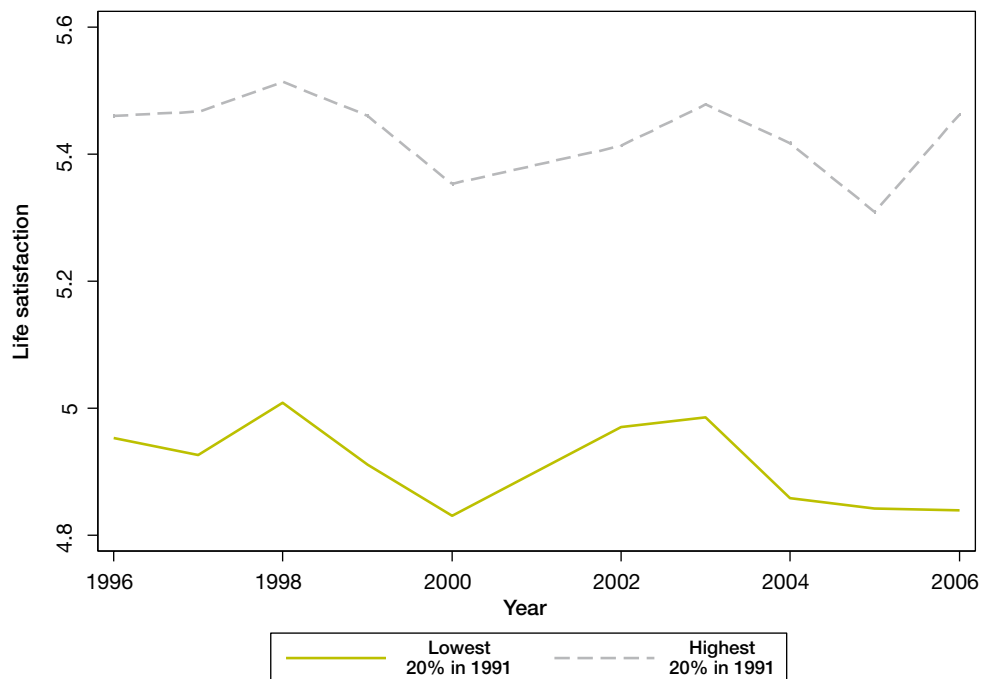
This relationship is confirmed in Figure 18, which plots average life satisfaction between 1996 and 2006 by financial capability quintile group in 1991. People in the highest 20% of the financial capability distribution in 1991 on average report higher life satisfaction between 1996 and 2006 than people in the lowest 20% of the financial capability distribution in 1991. The differences are relatively large (about 0.5 satisfaction points), and remain relatively stable over the period. This figure also highlights the average decline in life satisfaction over the period. As with GHQ scores, using reported life satisfaction suggests a positive relationship between financial capability in 1991 and psychological wellbeing in later years that persists over time.

Our third and final measure of psychological wellbeing is whether or not people suffer from a health problem relating to anxiety or depression. Table 31 summarises financial capability in 1991 by suffering from anxiety or depression in later years. Again we find a relationship

between financial capability in 1991 and psychological wellbeing in later years, as people reporting a problem relating to anxiety or depression between 1996 and 2006 had lower average financial capability in 1991 than those not reporting such a health problem. Those suffering anxiety or depression in 1996 had an average financial capability of –0.28 in 1991, compared with –0.12 for those who did not suffer anxiety or depression. This difference persists across the period.

Table 31: Average financial capability in 1991 by suffering from anxiety or depression in later years: BHPS 1991–2006				
	1996	2000	2006	1996–2006
Suffers anxiety/depression	−0.279	−0.235	−0.293	−0.287
Does not suffer	−0.122	−0.131	−0.142	−0.131
N individuals	5610	4886	3813	51493

Notes: Table reads, for example, that the average financial capability in 1991 of people who reported suffering from anxiety or depression in 1996 was –0.279, compared to –0.122 for those who did not report suffering anxiety or depression.

Figure 19: Average proportion suffering anxiety or depression 1996–2006 by financial capability quintile group in 1991: BHPS 1991–2006
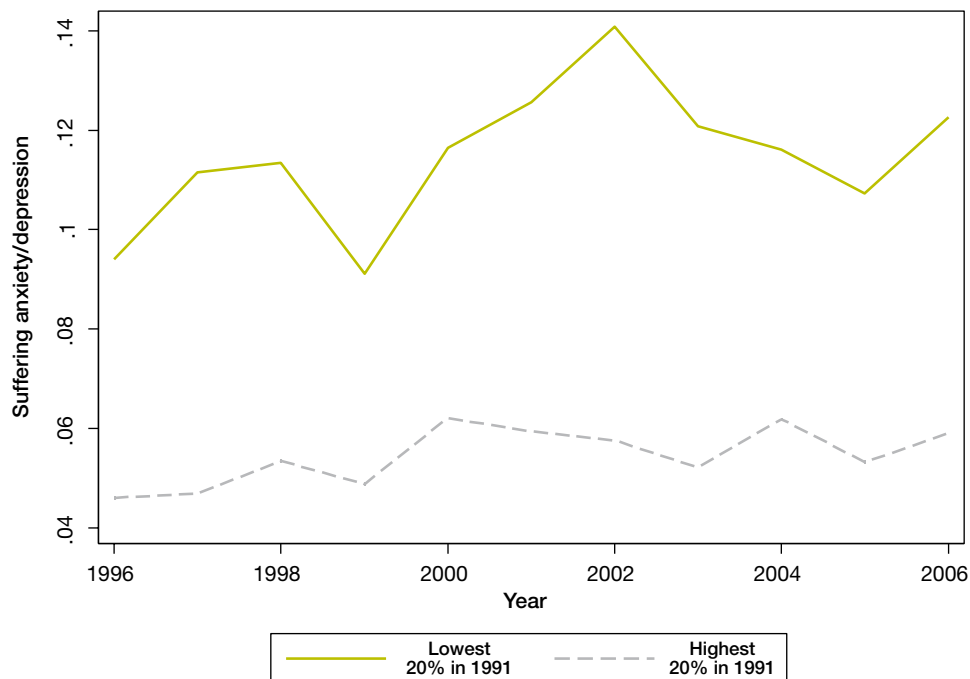
 Figure 19 illustrates this relationship graphically, by plotting the proportion of people suffering anxiety or depression between 1996 and 2006 by their financial capability quintile group in 1991. Consistent with the other measures of psychological wellbeing, a larger proportion of people in the lowest 20% of the financial capability distribution in 1991 than in the highest 20% reported suffering a health problem related to anxiety or depression in later years. For example, about 10% of people in the lowest fifth of the 1991 financial capability distribution reported suffering from anxiety or depression in 1996, compared with fewer than 5% of those in the highest fifth of the 1991 financial capability distribution. This gap remained relatively constant between 1996 and 2006, although the proportion from each quintile group reporting anxiety or

depression increased over time.

This descriptive analysis provides evidence of a positive association between financial capability in 1991 and psychological wellbeing in later years. We find that higher financial capability in 1991 is associated with lower mental stress (as measured by GHQ scores), higher reported life satisfaction and a lower propensity to report health problems related to anxiety or depression. We next examine relationships between financial capability in 1991 and employment status in later years.

6.3   Employment status

Our third outcome of interest relates to labour market status. For this analysis to be informative we here focus only on those of working age, which is men aged 16–64 and women aged 16–59. The majority of older men and women are likely to be in retirement or out of the labour market, irrespective of their financial capability. We distinguish between full-time and part-time workers (either in self-employment or paid employment), the unemployed (defined as being out of work and having looked for a job in the last four weeks), the retired (which is self-assessed by the respondents), and the otherwise economically inactive (which includes family care, full-time education and long-term sick or disabled).

Table 32: Average financial capability in 1991 by employment status in later years: BHPS 1991–2006				
	1996	2000	2006	1996–2006
Employed full-time	−0.136	−0.174	−0.190	−0.175
Employed part-time	−0.223	−0.224	−0.182	−0.218
Unemployed	−0.487	−0.325	−0.411	−0.445
Retired	0.033	−0.001	−0.045	0.002
Inactive	−0.344	−0.326	−0.420	−0.343
N individuals	4281	3581	2590	37245
Notes: Table reads, for example, that the financial capability in 1991 of people in full-time employment in 1996 was −0.136 compared to −0.344 for those in unemployment in 1996.				

Table 32 summarises average financial capability in 1991 by labour market status in later years. This indicates that those in full-time employment and the retired between 1996 and 2006 had consistently higher levels of financial capability than those in other labour market states (see also Taylor 2009). For example, those employed on a full-time basis in 1996 had an average financial capability of −0.14 in 1991, while that for the retired was 0.03. The unemployed and the otherwise inactive had the lowest levels of financial capability in 1991 (at less than −0.22). These differences persist throughout the period, and remain as large in 2006 as in 1996. Therefore this is initial evidence that low financial capability in 1991 is associated with unemployment in subsequent years, while higher financial capability in 1991 is associated with employment (and full-time employment in particular).

To illustrate the relationship between financial capability in 1991 and employment status in subsequent years, Figures 20, 21 and 22 plot average employment rates, full-time employment rates and unemployment rates by financial capability quintile group in 1991. Focusing first on Figure 20, this clearly illustrates that people in the highest 20% of the financial capability distribution in 1991 had higher employment rates in subsequent years than those in the lowest 20% of the financial capability distribution. The differences are substantial. For example, 75% of people in the highest financial capability quintile group in 1991 were employed in 1996, compared with 58% of those in lowest financial capability quintile group in 1991. There is some evidence that this gap narrows over the time period as a result of both employment rates among those in the

highest financial capability quintile group in 1991 falling over time, and those in the lowest financial capability quintile group in 1991 increasing over time. In 2006, 72% of those with high financial capability in 1991 are in work compared with 65% of those with low financial capability in 1991. The decline in employment rates among those with high financial capability in 1991 may be as a result of the most financially capable having accumulated sufficient resources to allow early withdrawal from the labour market as they approach retirement age towards the end of the sample period.

Figure 20: Employment rates 1996–2006 by financial capability quintile group in 1991: BHPS 1991–2006
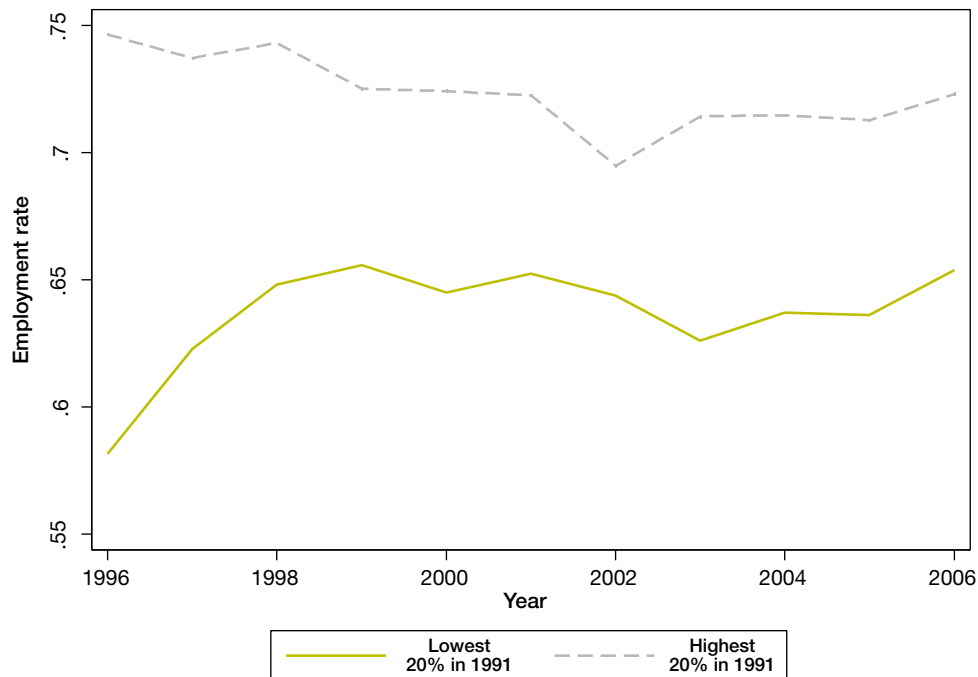
Figure 21 presents similar patterns in full-time employment rates. Again, this indicates that full-time employment rates are substantially higher among people in the highest financial capability quintile group in 1991 than among those in the lowest quintile group. For example, about 60% of those in the top 20% of the financial capability distribution in 1991 were in full-time work in 1996, compared with 43% of those in the bottom 20% of the distribution. As with the employment rates, this gap narrows considerably over time, as a result of both a fall in full-time employment rates among those in the highest financial capability quintile group and a rise among those in the lowest financial capability quintile group. By 2006, about 55% of people in the top 20% of the financial capability distribution in 1991 were in full-time work, compared with 49% of those in the bottom 20%. Again, this fall in full-time work among those with the highest financial capability may be caused by the labour market withdrawal and early retirement towards the end of the period of those with the most financial management skills and resources.

Figure 21: Full-time employment rates 1996–2006 by financial capability quintile group in 1991: BHPS 1991–2006
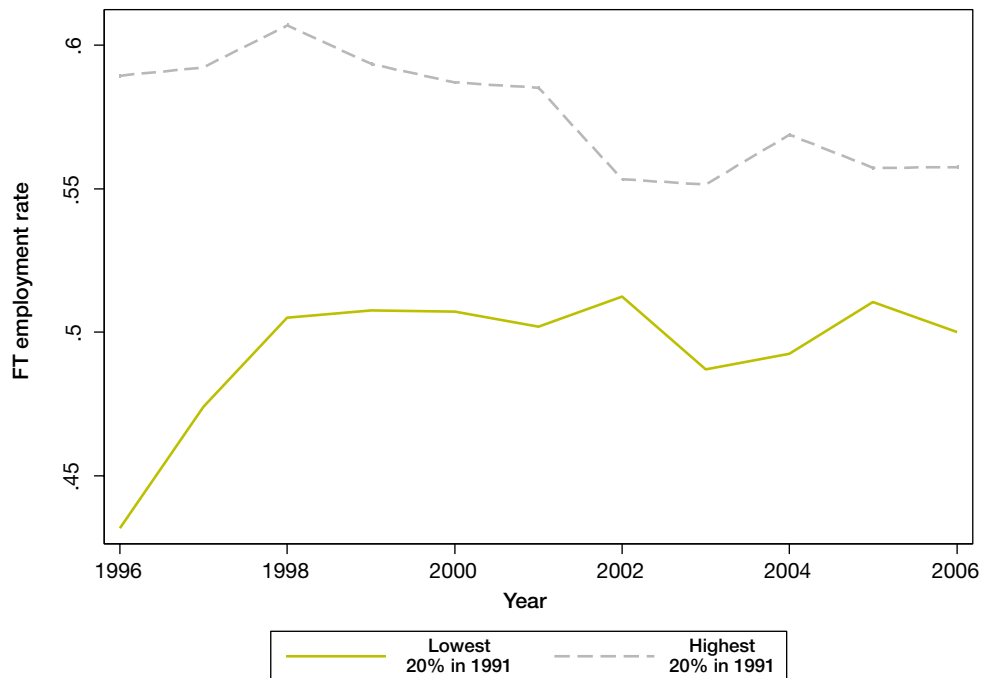
Figure 22 instead focuses on unemployment rates, to examine whether low financial capability in 1991 is associated with a higher propensity to be unemployed in later years. This suggests that there is some relationship, although it is not as clear as with the employment rates. People with the most financial capability in 1991 had consistently lower unemployment rates between 1996 and 2006 than people with the least financial capability in 1991. For example, those in the bottom 20% of the financial capability distribution in 1991 had unemployment rates of 6% in 1996, compared with 2% among those in the top 20% of the financial capability distribution in 1991. The size of this unemployment gap varied over the period. Unemployment rates among those with the lowest financial capability in 1991 fluctuated around 3% compared with 1% among those with the highest financial capability in 1991.

This descriptive analysis provides evidence of a positive association between financial capability in 1991 and employment in later years. We find that higher financial capability in 1991 is associated with a higher probability of employment and full-time employment, and a lower probability of unemployment in later years. Multivariate analysis will determine the extent to which this relationship holds once potentially confounding and mediating factors are taken into account.

Figure 22: Unemployment rates 1996–2006 by financial capability quintile group in 1991: BHPS 1991–2006
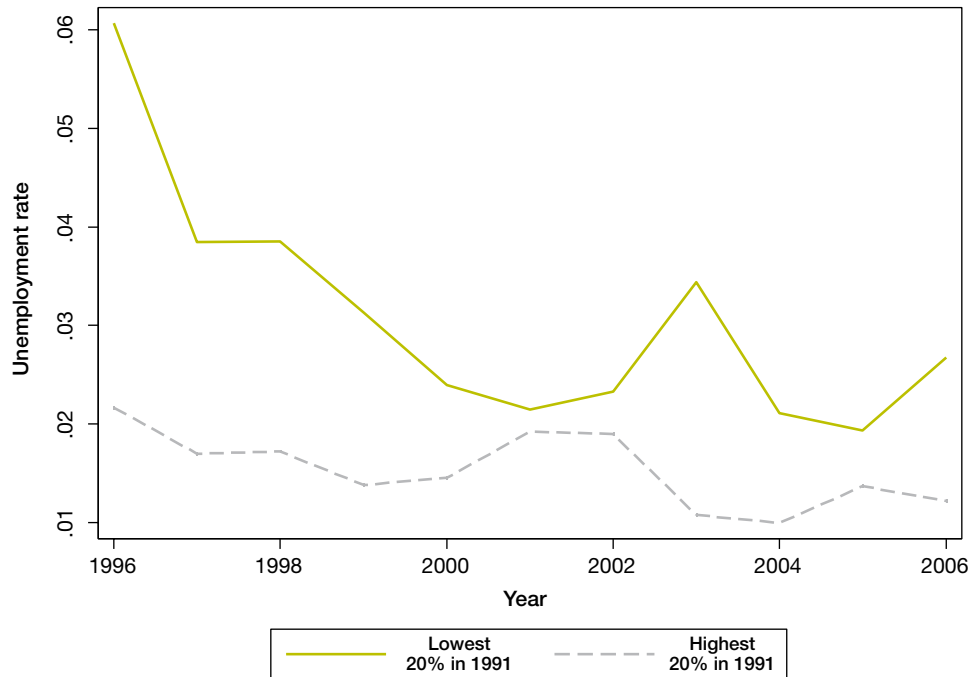
6.4 Lifestyle

The fourth outcome of interest relates to people's lifestyle and living standards in later years. We measure this with the number of the following that the household in which an individual lives is able to do: keep their home adequately warm; pay for an annual holiday; replace worn out furniture; buy new clothes; eat meat on alternate days and feed visitors once a month.

Table 33: Correlations between financial capability in 1991 and lifestyle in later years: BHPS 1991–2006				
	Lifestyle scores in:			
	1996	2000	2006	1996–2006
Financial capability in 1991	0.194	0.162	0.147	0.170
N individuals	5560	4866	3798	51267
Notes: Figures shown are Spearman rank correlation coefficients.				

Table 33 presents Spearman rank correlation coefficients between people's financial capability in 1991 and their lifestyle scores in subsequent years. As expected these are positive, indicating that people with more financial capability in 1991 were more able to enjoy a higher standard of living in subsequent years. The average correlation over the period was 0.17, and this fell from 0.19 in 1996 to 0.15 in 2006.

Table 34 summarises financial capability in 1991 by people's lifestyles in later years. This indicates an almost monotonic relationship, such that being able to afford more items in later years is always associated with higher financial capability in 1991. For example, the average financial capability in 1991 of people able to afford one item in 1996 was –0.618, compared

to an average of −0.014 for people able to afford all six items in 1996. This pattern emerges in all years and on average across the period. There is some evidence that people able to afford none of the items on average have higher financial capability than those able to afford one or two items. This is likely to reflect the fact that some people may choose to not have the listed items despite being able to afford them.

Table 34: Average financial capability in 1991 by lifestyle in later years: BHPS 1991–2006				
Lifestyle	1996	2000	2006	1996–2006
0	−0.194	−1.204	−0.091	−0.431
1	−0.618	−0.853	−1.123	−0.725
2	−0.472	−0.437	−0.538	−0.500
3	−0.384	−0.356	−0.438	−0.394
4	−0.240	−0.247	−0.322	−0.287
5	−0.100	−0.150	−0.155	−0.140
6	−0.014	−0.061	−0.094	−0.061
N individuals	5560	4866	3798	51267

Notes: Table reads, for example, that the average income-unadjusted financial capability in 1991 of people in households able to afford one item in 1996 was −0.618, compared to −0.014 for those in households able to afford all 6 items.

Figure 23: Lifestyle in 1996–2006 by financial capability quintile group in 1991: BHPS 1991–2006
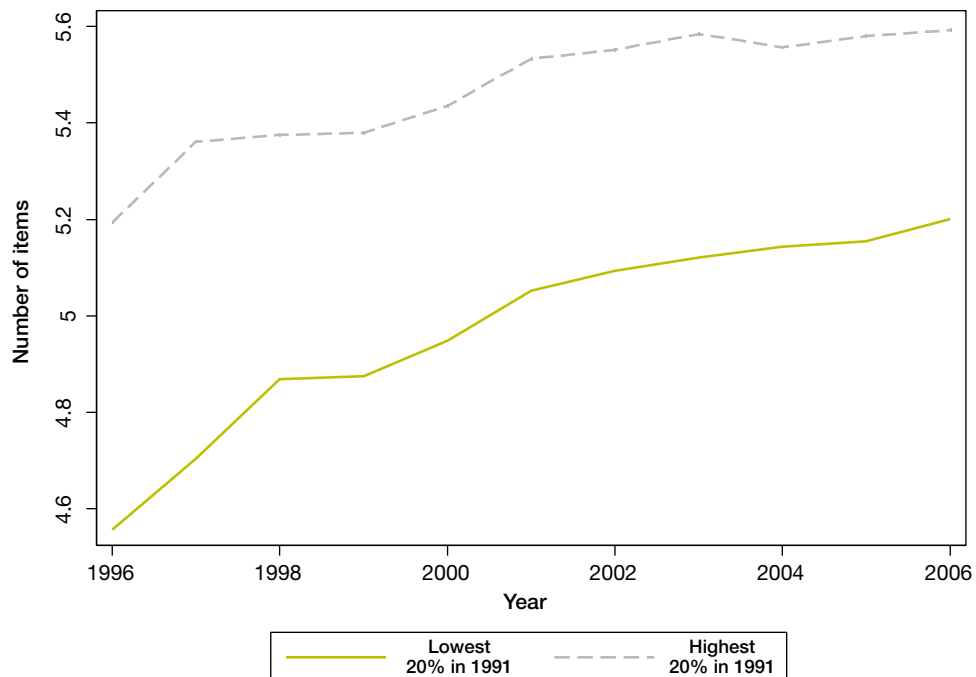
Figure 23 examines this relationship in a slightly different way, by plotting the average number of items afforded between 1996 and 2006 by people with relatively high and low financial capability in 1991. The pattern is consistent with the previous table, indicating that those with relatively high financial capability in 1991 on average have a higher number of items in subsequent years than people with relatively low financial capability in 1991. For example, those in the lowest 20% of the financial capability distribution in 1991 on average had 4.6 of the listed

50

items, compared with 5.2 items among those in the highest 20% of the financial capability distribution in 1991. This gap narrows marginally over time, although both groups have more items in 2006 than in 1996.

This descriptive analysis provides evidence of a positive association between financial capability in 1991 and lifestyle in later years. We find that higher financial capability in 1991 is associated with being able to afford more items in later years, and therefore enjoying higher standards of living. We now turn to the relationship between financial capability in 1991 and saving behaviour in subsequent years.

6.5   Saving behaviour

The fifth outcome of interest we focus on is people's saving behaviour in later years. At each wave, respondents are asked whether or not they save any amount of their income, other than to meet regular bills (what we call 'saving from current income'). From wave 10 (2000) onwards, respondents are also asked whether or not they save on a regular basis (rather than from time-to-time), and whether or not their savings are mainly long-term savings for the future, or short-term savings for things needed now or unexpected events. We explore the relationship with financial capability with each.

Table 35 presents average financial capability in 1991 by whether or not respondents save from their current income in later years. This indicates that people who saved from their current income had higher financial capability in 1991 than those who did not save. For example, the average financial capability in 1991 of those who saved from their current income in 1996 was 0.016, compared to −0.229 for those who did not save. This differential persists across the period and, as financial capability is adjusted for income, the differences in average financial capability in 1991 among savers and non-savers in later years are not explained by different income levels in 1991. Savers on average over the period had higher financial capability in 1991 than non-savers, and there is little evidence that the gap narrowed over time.

Table 35: Average financial capability in 1991 by saving from current income in later years: BHPS 1991–2006				
	1996	2000	2006	1996–2006
Saves from current income	0.016	−0.037	−0.010	−0.012
Does not save	−0.229	−0.208	−0.246	−0.229
N individuals	5613	4887	3813	51501

Notes: Table reads, for example, that the average financial capability in 1991 of people who saved from current income in 1996 was 0.016, compared to −0.229 for people who were not saving from current income in 1996.

Figure 24 looks at this relationship in a different way, by plotting the proportion of people that were saving from their current income between 1996 and 2006 by financial capability quintile group in 1991. This highlights the positive relationship between saving in later years and financial capability in 1991 – a significantly larger proportion of people in the highest 20% of the financial capability distribution in 1991 were saving than of people in the lowest 20% of the distribution. For example, in 1996, about 56% of people in the highest quintile group of the financial capability distribution in 1991 were saving from their current income, compared to 26% of those in the lowest quintile group. This gap persisted over time.

Figure 24: Proportion saving from current income 1996–2006 by financial capability quintile group in 1991: BHPS 1991–2006
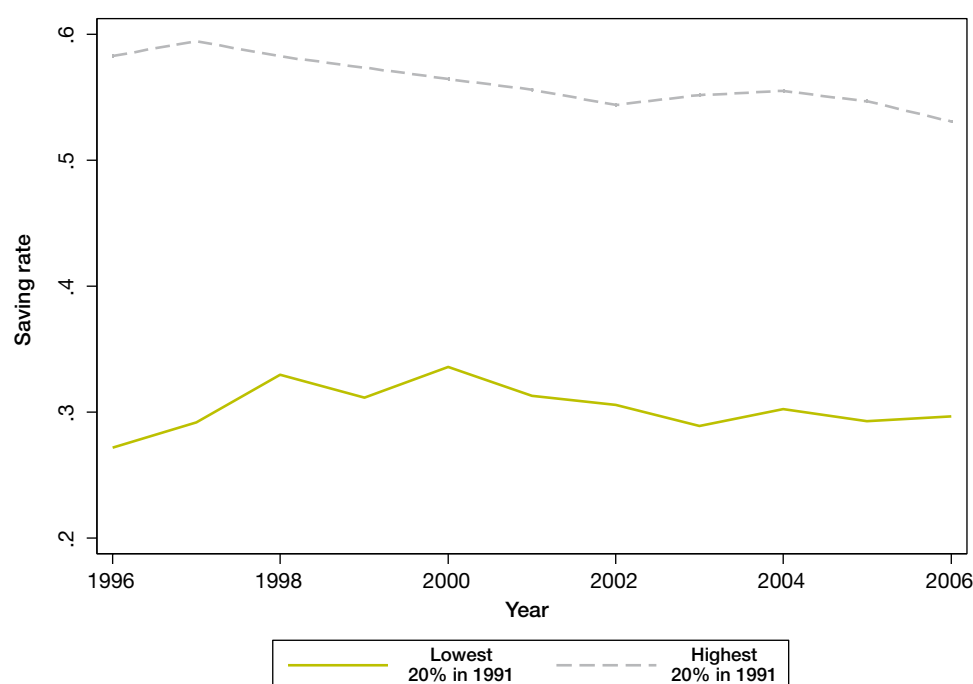
In Table 36 we summarise average financial capability in 1991 by whether or not people were saving regularly in later years. This shows a similar pattern to Table 35, in that people who were saving regularly in later years had consistently higher financial capability in 1991 than those who were not saving regularly. For example, those who saved regularly in 2000 had an average financial capability in 1991 of −0.024, compared to −0.190 among those who were not saving regularly. This persists throughout the period. Comparing these averages to those in Table 35 for people who saved from current income suggests that people who saved regularly on average had higher financial capability in 1991 than those who saved from current income. For example, regular savers in 2006 had an average financial capability in 1991 of 0.011, compared with −0.010 for those who saved from current income. These differences are, however, small.

Table 36: Average financial capability in 1991 by saving regularly in later years: BHPS 1991–2006			
	2000	2006	2000–2006
Saves regularly	−0.024	0.011	−0.009
Does not save regularly	−0.190	−0.234	−0.215
N individuals	4887	3813	29990
Notes: Table reads, for example, that the average financial capability in 1991 of people who saved regularly in 2000 was −0.024, compared to −0.190 for people who were not saving regularly in 2000.			

Figure 25 plots the proportion of people that were saving regularly between 2000 and 2006 by income-unadjusted financial capability quintile group in 1991. This clearly highlights the positive relationship between saving regularly in later years and financial capability in 1991 – a significantly larger proportion of people in the highest 20% of the financial capability distribution in 1991 than of people in the lowest 20% of the distribution were saving regularly. For example, in 2000 46% of people in the highest quintile group of the financial capability distribution in 1991 were saving regularly, compared to 25% of those in the lowest quintile group. This gap

remained relatively stable over time, with no apparent upward or downward trend in regular saving emerging for either group. Therefore there appears to be a stable, and strong, positive relationship between financial capability in 1991 and saving regularly in later years, which we examine in a multivariate framework later in the report.

Figure 25: Proportion saving regularly 2000–2006 by financial capability quintile group in 1991: BHPS 1991–2006
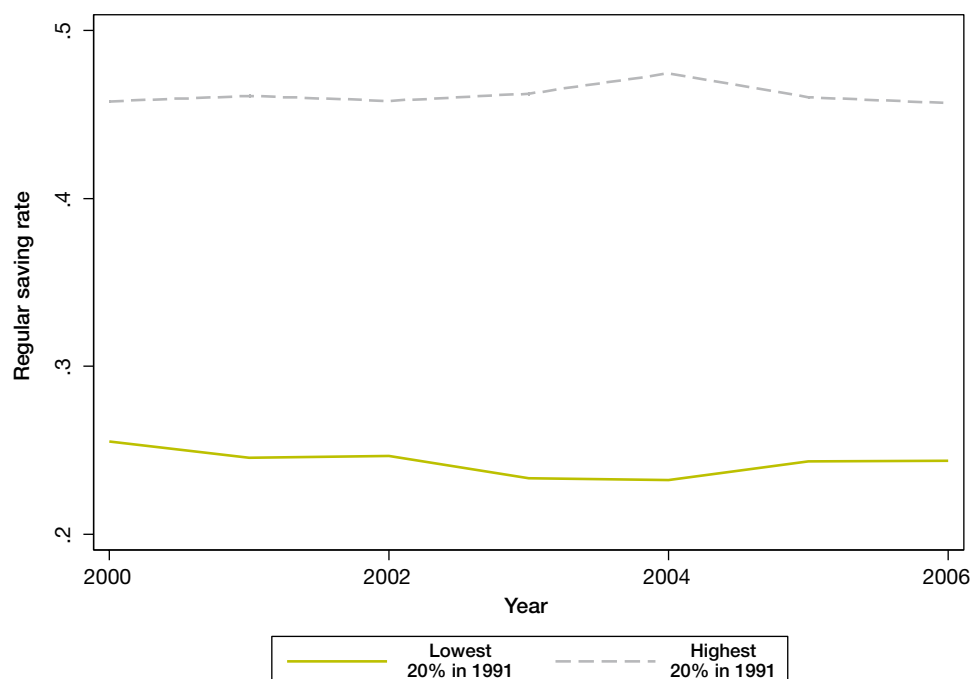
Table 37 presents average financial capability in 1991 by whether or not respondents were saving for the long-term in later years. This indicates that people who saved for the long-term had higher financial capability in 1991 than those who did not save for the long-term. For example, the average financial capability in 1991 of those saving for the long-term in 2000 was –0.003, compared to –0.166 among those not saving for the long-term in 2000. This differential persists across the period.

Table 37: Average financial capability in 1991 by saving for the long-term in later years: BHPS 1991–2006			
	2000	2006	2000–2006
Saves for long-term	−0.003	0.008	−0.001
Does not save for long-term	−0.166	−0.179	−0.175
N individuals	4887	3813	29990
Notes: Table reads, for example, that the average financial capability in 1991 of people saving for the long-term in 2000 was −0.003, compared to −0.166 for those not saving for the long-term.			

Figure 26 looks at the relationship between financial capability in 1991 and saving for the long-term in a different way, by plotting the proportion of people that were saving for the long-term between 2000 and 2006 by financial capability quintile group in 1991. This highlights the positive relationship between long-term saving in later years and financial capability in 1991 – a significantly larger proportion of people in the highest 20% of the financial capability distribution

in 1991 than in the lowest 20% of the distribution were saving for the long-term. For example, in 2000, about 25% of people in the highest quintile group of the financial capability distribution in 1991 were saving for the long-term, compared to 13% of those in the lowest quintile group. The figure shows that the proportion saving for the long-term fell among both quintile groups, although this fall is larger among those in the top 20% of the financial capability distribution in 1991. This lead to a narrowing of the gap over time, such that in 2006 18% of the top quintile group were saving for the long-term, compared to 11% of those in the lowest quintile group.

Figure 26: Proportion saving for the long-term 2000–2006 by financial capability quintile group in 1991: BHPS 1991–2006
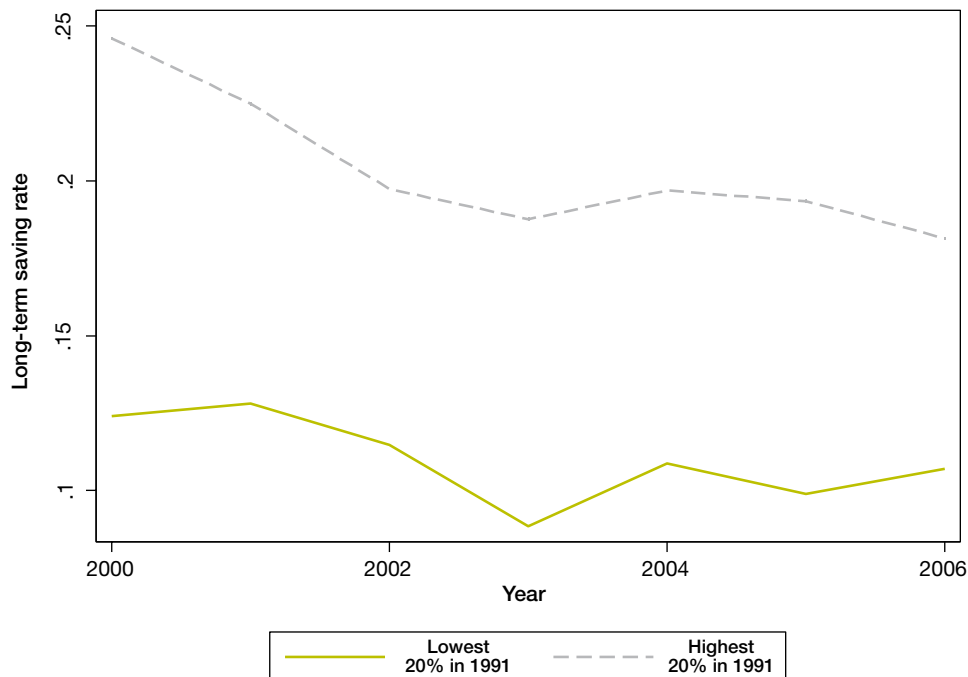
This descriptive analysis provides clear evidence of a positive association between financial capability in 1991 and saving in later years. We find that higher financial capability in 1991 is associated with a higher probability of saving from current income, saving regularly and saving for the long-term in later years. Multivariate analysis will determine the extent to which this relationship holds once potentially confounding and mediating factors are taken into account.

6.6   Household income

The final outcome of interest relates to gross monthly household income, which we express in real terms, deflated to January 2006 prices. Table 38 presents Spearman rank correlation coefficients between financial capability in 1991 and household income in subsequent years (recall that financial capability in 1991 has been adjusted for income). Financial capability in 1991 has a correlation of just 0.07 with household income in 1996, and this also falls over time.

Table 38: Correlations between financial capability in 1991 and monthly household income in later years: BHPS 1991–2006				
	Real household income in:			
	1996	2000	2006	1996–2006
Financial capability in 1991	0.074	0.041	0.045	0.055
N individuals	5613	4887	3813	51501
Notes: Figures shown are Spearman rank correlation coefficients.				

In Table 39 we summarise people's average income-adjusted and unadjusted financial capability in 1991 by their position in the household income distribution in later years. This confirms the correlations shown in Table 38, and shows that people at the bottom of the household income distribution in subsequent years had lower average financial capability in 1991, although the relationship weakens over time. For example, people in the lowest quintile group of the income distribution in 1996 on average had financial capability of –0.159, compared to –0.046 among those in highest household income quintile group in 1996. This relationship is monotonic in the sense that people on average had higher financial capability than those in the immediately lower income quintile group. However in 2000 and 2006, the relationship is less noticeable and no longer monotonic.

Table 39: Average financial capability in 1991 by monthly household income in later years: BHPS 1991–2006				
	1996	2000	2006	1996-2006
Lowest quintile	−0.159	−0.144	−0.186	−0.162
Second quintile	−0.193	−0.146	−0.151	−0.152
Third quintile	−0.164	−0.142	−0.140	−0.168
Fourth quintile	−0.095	−0.136	−0.185	−0.146
Highest quintile	−0.046	−0.129	−0.111	−0.089
N individuals	5613	4887	3813	51501
Notes: Table reads, for example, that the average financial capability in 1991 of people in the lowest household income quintile in 1996 was −0.159, compared to −0.046 for those in the highest household income quintile in 1996.				

Figure 27 plots average monthly household income between 1996 and 2006 by financial capability quintile group in 1991. This highlights the positive relationship between household income in later years and financial capability in 1991. For example, people in the bottom 20% of the income-unadjusted financial capability distribution in 1991 had an average income in 1996 of about £2,400 per month. This compares to an average monthly income of £2,700 among people in the top 20% of the income-unadjusted financial capability distribution in 1991. This difference in average incomes persists throughout the period as the average incomes of people in both the bottom and top 20% of the financial capability distribution in 1991 increased over time.

Figure 27: Monthly household income 1996–2006 by financial capability quintile group in 1991: BHPS 1991–2006
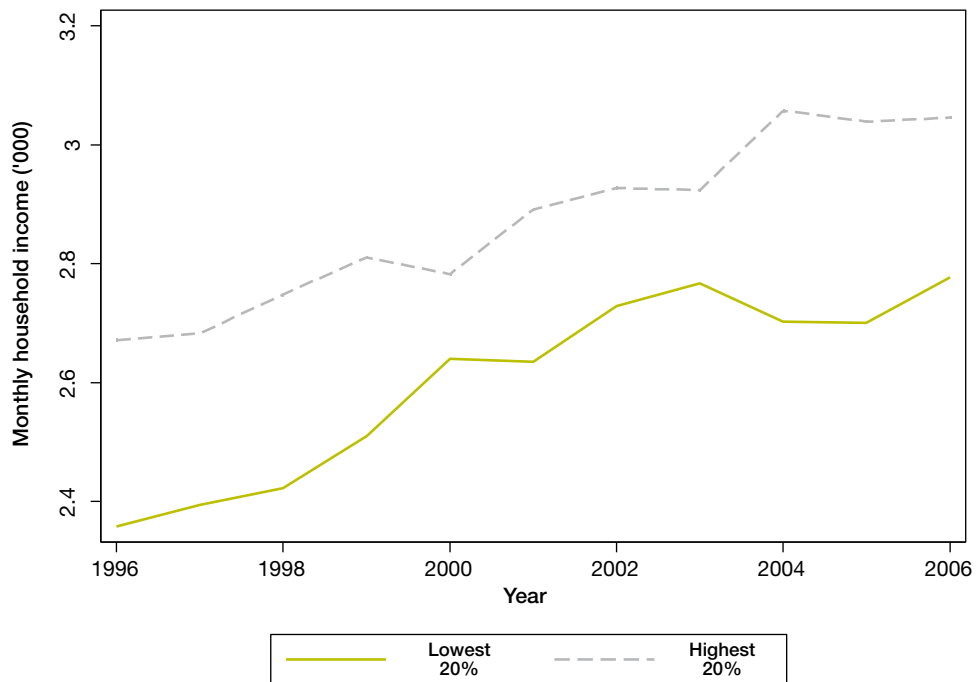
Therefore this descriptive analysis suggests that there is a positive relationship between financial capability in 1991 and household income in later years. Furthermore, we have found that financial capability in 1991 is also associated with financial capability, psychological wellbeing, employment status, lifestyle and living standards and saving behaviour in subsequent years. In particular we find that higher financial capability in 1991 is associated with higher financial capability, better psychological wellbeing, higher chances of employment (and full-time employment), lower chances of unemployment, being able to afford more items, and with saving, saving regularly and saving long-term, as well as higher incomes in later years. However, there may be mediating variables that jointly determine an individual's financial capability at any particular point in time and these outcomes of interest in later years. In the next section we introduce some multivariate analysis that examines the extent to which these relationships hold when controlling for a range of other individual and household characteristics.

7 Estimating the effect of financial capability in 1991 on later outcomes

The final stage of the analysis investigates the relationships between financial capability in 1991 and the outcomes of interest in more detail. Of particular interest is whether financial capability in 1991 has any statistically significant impacts on the outcomes of interest in later years, and if so the relative sizes of the effects. There are a number of issues which need to be addressed in attempting to answer this question. The first is that there are likely to be both mediating and confounding factors that are associated both with a person's financial capability in 1991 and with the outcomes of interest. For example, people with a higher level of education are likely to have both higher financial management skills and to have higher chances of, for example, being employed and enjoying higher living standards and incomes. A second issue is that there are also likely to be both unobservable factors (such as personality traits, ambition or motivation) and unobserved factors (such as an individual's attitude towards risk) that are similarly associated with both financial capability in 1991 and subsequent outcomes of interest. We use estimation procedures that attempt to deal with both of these issues. A third issue is the extent to which financial capability in 1991 determines financial capability in later years, and therefore whether the impacts of financial capability in 1991 on outcomes in later years persist once we allow for people's current financial capability. We investigate this in two ways. Firstly we investigate this by directly estimating the impact of financial capability in 1991 on people's financial capability in later years, which tells us the extent to which a person's current financial capability depends on their previous financial capability. Secondly, when looking at other outcomes of interest, we estimate models both with and without current financial capability among the control variables. This tells us the extent to which financial capability in 1991 has an impact on the outcomes of interest over and above the effects of current financial capability. Does having low financial capability in 1991 have an impact on, for example, employment status in later years, irrespective of a person's current financial capability?

We estimate a series of multivariate statistical models for each outcome of interest. Multivariate analysis allows us to control for other (observable) characteristics of individuals and the households that they live in that might be correlated with both the outcome of interest and financial capability in 1991 (such as age, gender, marital status, employment status, income, housing tenure, family type etc). The BHPS is a particularly rich source of a wide range of such characteristics, allowing a more reliable coefficient on the variables of interest to be estimated.

The first series of models we estimate for each outcome of interest are cross-sectional, and examine the relationship between financial capability in 1991 and the outcome of interest in 1996, 2000 and 2006. An example of a model we estimate, in which the dependent variable y is one of our outcomes of interest, FC is our measure of financial capability in 1991, and z is a vector of other control variables, is:

$$y_{i1996} = FC_{i1991}\beta + z_{i1996}\delta + \varepsilon_{i1996} \qquad [1]$$

Where the i subscript refers to an individual and ε is the error term.[14] We estimate this model separately for each outcome of interest in 1996, 2000, and 2006. Within these models, the estimated value for the coefficient β will tell us whether, controlling for other observable characteristics, financial capability in 1991 has a positive, negative, or no impact on the outcome of interest. By observing whether or not the sizes of the β coefficients vary when estimating the model for different years, we can examine whether or not the impact of financial

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14 The variables included in the vector of explanatory variables differ slightly according to the outcome of interest. This is because when examining the impact of, for example, financial capability in 1991 on employment status in subsequent years, it is not sensible to include household income – because it is largely explained by employment status – among the explanatory variables.

capability in 1991 on outcomes persists or weakens over time. The estimation procedure used varies according to the outcome of interest. For example, when using a continuous dependent variable such as income, Ordinary Least Squares is appropriate, while when the dependent variable is binary (such as whether being employed or not, or whether or not the person saves regularly), then a limited dependent variable model is used.

The second series of models are similar, but include current financial capability as an additional explanatory variable. An example of such a model is:

$$y_{i1996} = FC_{i1991}\beta + FC_{i1996}\theta + z_{i1996}\delta + \varepsilon_{i1996} \qquad\qquad [2]$$

Within these models, the estimated value for the coefficient β will tell us whether financial capability has any impact on the outcome of interest *independent from* the impact of current financial capability. Does, for example, having low financial capability in 1991 leave a lasting impact on outcomes even if a person's financial management skills have improved in the meantime?

While these cross-sectional models are useful and informative, the resulting estimates may potentially still be biased. This will be the case if there are individual-specific unobserved characteristics that are correlated with either the outcome of interest (y), financial capability in 1991 (FC_{1991}) or other observable characteristics $(z, FC_{1996, 2000, 2006})$. To allow for this, we also estimate panel data models where we examine the impact of financial capability in 1991 on the outcomes of interest across the whole period from 1996 to 2006. These can be written as follows:

$$y_{it} = FC_{i1991}\beta + z_{it}\delta + \varepsilon_{it} \qquad\qquad [3]$$

$$\varepsilon_{it} = \eta_i + h_{it} \qquad\qquad [4]$$

In these, the error term is decomposed as in [4] where η is a time invariant individual-specific effect capturing unobservable (or unmeasured) characteristics. Panel data models allow us to control for the effects of such characteristics that are fixed over time, and that might also be correlated with other explanatory variables. In particular, random effects models have the attraction of being able to establish causation under weaker assumptions than those needed to establish causation with cross-sectional data.[15] These are estimated by assuming that η are random and normally distributed, and that h are independent and normally distributed with zero mean. Estimation in this framework assumes that the time invariant unobserved individual-specific effects (η) are independent of the observable characteristics. This is quite a restrictive assumption if, for example, more able and organised individuals are both more likely to be more financially capable in 1991, to be more highly qualified and to be employed, have higher psychological wellbeing, have higher household income etc. In this case the estimated coefficients of interest (β) will pick up some of the effects of the unobservable η. To avoid this problem, we relax the assumption that η are independent of the time-varying observable characteristics in z. In particular we adopt procedures developed by Chamberlain (1984) and Mundlak (1978) and model the dependence between η and z by assuming that the regression functions of η are linear in the means of the time varying covariates in z over time. More details of this estimation procedure can be found in Arulampalam et al (2000) and Taylor (2007). Again

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15 Using fixed effects requires even fewer assumptions than random effects. However, because our key variable of interest (financial capability in 1991) is time invariant, its impact on the outcomes of interest cannot be identified using fixed effects models. Therefore we estimate random effects models.

we estimate these random effects specification both with and without current financial capability among the explanatory variables. Our models therefore estimate whether an individual's financial capability in 1991 has an impact on outcomes in later years controlling for a wide range of personal, household, family and housing-related characteristics as well as time-invariant unobserved effects.

Although our estimation techniques (and the random effects models in particular) allow for time-invariant unobserved characteristics, and allow these to be correlated with time-varying observed characteristics, they do not account for unobserved shocks that affect both the outcomes of interest and financial capability in 1991. So for example, if individuals with a particular financial capability in 1991 experienced an unobserved event that affected the outcome of interest, the estimated coefficients will be biased. However this problem is shared by all other existing estimation methods, and our models allow for a wide range of observable characteristics in an attempt to reduce any such biases to a minimum.

8 The effect of financial capability in 1991 on later outcomes

We now introduce and discuss the results from our multivariate statistical models. We have estimated each series of models separately for men and women, to investigate whether the impact of financial capability in 1991 on later outcomes varies by sex. We might expect it to, given that men and women generally have different tastes, preferences and constraints. For brevity, we only present the coefficients on the main variables of interest. Full sets of results from the random effects models are shown in the Appendix.

8.1 Financial capability

We initially focus on the relationship between financial capability in 1991 and financial capability in later years. Table 40 shows the estimates of the impact of being in the lowest and highest 20% of the financial capability distribution in 1991 on financial capability in 1996, 2000 and 2006, separately for men and women. These show that for both men and women being in the lowest 20% of the financial capability distribution in 1991 is associated with having significantly lower financial capability in later years relative to being in the middle 60% of the distribution. The estimated coefficients are all negative and statistically significant. Furthermore there is evidence that the size of the effect falls over time. For example, having low financial capability in 1991 reduces financial capability in 1996 by 0.166 for men and by 0.131 for women. By 2006, the sizes of these effects have fallen to 0.076 for men and 0.087 for women. Therefore these results suggest that having low financial capability in 1991 is associated with lower capability in subsequent years, and the size of this effect diminishes over time.

Table 40: Impact of financial capability in 1991 on financial capability in later years: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.166	−0.080	−0.076	−0.131	−0.086	−0.087
	[6.72]	[3.05]	[3.04]	[5.83]	[3.92]	[3.41]
Highest 20%	0.131	0.121	0.090	0.086	0.081	0.083
	[5.15]	[4.47]	[3.68]	[3.43]	[3.33]	[3.03]
R^2	0.209	0.187	0.213	0.183	0.189	0.181
N individuals	2508	2145	1696	3105	2742	2117

Notes: OLS regression results with financial capability in year *t* as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year *t*.

Table 40 also indicates that having high financial capability in 1991 is associated with having higher financial capability in later years – the estimated coefficients are positive and statistically significant for both men and women. For example, being in the highest 20% of the financial capability distribution in 1991 increases capability in 1996 by 0.131 for men and 0.086 for women relative to being in the middle 60% of the distribution. For men, there is evidence that the size of this effect falls over time, from 0.131 in 1991 to 0.090 in 2006. However the effect is more persistent among women, remaining at about 0.08 over the period. Therefore these results indicate that having relatively high financial capability in 1991 is associated with higher

financial capability in later years. For women the size of the effect persists, while for men it deteriorates over time.

Table 41 presents the impact of having low and high financial capability in 1991 on the probability of being in the lowest 20% of the financial capability distribution in later years. These results are consistent with those in Table 40 and show that men and women in the lowest 20% of the distribution in 1991 have a higher probability than those in the middle 60% of being in the lowest 20% of the distribution in later years. The estimated effects are positive and statistically significant, and suggest that having relatively low financial capability in 1991 increases the probability of having relatively low financial capability in later years by between seven and nine percentage points for men, and by between five and seven percentage points for women. Furthermore, being in the highest 20% of the financial capability distribution in 1991 reduces the probability of being in the lowest quintile group of the financial capability distribution in later years. The estimated effects are negative and statistically significant, reducing the probability by between nine and eleven percentage points for men and by between six and twelve percentage points for women. Therefore having relatively low capability in 1991 increases the probability of having relatively low capability in later years while having relatively high capability in 1991 reduces this probability.

Table 41: Impact of financial capability in 1991 on probability of being in lowest quintile group of financial capability distribution in later years: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	0.069	0.080	0.094	0.052	0.047	0.066
	[3.80]	[3.44]	[3.53]	[3.27]	[2.27]	[2.81]
Highest 20%	−0.086	−0.106	−0.099	−0.055	−0.115	−0.105
	[4.26]	[4.19]	[3.60]	[2.89]	[4.77]	[3.98]
Log-likelihood	−1048	−1069	−799	−1436	−1372	−1041
N individuals	2508	2145	1696	3105	2742	2117

Notes: Marginal effects from probit models with being in lowest quintile group of financial capability distribution in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t.

However, there is no evidence that the size of the effect deteriorates over time; in fact the estimated effects appear to increase over time. For example, for men being in the lowest 20% of the financial capability distribution in 1991 increases the probability of being in the lowest 20% of the distribution in 1996 by seven percentage points, but increases it in 2006 by more than nine percentage points. Similar increases over time in the sizes of the effects are apparent for women, and for being in the highest 20% of the distribution in 1991.

These effects are transformed into probabilities in Figure 28, which illustrates the predicted probability of an individual being in the bottom quintile group of the financial capability distribution in 1996, 2000 and 2006 according to their financial capability in 1991.[16] This reveals large differences, with people in the lowest 20% of the capability distribution in 1991 being twice more likely than those in the highest 20% of the distribution to be in the bottom quintile group of the capability distribution in later years. Furthermore this difference widens over time. For example, men who were in the lowest 20% of the capability distribution in 1991 have a 26% probability of being in the lowest 20% of the distribution in 1996, compared with a 10% chance among those in the highest 20% of the distribution. However, they have a 35% probability of

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16 These are estimated at the sample means of the other explanatory variables. In this and subsequent figures, low financial capability refers to being in the bottom 20% of the financial capability distribution in 1991, high financial capability refers to being in the top 20% of the financial capability distribution in 1991 and average financial capability refers to being in the middle 60% of the financial capability distribution.

being in the lowest 20% of the distribution in 2006, compared with 15% for those who were in the highest 20% of the distribution in 1991. Similar, although less pronounced, effects emerge for women.

Figure 28: Estimated probability of a person being in the bottom 20% of the financial capability quintile group in later years by financial capability in 1991

Comparing these estimates to those in Table 40 indicates that the impact of having relatively low or high financial capability in 1991 on absolute capability in later years falls over time, but that on relative capability in later years remains persistent and in some cases increases over time. This suggests that people's financial capability evolves over time at different rates even among those with low capability in 1991, which explains why the impact of relative financial capability in 1991 on absolute financial capability in later years weakens over time. However despite this, people with relatively low capability in 1991 are unlikely to move too far up the financial capability distribution over time – their financial skills do not improve faster than those of people who were higher up the distribution in 1991.

However the estimates in Tables 40 and 41 may be affected by unobserved individual-specific effects. That is, people may have unobserved characteristics that affect their financial capability both in 1991 and in later years, and this might bias the coefficients of interest. To overcome this, we also estimate panel data models (and random effects models in particular) and the results are shown in Table 42. Here, the estimates in [1] relate to the impact of financial capability in 1991 on absolute financial capability in later years while those in [2] relate to the impact of capability in 1991 on the probability of being in the lowest 20% of the financial capability distribution in later years.

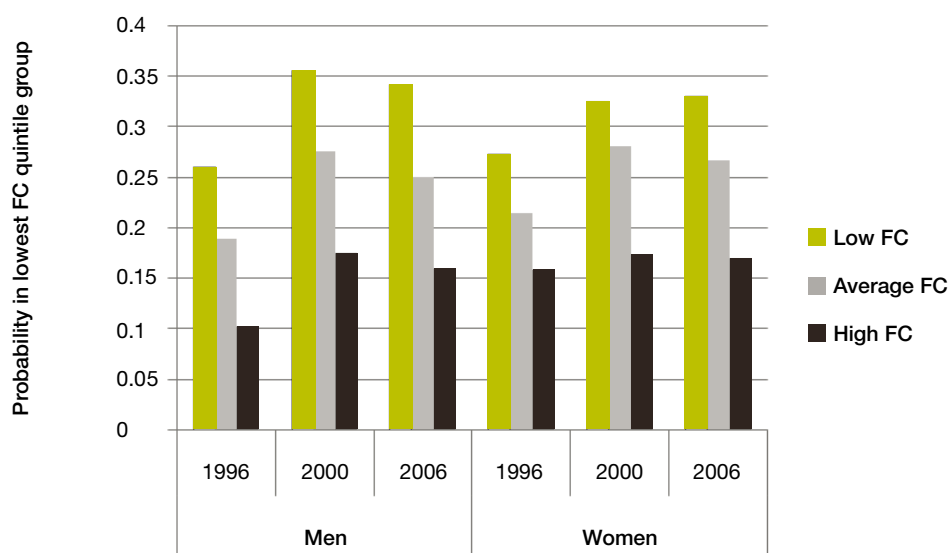| Table 42: Impact of financial capability in 1991 on financial capability in later years: BHPS 1991–2006.				
	Men		Women	
	[1]	[2]	[1]	[2]
Financial capability in 1991				
Lowest 20%	−0.097	0.073	−0.107	0.066
	[7.07]	[6.52]	[8.10]	[6.60]
Highest 20%	0.093	−0.083	0.074	−0.074
	[6.53]	[7.59]	[5.09]	[6.98]
R^2	0.308		0.300	
Log-likelihood		−9766		−12708
N individuals	2830		3459	
N observations	22823		28599	
Notes: Estimates in [1] are random effects GLS results with financial capability at t as dependent variable. Estimates in [2] are marginal effects from random effects probit models with being in lowest quintile group of financial capability distribution in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t, time dummies and individual means of time-varying covariates over time.				

These estimates are consistent with those in Tables 40 and 41, and reveal that men and women with relatively low (high) financial capability in 1991 have less (more) financial capability in later years, and are more (less) likely to be in the lowest 20% of the financial capability distribution in later years. In particular, the estimates in [1] indicate that being in the lowest 20% of the financial capability distribution in 1991 reduces financial capability in later years by 0.097 for men and by 0.107 for women. Men and women in the highest 20% of the financial capability distribution in 1991 have higher financial capability in later years – for men it increases financial capability by 0.093 while for women it increases it by 0.074. The estimates in [2] indicate that men in the lowest (highest) 20% of the distribution in 1991 are seven (eight) percentage points more (less) likely to be in the lowest 20% of the distribution in later years. The sizes of these effects for women are slightly smaller. Therefore men with low financial capability in 1991 are some 16 percentage points more likely than men with high financial capability to have low financial capability in later years, while women with low financial capability in 1991 are 14 percentage points more likely than those with high financial capability to have low financial capability in later years.

Figure 29 presents the estimated probability of men and women and reveals a pattern consistent with that in Figure 28 – people with low financial capability in 1991 have a significantly higher probability of having low financial capability in later years. Men and women in the lowest financial capability quintile group in 1991 have a 32% chance of being in the lowest financial capability quintile group between 1996–2006, which is approximately double that of those in the highest financial capability quintile group in 1991.

From this analysis, we can conclude that people's financial capability in 1991 has lasting effects on their financial capability in later years, both in absolute and relative terms even when controlling for a range of potentially confounding and mediating factors. Having relatively low financial capability in 1991 is associated with having lower financial capability and with a higher probability of relatively low financial capability in subsequent years. Having relatively high financial capability in 1991 is associated with having higher financial capability and with a lower probability of relatively low financial capability in subsequent years. Although the sizes of these effects are relatively large and statistically significant, they are nevertheless smaller than, for example, the (negative) impacts of being unemployed, retired or economically inactive which reduce financial capability by −0.34, −0.11 and −0.18 for men (see Appendix for full results).

Figure 29: Estimated probability of a person being in the bottom 20% of the financial capability quintile group in later years by financial capability in 1991
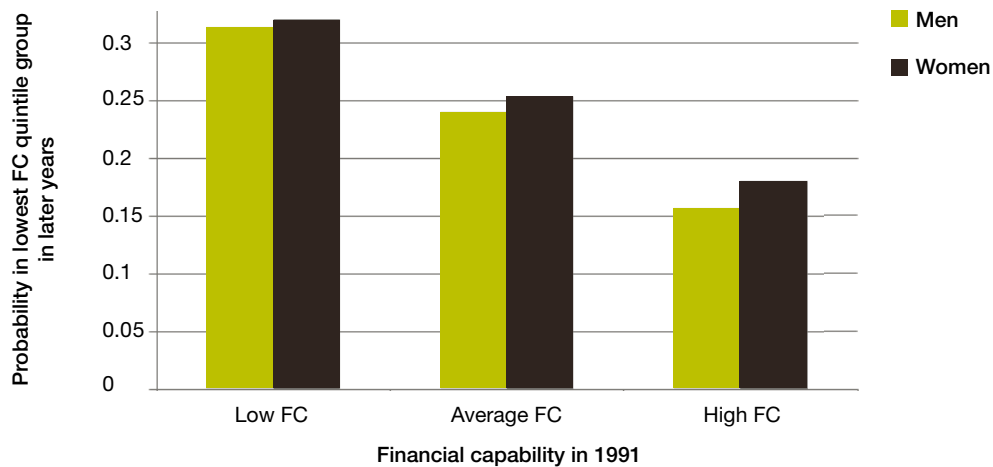
8.2   Psychological wellbeing

We next examine the impacts of financial capability in 1991 on psychological wellbeing in subsequent years. We measure psychological wellbeing using three different measures: GHQ scores; life satisfaction scores; and suffering a health condition related to anxiety or depression.

GHQ scores

We first focus on the results with GHQ scores as the dependent variable. Table 43 presents the estimates from the cross-sectional analysis with GHQ scores in 1996, 2000 and 2006 as the dependent variables. These indicate that both men and women in the lowest 20% of the financial capability distribution in 1991 had higher GHQ scores than those in the middle of the distribution in subsequent years (indicating higher levels of mental stress and therefore less psychological wellbeing). However the sizes of these effects are mainly small and not statistically significant. They also indicate that men and women in the highest 20% of the capability distribution in 1991 had lower GHQ scores (and therefore higher psychological wellbeing) in later years, but again the effects are generally small and not statistically significant. The exception to this is for men in 2000 and more clearly in 2006. In the latter specification in particular having low financial capability in 1991 is associated with significantly higher GHQ scores, while having high financial capability in 1991 is associated with significantly lower GHQ scores.

Why should the association between financial capability in 1991 and GHQ scores get stronger over time among men? This might be related to the business cycle and the macroeconomic climate. We are measuring financial capability in 1991, when the UK economy was in recession, house prices were falling, evictions and repossessions were on the increase and unemployment was rising. In 2006, although the UK economy was still experiencing positive growth, unemployment was rising and although levels of consumer borrowing were very high, the rate of growth in consumer borrowing was at its lowest since the recession of the 1990s. These macroeconomic trends, signalling the onset of recession, may have been causing financial and psychological concerns particularly to men who were also affected by the recession in the early 1990s. This might explain the relationship between financial capability in 1991 and wellbeing in 2006.

Table 43: Impact of financial capability in 1991 on GHQ scores in later years: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	0.028	0.743	0.658	0.276	0.219	0.248
	[0.11]	[1.92]	[2.24]	[1.16]	[0.86]	[0.84]
Highest 20%	−0.167	−0.484	−0.767	−0.066	−0.310	−0.344
	[0.67]	[1.92]	[2.70]	[0.25]	[1.11]	[1.09]
R^2	0.140	0.159	0.180	0.145	0.132	0.133
N individuals	2460	2113	1660	3053	2705	2073

Notes: OLS regression results with GHQ score in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year *t*.

However the model specifications in Table 43 do not take into account people's financial capability in the current year. This is important given that Table 40, 41 and 42 indicate a strong and consistent relationship between financial capability in 1991 and financial capability in later years. Therefore in Table 44, we present results from models which also include financial capability in year t. As expected, and consistent with previous research, this indicates that current financial capability is strongly associated with current psychological wellbeing for both men and women. Men and women with low financial capability have significantly higher GHQ scores than those in the middle of the financial capability distribution, while those with high capability have significantly lower GHQ scores. The sizes of the effects are larger for women than men, while having low financial capability has a larger impact on GHQ scores than having high capability. Furthermore, including current financial capability reduces the size and significance of the coefficients on financial capability in 1991. However, the impact of financial capability in 1991 on GHQ scores in 2000 and 2006 for men remain statistically significant (if small relative to the impact of current financial capability).

These cross-sectional models are unable to allow for the fact that people may have unobservable characteristics (such as ability, motivation, personality traits etc) that are correlated both with their psychological wellbeing and with their financial capability. We therefore also present estimates from random effects panel data models, shown in Table 45. Again we present estimates both excluding current financial capability (in [1]) and including current financial capability (in [2]).

Table 44: Impact of financial capability in 1991 on GHQ scores in later years, controlling for current financial capability: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.135	0.641	0.512	0.182	0.140	0.050
	[0.56]	[2.61]	[1.75]	[0.77]	[0.56]	[0.17]
Highest 20%	0.017	−0.325	−0.653	0.091	−0.107	−0.169
	[0.07]	[1.30]	[2.31]	[0.35]	[0.39]	[0.54]
Financial capability in *t*						
Lowest 20%	1.814	1.591	1.362	1.911	1.918	2.103
	[7.04]	[6.71]	[4.77]	[7.82]	[7.62]	[7.22]
Highest 20%	−0.576	−0.438	−0.398	−0.952	−0.676	−0.997
	[2.05]	[1.49]	[1.15]	[2.99]	[2.05]	[2.40]
R^2	0.161	0.180	0.193	0.167	0.154	0.160
N individuals	2460	2113	1660	3053	2705	2073

Notes: OLS regression results with GHQ score in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year *t*.

Table 45: Impact of financial capability in 1991 on GHQ scores in later years: BHPS 1991–2006.				
	[1]		[2]	
	Men	Women	Men	Women
Financial capability in 1991				
Lowest 20%	0.453	0.329	0.194	0.028
	[2.84]	[2.11]	[1.23]	[0.18]
Highest 20%	−0.362	−0.108	−0.183	0.113
	[2.19]	[0.63]	[1.12]	[0.67]
Financial capability in *t*				
Lowest 20%			1.138	1.058
			[15.32]	[13.96]
Highest 20%			−0.388	−0.476
			[4.62]	[5.08]
R^2	0.251	0.229	0.279	0.270
N individuals	2820	3449	2820	3449
N observations	22431	28136	22431	28136

Notes: Random effects GLS regression results with GHQ score in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year *t*, time dummies plus the individual means of the time-varying covariates over time.

The results are generally consistent with those in the previous tables. Excluding current financial capability, we find that from 1996 to 2006 men with low financial capability in 1991 have GHQ scores that are 0.453 points higher than those in the middle of the financial capability distribution in 1991. For women, the impact is slightly smaller at 0.329. Furthermore, for men there is evidence that having high financial capability in 1991 is associated with lower GHQ scores in later years – the coefficient is negative (–0.362) and statistically significant. Therefore

for men both low and high financial capability in 1991 affects GHQ scores in later years, while for women low financial capability is associated with higher GHQ (and lower wellbeing) in later years. However, when we also include controls for current financial capability (in [2]), we find that these effects become small and not statistically significant, and therefore we cannot reject the null hypothesis that financial capability in 1991 has no impact on GHQ scores in later years. The relationship apparent in model [1] is explained by the correlation between financial capability in 1991 and financial capability in later years.

These estimates are transformed into estimated GHQ scores and plotted in Figure 30. This indicates that higher levels of current financial capability are associated with lower GHQ scores (and hence higher wellbeing) for both men and women. For example, men with low capability are estimated to have a GHQ score of about 11.5, compared with a GHQ of 10 for those with high capability. A similar difference emerges for women, albeit at a higher level (indicating that women suffer higher levels of stress than men). However, financial capability in 1991 has little additional effect.

Figure 30: Estimated GHQ scores by financial capability in 1991 and current financial capability: BHPS 1991–2006
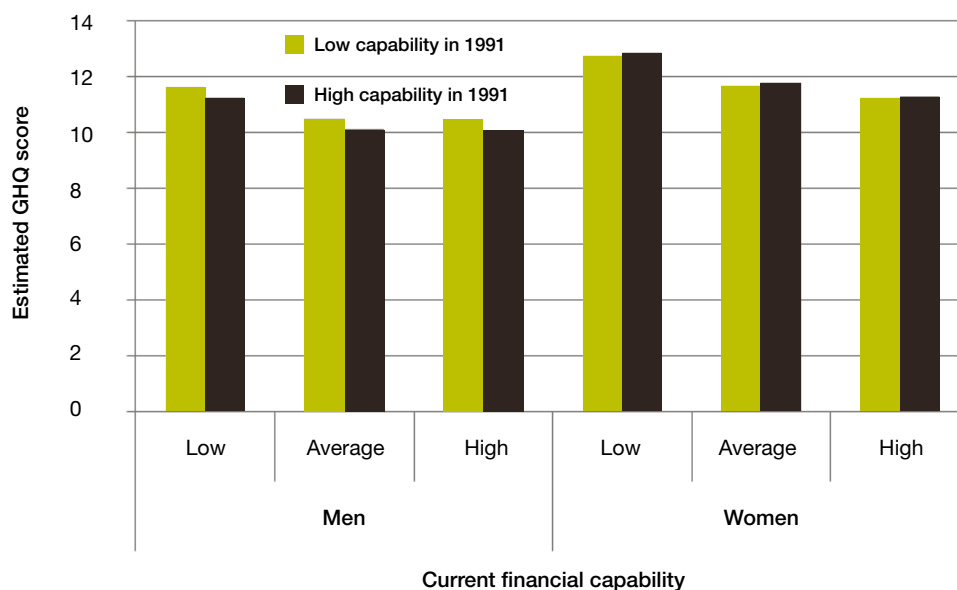
Life satisfaction

Our second measure of psychological wellbeing relates to people's self-reported life satisfaction, on a scale of one (completely dissatisfied) to seven (completely satisfied). Table 46 presents the first sets of results from cross-sectional models with life satisfaction in each year as the dependent variable. These show that men and women in the lowest 20% of the financial capability distribution in 1991 had lower life satisfaction in later years than those in the middle 60% of the distribution. The estimated coefficients are negative and statistically significant. In addition, men with high financial capability in 1991 had significantly higher life satisfaction in later years than those in the middle of the distribution – the estimated coefficients are positive. Therefore these results indicate a persistent relationship between financial capability in 1991 and life satisfaction in later years, which is apparent for men with both low and high capability in 1991 and for women with low capability in 1991.

Table 46: Impact of financial capability in 1991 on life satisfaction in later years: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.165	−0.253	−0.298	−0.125	−0.210	−0.142
	[2.73]	[4.15]	[4.36]	[2.19]	[3.64]	[2.19]
Highest 20%	0.165	0.201	0.248	0.043	0.000	0.083
	[2.65]	[3.23]	[3.74]	[0.69]	[0.00]	[1.20]
R^2	0.150	0.198	0.225	0.162	0.174	0.170
N individuals	2484	2111	1662	3080	2698	2074

Notes: OLS regression results with reported life satisfaction in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t.

| Table 47: Impact of financial capability in 1991 on life satisfaction in later years, controlling for current financial capability: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.135	−0.227	−0.238	−0.100	−0.192	−0.103
	[2.23]	[3.77]	[3.54]	[1.76]	[3.57]	[1.62]
Highest 20%	0.131	0.153	0.199	0.010	−0.047	0.036
	[2.10]	[2.48]	[3.07]	[0.15]	[0.74]	[0.53]
Financial capability in t						
Lowest 20%	−0.332	−0.413	−0.555	−0.443	−0.423	−0.566
	[5.12]	[7.09]	[8.52]	[7.57]	[7.44]	[8.90]
Highest 20%	0.109	0.188	0.231	0.177	0.181	0.037
	[1.53]	[2.60]	[2.66]	[2.32]	[2.43]	[0.41]
R^2	0.178	0.223	0.265	0.181	0.195	0.202
N individuals	2484	2111	1662	3080	2698	2074

Notes: OLS regression results with life satisfaction score in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t.

Previous results suggest that financial capability in 1991 is correlated with capability in later years, and in Table 47 we allow for this in estimation by including measures of current financial capability in the specifications. As with GHQ, we find that introducing contemporaneous financial capability reduces the impact on life satisfaction of financial capability in 1991. The estimated coefficients on the financial capability in 1991 variables are smaller than in Table 46 but, for men in particular remain statistically significant. For example, men in the lowest 20% of the financial capability distribution in 1991 have life satisfaction in 2006 that is 0.238 lower than those in the middle of the capability distribution in 1991. Such a negative and statistically significant association also emerges for men in 1996 and 2000. In addition we find that for men being in the top 20% of the financial capability distribution in 1991 is associated with higher levels of life satisfaction in later years – the estimated coefficients are positive and statistically significant, increasing life satisfaction scores by between 0.13 and 0.2 relative to a man in the middle of the financial capability distribution in 1991. Therefore among men, financial capability

in 1991 continues to have significant impacts on life satisfaction in later years, even when allowing for contemporaneous financial capability.

Among women the picture is less clear. There is some evidence that having low financial capability in 1991 continues to reduce life satisfaction in later years when including current financial capability – the estimated coefficients are negative and on the margins of statistical significance. The sizes of the effects are smaller than for men, ranging between –0.1 (in 1996) and –0.2 (in 2000). However, having high financial capability in 1991 has no impact on life satisfaction when allowing for current financial capability. Consistent with previous research, we find that current financial capability has large and statistically significant impacts on life satisfaction for both men and women. Having low financial capability in particular has large, negative impacts on life satisfaction, reducing it by between 0.33 and 0.56 points for men and between 0.44 and 0.57 points for women.

Table 48: Impact of financial capability in 1991 on life satisfaction scores in later years: BHPS 1991–2006.				
	[1]		[2]	
	Men	Women	Men	Women
Financial capability in 1991				
Lowest 20%	−0.214	−0.131	−0.138	−0.050
	[5.32]	[3.48]	[3.47]	[1.35]
Highest 20%	0.114	0.017	0.060	−0.039
	[2.71]	[0.41]	[1.44]	[0.97]
Financial capability in t				
Lowest 20%			−0.258	−0.251
			[14.64]	[14.59]
Highest 20%			0.104	0.086
			[5.22]	[3.99]
R^2	0.287	0.263	0.319	0.309
N individuals	20430	25607	20430	25607
N observations	2820	3454	2820	3454

Notes: Random effects GLS regression results with life satisfaction in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t, year dummies plus the individual means of time-varying covariates over time.

Our final life satisfaction models take advantage of the panel nature of the data by also incorporating unobserved individual-specific effects, with the estimates shown in Table 48. The estimates in column [1] exclude current financial capability, while those in column [2] include it. Consistent with the previous tables, those in column [1] indicate that men and women with low financial capability in 1991 have lower life satisfaction in later years than those in the middle of the financial capability distribution in 1991. The coefficients are negative and statistically significant, and larger for men (–0.214) than women (–0.131). In addition, men with high financial capability in 1991 have higher life satisfaction in later years – the coefficient is positive and statistically significant. For women, having high financial capability in 1991 has no impact on life satisfaction in later years. Therefore, as with GHQ scores, for men both low and high financial capability in 1991 affects wellbeing in later years, while for women low financial capability in 1991 is associated with lower wellbeing in later years. In [2] we add current financial capability to the models, and we find that this explains much of the relationship between financial capability in 1991 and life satisfaction in later years. Adding these variables reduces the sizes

and significance of the coefficients associated with financial capability in 1991. Despite this there is evidence that, among men, low financial capability in 1991 has a negative impact on life satisfaction in later years even when controlling for current capability. The coefficient remains negative and statistically significant (–0.138), and is approximately half the size of the effect of current low financial capability (–0.258). Therefore we find evidence that financial capability in 1991 has an impact on wellbeing (measured by life satisfaction) in later years, but most of this is explained by the relationship between past and current financial capability. However even controlling for current capability, there is evidence that low financial capability in 1991 reduces life satisfaction among men.

Figure 31: Estimated life satisfaction by financial capability in 1991 and current financial capability: BHPS 1991–2006
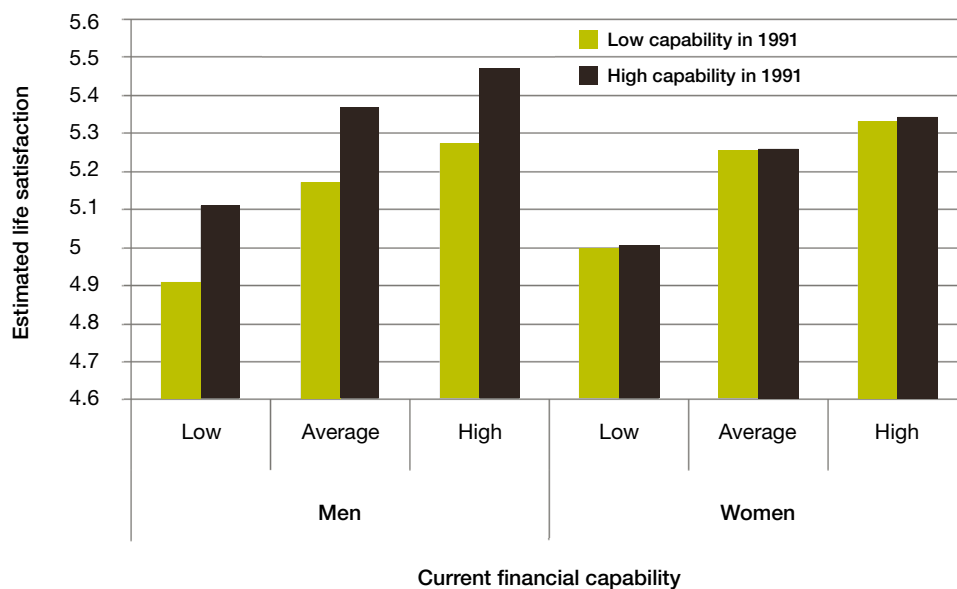
In Figure 31 we transform these estimates into predicted life satisfaction scores by people's current financial capability and their capability in 1991. This indicates that (i) men's satisfaction is more sensitive to their current financial capability than women's, and (ii) men's current satisfaction is much more sensitive to their financial capability in 1991 than a woman's. The figure shows that women with high current capability are predicted to have a life satisfaction of 5.3, all else equal, regardless of their capability in 1991. Women with low current capability are predicted to have a satisfaction of 5, and again this is not affected by their capability in 1991. Men who currently have high financial capability, and who had high financial capability in 1991, are predicted to have a life satisfaction of almost 5.5. However, if they had low capability in 1991, this falls to below 5.3. This differential emerges across the current financial capability distribution, such that men with low current capability who also had low capability in 1991 are predicted a life satisfaction of 4.9 compared with 5.1 if they had high capability in 1991.

Hence among men low rather than high financial capability in 1991 is associated with reported levels of life satisfaction that are 0.2 points lower. The size of this effect is approximately equivalent in size to the impact on life satisfaction of currently being unemployed (although is smaller than impacts of being divorced or widowed relative to married, or in bad health relative to good health). Persistently low financial capability (i.e. having low financial capability both in 1991 and currently) is associated with a life satisfaction score that is 0.5 points lower than that

associated with persistently high financial capability. This exceeds the sizes of the effects of being unemployed rather than working, of being divorced or widowed relative to married, and of having bad relative to good health. Therefore financial capability has a significant, and lasting, impact on life satisfaction among men.

Anxiety or depression

Our third measure of psychological wellbeing focuses on whether or not individuals have a health problem that relates to anxiety or depression. The estimates from our initial cross-sectional models are shown in Table 49.

Table 49: Impact of financial capability in 1991 on the probability of anxiety/depression in later years: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.002	0.014	0.023	−0.001	0.014	0.003
	[0.39]	[1.74]	[2.19]	[0.13]	[1.20]	[0.19]
Highest 20%	−0.005	0.003	−0.004	−0.003	0.012	−0.018
	[1.00]	[0.31]	[0.41]	[0.23]	[0.84]	[1.21]
Log-likelihood	−358	−351	−301	−797	−742	−589
N individuals	2507	2145	1696	3103	2741	2117

Notes: Marginal effects from probit models with suffering from health problem related to anxiety or depression in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t.

In contrast to the results for other measures of wellbeing, we find that in general financial capability in 1991 has little impact on the probability of having a health problem related to anxiety or depression in later years once controlling for observable characteristics. Therefore the relationship that emerged in the descriptive analysis (in for example Figure 19) is explained by observed characteristics related to people's financial capability in 1991 and their propensity to report a health problem related to anxiety or depression. There is some evidence that men with low financial capability in 1991 had a higher probability than those in the middle of the distribution of suffering a health problem related to anxiety or depression in 2006 (by 2.3 percentage points), but generally the estimated effects are small and not statistically significant.

Adding current financial capability to the specifications has little impact (Table 50). Again financial capability in 1991 has little effect on the probability of suffering a health problem related to anxiety or depression in later years. Consistent with previous research, we find that current financial capability is associated with suffering from anxiety or depression. In particular, being in the lowest 20% of the financial capability distribution is associated with a higher probability of suffering a health problem related to anxiety or depression, by up to 2 percentage points for men, and up to 5 percentage points for women.

Table 50: Impact of financial capability in 1991 on probability of anxiety/depression in later years, controlling for current financial capability: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.003	0.011	0.023	−0.003	0.011	−0.001
	[0.65]	[1.46]	[2.16]	[0.30]	[0.99]	[0.09]
Highest 20%	−0.004	0.006	−0.004	−0.002	0.013	−0.015
	[0.75]	[0.67]	[0.39]	[0.17]	[0.92]	[0.99]
Financial capability in t						
Lowest 20%	0.014	0.019	−0.006	0.020	0.022	0.049
	[2.57]	[2.43]	[0.71]	[2.05]	[1.99]	[3.45]
Highest 20%	−0.001	−0.012	−0.017	0.003	0.034	0.006
	[0.03]	[1.21]	[1.38]	[0.18]	[1.85]	[0.28]
Log-likelihood	−354	−346	−299	−795	−739	−583
N individuals	2507	2145	1696	3103	2741	2117

Notes: Marginal effects from probit models with suffering from health problem related to anxiety or depression in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year *t*.

Table 51: Impact of financial capability in 1991 on anxiety/depression in later years: BHPS 1991–2006.				
	[1]		[2]	
	Men	Women	Men	Women
Financial capability in 1991				
Lowest 20%	0.014	0.005	0.010	−0.001
	[2.32]	[0.69]	[1.71]	[0.13]
Highest 20%	−0.002	−0.004	0.000	−0.001
	[0.31]	[0.43]	[0.05]	[0.17]
Financial capability in *t*				
Lowest 20%			0.009	0.012
			[2.63]	[3.15]
Highest 20%			−0.007	−0.001
			[1.68]	[0.24]
Log-likelihood	−2793	−6078	−2779	−6062
N observations	22820	28594	22820	28594
N individuals	2830	3459	2830	3459

Notes: Marginal effects from random effects probit results with suffering from a health problem associated with anxiety or depression in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year *t*, year dummies plus the individual means of time-varying covariates over time.

Table 51 presents the results when incorporating individual-specific unobserved characteristics. These are consistent with the cross-sectional estimates – the models without current financial capability (in [1]) indicate that for women there is no association between financial capability in 1991 and anxiety or depression in later years. For men, we find that having low relative to average financial capability in 1991 is associated with a 1.4 percentage point increase in

the probability of suffering a health problem related to anxiety or depression, but there is no relationship between having high financial capability in 1991 and anxiety or depression in later years. Adding current financial capability to the specification (in [2]) reduces the size and significance of the effect among men of having low financial capability in 1991. This now increases the probability of suffering from anxiety or depression by one percentage point relative to being in the middle 60% of the capability distribution and is on the margins of statistical significance. Consistent with previous research, we find that current financial capability affects the probability of suffering a health problem related to anxiety or depression for both men and women. In particular, being in the lowest 20% of the financial capability distribution increases this probability by one percentage point for men and by 1.2 percentage points for women.

We transform the estimated effects from model [2] into predicted probabilities and illustrate them in Figure 32. This shows that women have a higher estimated probability of suffering anxiety/depression than men, and that for both men and women those with high financial capability are at less risk of anxiety/depression than those with low financial capability. Among women, financial capability in 1991 has little impact – it is current financial capability that matters. Among men, financial capability in 1991 has an effect – men with low financial capability in 1991 are about one percentage point more likely to suffer anxiety/depression than those with high capability, regardless of current capability.

Figure 32: Probability of suffering anxiety/depression by current financial capability and financial capability in 1991: BHPS 1991–2006
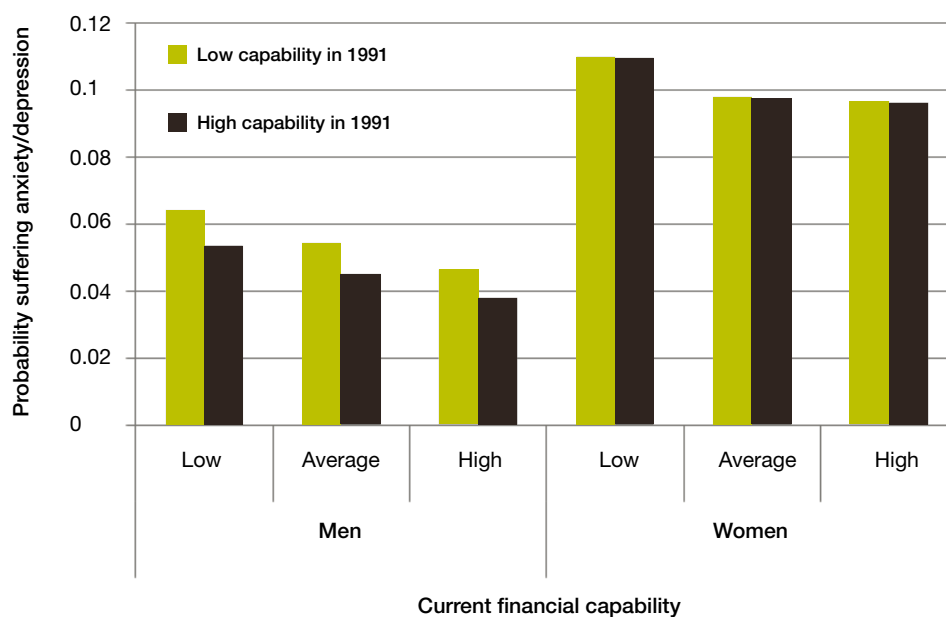
Therefore we find evidence that financial capability in 1991 has an impact on psychological wellbeing (as measured by GHQ scores and life satisfaction in particular) in later years, but most of this is explained by the relationship between past and current financial capability. However, even controlling for current capability, there is evidence that low financial capability in 1991 reduces life satisfaction among men.

8.3   Employment outcomes

We next examine the impacts of financial capability in 1991 on employment outcomes in subsequent years. We focus in particular on three employment outcomes – being employed, being employed in a full-time job, and being unemployed and searching for a job. Descriptive statistics summarised in Section 6 suggested that people with low financial capability in 1991 were less likely than those with high financial capability to be employed and employed in full-time work, and more likely to be unemployed in later years (see Figures 20, 21 and 22). However these differences fell over time. We now examine the extent to which such differences persist when allowing for differences in other observable (and unobserved) characteristics. For this analysis to be informative we here focus only on those of working age, which is men aged 16–64 and women aged 16–59. The majority of men and women above these ages are likely to be in retirement or out of the labour market, irrespective of their financial capability.

Employment

We first examine the impact of financial capability in 1991 on the probability of being employed in subsequent years. Although descriptive evidence suggested that people with low financial capability in 1991 had lower employment rates in subsequent years, our cross-sectional statistical models suggest that these differences can be explained by other observable characteristics (such as education, age, marital status and family structure). Table 52 presents the estimated impact on the probability of employment in later years of being in the lowest 20% and the highest 20% of the financial capability distribution relative to being in the middle 60% of the distribution.

Table 52: Impact of financial capability in 1991 on probability of employment in later years: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.061	−0.018	−0.020	−0.020	−0.005	0.015
	[2.18]	[0.60]	[0.55]	[0.75]	[0.18]	[0.46]
Highest 20%	0.058	0.009	0.037	0.069	0.010	−0.014
	[2.07]	[0.32]	[1.05]	[2.50]	[0.34]	[0.43]
Log-likelihood	−1131	−903	−689	−1310	−1122	−722
N individuals	2043	1692	1260	2296	1946	1361

Notes: Marginal effects from probit models with being employed in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, whether spouse works if married, region of residence, all measured at year t.

These are generally small and not statistically significant. The exception is for men in 1996, where we find that having relatively high (low) financial capability in 1991 increases (reduces) the probability of employment by six percentage points relative to being in the middle of the financial capability distribution. This is consistent with the descriptive evidence, shown in Figure 20, and suggests that having higher (lower) financial management skills at a point in time improves (reduces) the probability of finding and/or retaining employment in the medium-term. However this does not persist over time. For women there is evidence that high financial capability in 1991 increases the probability of employment in 1996 by seven percentage points relative to being in the middle of the financial capability distribution. As for men, however, this effect does not persist over time.

In Table 53 we introduce measures of current financial capability. It is difficult to put any causal interpretation on the estimated coefficients on the current financial capability terms, as a person's level of capability is likely to be affected by their labour market status as much as their current capability determines whether or not they are employed. Despite this it is important to include them as control variables. The results are consistent with those in Table 52 – generally financial capability in 1991 has little impact on the probability of being employed in later years. Again we find that having high capability in 1991 increases the probability of employment in 1996. The size of the effect is reduced from 5.8 percentage points to 4.7 percentage points for men and from 6.9 to 5.7 percentage points for women, reflecting the correlation between capability in 1991 and capability in later years. Among men there is also evidence that low financial capability in 1991 reduces the propensity to be employed in 1996, by 5.5 percentage points (which again is smaller than the effect in Table 51). In addition, we find a statistically significant association between current capability and the probability of employment – in general men and women with low financial capability are less likely to be in work while those with high financial capability are more likely.

Table 53: Impact of financial capability in 1991 on probability of employment in later years, controlling for current financial capability: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.055	−0.016	−0.020	−0.014	−0.004	0.017
	[1.95]	[0.52]	[0.56]	[0.55]	[0.14]	[0.52]
Highest 20%	0.047	0.006	0.032	0.057	0.001	−0.017
	[1.65]	[0.21]	[0.90]	[2.05]	[0.05]	[0.50]
Financial capability in t						
Lowest 20%	−0.073	−0.021	0.016	−0.083	−0.066	−0.034
	[2.59]	[0.74]	[0.45]	[3.11]	[2.29]	[1.03]
Highest 20%	0.033	0.005	0.079	0.070	0.062	0.035
	[1.14]	[0.17]	[2.10]	[2.42]	[2.01]	[0.97]
Log-likelihood	−1126	−903	−687	−1300	−1116	−721
N individuals	2043	1692	1260	2296	1946	1361

Notes: Marginal effects from probit models with being employed in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, whether spouse works if married, region of residence, all measured at year t.

In Table 54 we present results from specifications that also control for individual-specific unobserved effects through random effects models. These are estimated both with (in [2]) and without (in [1]) current financial capability as control variables. The results are consistent with those in the cross-sectional models, and indicate that men with high financial capability in 1991 have a higher propensity than those in the middle of the financial capability distribution to be employed in later years, by 3.7 percentage points. There is no statistically significant relationship between financial capability in 1991 and the probability of employment in subsequent years for women. The results in specification [2] indicate that there are strong associations between current financial capability and the probability of employment, as expected, with those with low capability less likely to be employed and those with high capability more likely. Adding these controls reduces the size and significance of the effect of having high financial capability in 1991 on later employment among men.

Table 54: Impact of financial capability in 1991 on probability of employment in later years: BHPS 1991–2006.				
	[1]		[2]	
	Men	Women	Men	Women
Financial capability in 1991				
Lowest 20%	−0.027	0.014	−0.025	0.019
	[1.53]	[0.86]	[1.43]	[1.19]
Highest 20%	0.037	0.019	0.027	0.009
	[2.24]	[1.12]	[1.60]	[0.51]
Financial capability in *t*				
Lowest 20%			−0.042	−0.046
			[7.53]	[7.76]
Highest 20%			−0.000	0.029
			[0.05]	[4.47]
Log-likelihood	−5859	−7597	−5824	−7539
N individuals	2294	2531	2294	2531
N observations	17848	20035	17848	20035

Notes: Marginal effects from random effects probit results with being employed in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, whether spouse works if married, region of residence, all measured at year t, year dummies plus the individual means of time-varying covariates over time.

Figure 33: Probability of employment by current financial capability and financial capability in 1991: BHPS 1991–2006

In Figure 33 we transform these marginal effects from model [2] into predicted probabilities, estimated at the sample means of other covariates. These indicate that although the impact of financial capability in 1991 is not statistically significant, the size of the effect is not small. Men

with high financial capability in 1991 are about five percentage points more likely than those with low capability to be currently employed. For example, men with low current capability who had low capability in 1991 have a predicted employment rate of nearly 61%, compared with 66% among those who had high capability in 1991. Similarly, men with high current capability who had low capability in 1991 have a predicted employment rate of 65%, compared with 70% among those who had high capability in 1991. In fact, among men, the difference in employment rates between those with high and low capability in 1991 is larger than that between those with high or low current capability. Among women, the relationship between current financial capability and employment is apparent, with those who currently have high capability having predicted employment rates of 69% compared with 61% among those with low current capability. However financial capability in 1991 has little impact.

Full-time employment

We next examine the impact of financial capability in 1991 on the probability of being in full-time work in subsequent years. Although descriptive evidence suggested that people with low financial capability in 1991 had lower full-time employment rates in subsequent years, our cross-sectional statistical models suggest that these differences can largely be explained by other observable characteristics. Table 55 presents our first sets of estimates, and these suggest little systematic relationship between financial capability in 1991 and the propensity to be in full-time work in later years once allowing for other observable factors. The estimated coefficients are for the most part small and not statistically significant. There are two exceptions to this. As was the case for employment, men with high financial capability in 1991 were more likely than those in the middle of the capability distribution to be in full-time work in 1996 (by 5.5 percentage points). Men with low financial capability in 1991 were seven percentage points less likely to be in full-time work in 1991. However these effects did not persist into later years.

Table 55: Impact of financial capability in 1991 on probability of full-time employment in later years: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.069	−0.028	−0.043	−0.039	0.042	0.048
	[2.40]	[0.93]	[1.13]	[1.44]	[1.40]	[1.34]
Highest 20%	0.055	0.014	0.026	0.014	0.006	0.010
	[1.90]	[0.47]	[0.73]	[0.50]	[0.20]	[0.28]
Log-likelihood	−1152	−923	−711	−1213	−1067	−768
N individuals	2043	1692	1260	2296	1946	1361

Notes: Marginal effects from probit models with being employed full-time in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, whether spouse works if married, region of residence, all measured at year *t*.

In Table 56 we introduce current financial capability into the models. Again, we find that for the most part financial capability in 1991 has little impact on the probability of full-time employment in later years – the estimated coefficients are generally small and not statistically significant. The impact for men on the probability of full-time work in 1996 of having high financial capability in 1991 falls to four percentage points and is no longer statistically significant. However, women with low financial capability in 1991 remain 6.2 percentage points less likely than those in the middle of the capability distribution to be in full-time work in 1996. Therefore this effect cannot be explained by the correlation between financial capability in 1991 and financial capability in later years. The results in this table also suggest a rather inconsistent relationship between current financial capability and the probability of being in full-time work for men. For women,

we find that low financial capability is associated with a lower propensity to be in full-time work in 1996 and 2000. In addition, having high financial capability is associated with a higher propensity to be in full-time work in all three years.
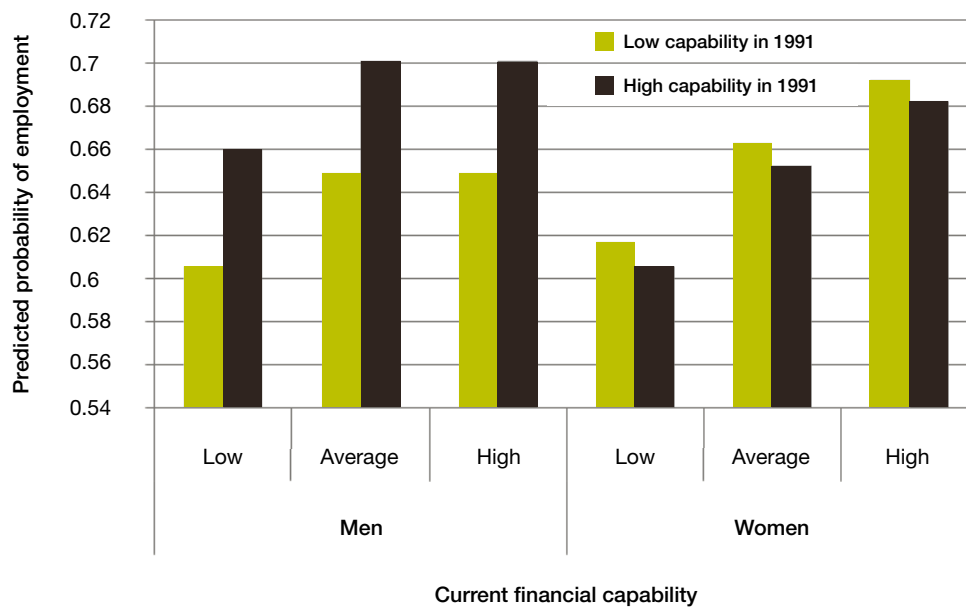
Table 56: Impact of financial capability in 1991 on probability of full-time employment in later years, controlling for current financial capability: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.062	−0.027	−0.044	−0.037	0.042	0.049
	[2.14]	[0.87]	[1.16]	[1.35]	[1.39]	[1.36]
Highest 20%	0.041	0.012	0.024	0.003	−0.006	0.007
	[1.39]	[0.39]	[0.66]	[0.11]	[0.21]	[0.19]
Financial capability in t						
Lowest 20%	−0.083	−0.017	0.034	−0.063	−0.083	−0.001
	[2.89]	[0.58]	[0.94]	[2.30]	[2.75]	[0.03]
Highest 20%	0.044	0.004	0.067	0.076	0.083	0.061
	[1.49]	[0.11]	[1.70]	[2.54]	[2.56]	[1.57]
Log-likelihood	−1145	−923	−709	−1206	−1058	−766
N individuals	2043	1692	1260	2296	1946	1361

Notes: Marginal effects from probit models with being employed full-time in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, whether spouse works if married, region of residence, all measured at year t.

Table 57: Impact of financial capability in 1991 on probability of full-time employment in later years: BHPS 1991–2006.				
	[1]		[2]	
	Men	Women	Men	Women
Financial capability in 1991				
Lowest 20%	−0.031	0.030	−0.030	0.034
	[1.75]	[1.86]	[1.70]	[2.05]
Highest 20%	0.036	0.007	0.026	0.001
	[2.09]	[0.40]	[1.49]	[0.08]
Financial capability in t				
Lowest 20%			−0.044	−0.041
			[7.89]	[7.22]
Highest 20%			−0.002	0.021
			[0.35]	[3.33]
Log-likelihood	−5993	−6955	−5956	−6915
N individuals	2294	2531	2294	2531
N observations	17848	20035	17848	20035

Notes: Marginal effects from random effects probit results with being employed full-time in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, whether spouse works if married, region of residence, all measured at year *t*, year dummies plus the individual means of time-varying covariates over time.

Our final models introduce unobserved individual-specific effects into the specifications using random effects. The results from these are shown in Table 57. They indicate that women with low financial capability in 1991 are three percentage points more likely than those in the middle of the capability distribution to be in full-time work between 1996 and 2006. This emerges in specifications that also allow for current financial capability (shown in [2]). Among men, we find that low financial capability in 1991 reduces the probability of full-time employment in later years by three percentage points, while high financial capability increases it by almost four percentage points. However the latter disappears once controls for current financial capability are added to the model.

In Figure 34 we transform these marginal effects in model [2] into predicted probabilities, estimated at the means of the other covariates. As was the case with all employment, these suggest that although the impact of financial capability in 1991 is not statistically significant, the sizes of the effects are not small. Men with high financial capability in 1991 are almost six percentage points more likely than those with low capability to be currently in full-time work. For example, men with low current capability who had low capability in 1991 have a predicted full-time employment rate of 58%, compared with 64% among those who had high capability in 1991. Similarly, men with high current capability who had low capability in 1991 have a predicted full-time employment rate of 62%, compared with 68% among those who had high capability in 1991. For men, the difference in employment rates between those with high and low capability in 1991 is larger than that between those with high or low current capability. Among women, the relationship between current financial capability and full-time employment emerges, with those who currently have high capability having predicted full-time employment rates of 36% compared with 40% among those with low current capability. However financial capability in 1991 has little impact.

Figure 34: Probability of full-time employment by current financial capability and financial capability in 1991: BHPS 1991–2006
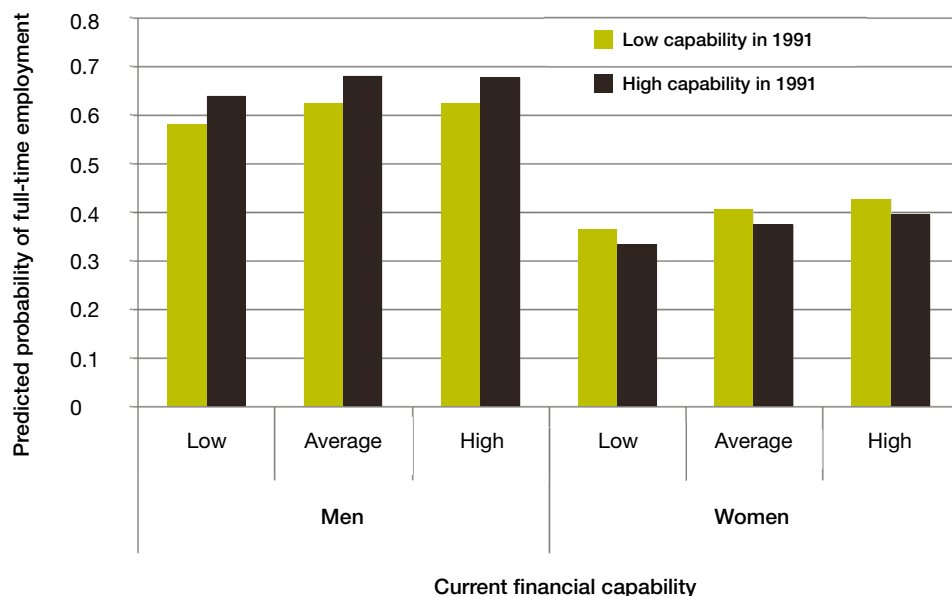
Unemployment

Our final measure of employment status in later years relates to being unemployed and searching for work. Descriptive statistics indicated that high financial capability in 1991 was associated with lower unemployment incidence compared to low financial capability, but that this difference narrowed considerably over time. The initial cross-sectional estimates for men are consistent with this. Table 58 indicates that men in the highest 20% of the financial capability distribution in 1991 were 1.6 percentage points less likely than those in the middle of the distribution to be unemployed in 1996, but this effect does not persist into later years. In contrast, there is some evidence that women in the lowest 20% of the financial capability distribution in 1991 are more likely than those in the middle of the distribution to be unemployed in 1996 (by about one percentage point). This effect is on the margins of statistical significance.

Table 58: Impact of financial capability in 1991 on probability of unemployment in later years: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	0.005	0.001	−0.000	0.012	−0.008	−0.000
	[0.64]	[0.32]	[0.26]	[1.69]	[1.48]	[0.22]
Highest 20%	−0.016	−0.007	−0.003	−0.007	0.001	0.000
	[2.01]	[1.53]	[1.66]	[0.96]	[0.10]	[0.23]
Log-likelihood	−313	−129	−89	−308	−192	−83
N individuals	2043	1692	1260	2296	1946	1361

Notes: Marginal effects from probit models with being unemployed in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, type of job if employed, whether spouse works if married, region of residence, all measured at year *t*.

Table 59: Impact of financial capability in 1991 on probability of unemployment in later years, controlling for current financial capability: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	0.003	0.001	−0.000	0.010	−0.008	−0.000
	[0.39]	[0.15]	[0.08]	[1.51]	[1.51]	[0.49]
Highest 20%	−0.012	−0.006	−0.001	−0.005	0.001	0.000
	[1.55]	[1.27]	[1.15]	[0.65]	[0.20]	[0.67]
Financial capability in t						
Lowest 20%	0.030	0.007	0.011	0.019	0.004	0.003
	[3.62]	[1.63]	[3.96]	[2.84]	[0.79]	[3.27]
Highest 20%	−0.010	−0.006	0.000	−0.018	−0.002	
	[1.32]	[1.23]	[0.13]	[2.36]	[0.30]	
Log-likelihood	−304	−126	−78	−299	−192	−73
N individuals	2043	1692	1260	2296	1946	1361

Notes: Marginal effects from probit models with being unemployed in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, whether spouse works if married, region of residence, all measured at year *t*.

However, the estimates in Table 59 indicate that these effects do not emerge when also controlling for current financial capability. When current financial capability is included in the models, we find that financial capability in 1991 has no statistically significant impact on the probability of unemployment in later years.

Similar conclusions can be drawn from the estimates from models allowing for individual-specific effects, presented in Table 60. In the initial specifications (in [1]), the results indicate that men with high financial capability in 1991 are one percentage point less likely than those in the middle of the distribution to be unemployed in subsequent years. For women, financial capability in 1991 has no impact. However when introducing controls for current financial capability (in [2]), we find that this effect disappears (the coefficient remains negative but loses statistical significance). Therefore the relationship among men between financial capability in 1991 and unemployment in subsequent years is explained by the persistence in financial capability over time.

Table 60: Impact of financial capability in 1991 on probability of unemployment in later years: BHPS 1991–2006.				
	[1]		[2]	
	Men	Women	Men	Women
Financial capability in 1991				
Lowest 20%	0.005	0.003	0.002	0.001
	[1.25]	[1.01]	[0.45]	[0.50]
Highest 20%	−0.010	0.002	−0.007	0.004
	[2.79]	[0.64]	[1.64]	[1.32]
Financial capability in t				
Lowest 20%			0.027	0.016
			[8.08]	[5.58]
Highest 20%			−0.010	−0.004
			[3.69]	[1.65]
Log-likelihood	−1633	−1773	−1561	−1733
N individuals	2294	2531	2294	2531
N observations	17848	20035	17848	20035

Notes: Marginal effects from random effects probit results with being unemployed in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, whether spouse works if married, region of residence, all measured at year *t*, year dummies plus the individual means of time-varying covariates over time.

This is illustrated in Figure 35, where we plot the predicted probability of unemployment by current financial capability and financial capability in 1991. This clearly shows that current financial capability has a large impact on the probability of unemployment, all else equal – in particular men with high current financial capability are about four percentage points less likely to be unemployed than men with low current financial capability (0.5–1% compared with 3.5–5%). However, financial capability in 1991 also has an effect, albeit relatively small. Having high financial capability in 1991 reduces the probability of unemployment, regardless of current capability. Among women, the pattern is less clear. Although the probability of unemployment falls with current financial capability, capability in 1991 has little effect (and higher capability in 1991 actually increases the probability of unemployment, although only marginally).

Figure 35: Probability of unemployment by current financial capability and financial capability in 1991: BHPS 1991–2006

These estimates indicate that, once allowing for a wide range of observable characteristics and individual specific unobserved effects, there is no statistically significant relationship between financial capability in 1991 and the probability of employment in subsequent years for men or women. There is some evidence that women with low financial capability in 1991 are more likely than those in the middle of the capability distribution to be in full-time work in later years while men with low financial capability in 1991 are less likely. There is also evidence that men with high financial capability in 1991 have a lower probability of subsequent unemployment and a higher probability of employment and full-time employment, although a large part of these relationships can be explained by the persistence in financial capability over time.

8.4   Lifestyle

The fourth outcome of interest relates to people's lifestyle and living standards. We measure this with the number of the following that the household in which an individual lives is able to do: keep their home adequately warm; pay for an annual holiday; replace worn out furniture; buy new clothes; eat meat on alternate days and feed visitors once a month. Descriptive analysis in Section 6 revealed a positive association between financial capability in 1991 and lifestyle in later years – higher financial capability in 1991 is associated with being able to afford more items in later years, and therefore enjoying higher standards of living. We now examine how robust this finding is once we control for other observable characteristics (including income).

Table 61 presents the results from the initial cross-sectional analysis. These show clear relationships between financial capability in 1991 and lifestyle in later years for both men and women, even when allowing for differences in income. Both men and women who were in lowest 20% of the financial capability distribution than in the middle 60% of the distribution in 1991 enjoyed lower lifestyles (were able to afford fewer items) in later years – the estimated

coefficients are negative and statistically significant. The sizes of the effects decline over time, however, for both men and women. For example, having low financial capability in 1991 is associated with having 0.276 fewer items in 1996, but 0.182 fewer items in 2006. A similar fall in the size of the effect is also apparent for women. In addition, having high financial capability in 1991 is associated with enjoying higher standards of living in later years – the estimated coefficients are positive and are either statistically significant or on the margins of statistical significance. For example, being in the highest 20% of the financial capability distribution in 1991 increases the number of items afforded in 2000 and 2006 for men by about 0.14. Similar size effects are found for women. The sizes of these effect persist over time.

Table 61: Impact of financial capability in 1991 on lifestyle in later years: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.276	−0.234	−0.182	−0.209	−0.240	−0.117
	[5.14]	[4.50]	[3.39]	[4.18]	[5.03]	[2.38]
Highest 20%	0.101	0.147	0.136	0.119	0.094	0.102
	[1.83]	[2.73]	[2.62]	[2.15]	[1.78]	[1.93]
R^2	0.216	0.235	0.229	0.234	0.228	0.205
N individuals	2486	2136	1691	3074	2730	2107

Notes: OLS regression results with number of items done in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year *t*.

Table 62: Impact of financial capability in 1991 on lifestyle in later years, controlling for current financial capability: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.246	−0.197	−0.149	−0.183	−0.218	−0.086
	[4.61]	[3.82]	[2.79]	[3.69]	[4.64]	[1.78]
Highest 20%	0.072	0.111	0.110	0.098	0.054	0.071
	[1.30]	[2.09]	[2.13]	[1.78]	[1.04]	[1.37]
Financial capability in *t*						
Lowest 20%	−0.342	−0.443	−0.329	−0.401	−0.409	−0.385
	[5.95]	[8.89]	[6.34]	[7.83]	[8.70]	[7.99]
Highest 20%	0.062	0.023	0.027	0.046	0.050	0.041
	[0.98]	[0.37]	[0.39]	[0.69]	[0.81]	[0.59]
R^2	0.229	0.264	0.248	0.250	0.250	0.230
N individuals	2486	2136	1691	3074	2730	2107

Notes: OLS regression results with number of items done in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year *t*.

However, the estimates in Table 61 do not allow for the correlation between financial capability in 1991 and financial capability in later years. In Table 62 we present the results from models that also include current financial capability. These show that even allowing for current financial capability, financial capability in 1991 continues to have statistically significant impacts on

lifestyles in later years although the sizes of the effects are smaller. Having low financial capability in 1991 significantly reduces lifestyle in later years among both men and women, and the sizes of the effects vary from –0.15 to –0.25 for men, and between –0.09 and –0.22 for women. Generally the sizes of the effects fall over time, and are considerably smaller than the effects of currently having low financial capability for both men and women (which range from –0.33 to –0.41). The impacts of having high financial capability in 1991 remain statistically significant for men – increasing the number of items afforded by 0.11 in 2000 and 2006. These are larger than the sizes of the effects of currently having high financial capability. However, for women, having high financial capability in either 1991 or in the current year has no significant effects.

These estimates are potentially biased if people have unobserved characteristics that are correlated with their financial capability and/or their lifestyle and living standards. In Table 63 we also control for time-invariant individual-specific unobserved characteristics using random effects models. We estimate these both without current financial capability (in [1]) and with current capability (in [2]).

Table 63: Impact of financial capability in 1991 on lifestyle in later years: BHPS 1991–2006.				
	[1]		[2]	
	Men	Women	Men	Women
Financial capability in 1991				
Lowest 20%	–0.192	–0.196	–0.133	–0.123
	[5.84]	[6.43]	[4.10]	[4.17]
Highest 20%	0.082	0.067	0.035	0.018
	[2.38]	[1.99]	[1.05]	[0.55]
Financial capability in t				
Lowest 20%			–0.176	–0.230
			[11.99]	[17.45]
Highest 20%			0.030	0.051
			[1.80]	[3.13]
R^2	0.353	0.388	0.389	0.435
N individuals	2829	3459	2829	3459
N observations	22724	28464	22724	28464

Notes: Random effects GLS regression results with number of items done in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, household income, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t, year dummies plus the individual means of time-varying covariates over time.

The results from these models are generally consistent with those in the cross-sectional models. In particular, results from [1] show that for both men and women having low financial capability in 1991 reduces lifestyle by about 0.2, and these effects are statistically significant. In addition having high financial capability in 1991 increases lifestyle in later years by 0.08 for men and 0.07 for women, and again these effects are statistically significant. However, the estimates in [2] suggest that a large part of these effects is explained by current financial capability – as including current capability reduces the estimated effects of financial capability in 1991. Having high capability in 1991 remains positive for both men and women, but loses statistical significance. Having low financial capability in 1991 remains negative and statistically significant for both men and women, but the size of the impact is reduced from –0.2 to about –0.13. Current low financial capability has larger impacts on lifestyle, particularly for women.

The estimates in [2] are transformed into predicted lifestyle levels using the sample means of other observed characteristics and plotted in Figure 36. This shows a clear gradient in lifestyle with current financial capability for both men and women, with men and women in the highest 20% of the financial capability distribution having higher lifestyles than those with average or low financial capability. However, there is also a noticeable difference between those with high and low and capability in 1991 regardless of their current financial capability, such that people with low financial capability in 1991 had systematically lower lifestyles than those with high financial capability in 1991. Among both men and women, those with relatively low financial capability in 1991 and who currently have low financial capability have the lowest lifestyles (5.0 for men and 4.9 for women), while those with high capability both in 1991 and currently have the highest lifestyles (5.4 for men and 5.3 for women).

Figure 36: Predicted lifestyle by financial capability in 1991 and current financial capability: BHPS 1991–2006
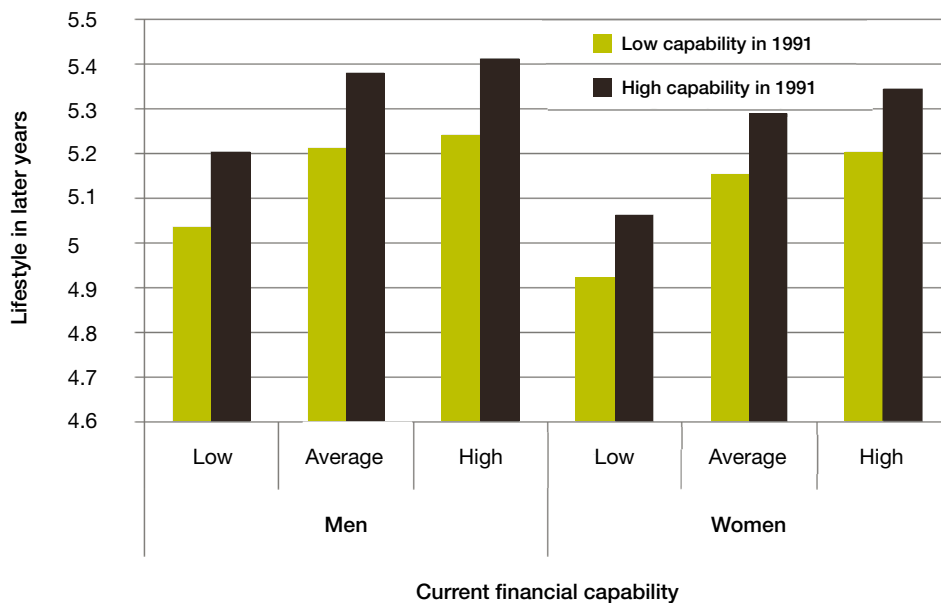
Therefore these results suggest that financial capability in 1991, and having low financial capability in particular, has a statistically significant impact on lifestyle in later years. This remains, although is reduced in size, when controlling for current financial capability and unobserved individual-specific effects.

8.5   Saving behaviour

The fifth outcome of interest we focus on is people's saving behaviour in later years. In particular, we focus on whether or not respondents save any amount of their income, other than to meet regular bills. In addition, and from wave 10 (2000) onwards, respondents are also asked whether or not they save on a regular basis (rather than from time-to-time), and whether or not their savings are mainly long-term savings for the future, or short-term savings for things needed now or unexpected events.[17] The descriptive analysis in Section 6 provides clear evidence of a positive association between financial capability in 1991 and saving in later years, higher financial capability in 1991 is associated with a higher probability of saving from current income, saving regularly and saving for the long-term in later years. We now examine

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17 In these models, the measure of financial capability is constructed without the saving variable to remove potential biases caused by persistence in saving behaviour over time.

the extent to which these relationships hold when taking into account potentially confounding and mediating factors.

Saving

We first examine the impact of financial capability in 1991 on whether or not people save any amount of their income other than to meet regular bills. Table 64 presents results from cross-sectional models, which indicate that financial capability in 1991 has a significant impact on saving in later years. In particular men and women in the lowest 20% of the financial capability distribution in 1991 were less likely to be saving in later years than those in the middle 60% of the capability distribution, while those in top 20% of the distribution were more likely to be saving. These effects persist over time. For example men in the lowest 20% of the financial capability distribution in 1991 were 10.4 percentage points less likely to be saving in 1996, and those in the top 20% of the distribution seven percentage points more likely to be saving, than otherwise similar men in the middle of the distribution. The sizes of these effects fell over the period (but remain on the borders of statistical significance), such that men with low (high) financial capability in 1991 were six percentage points less (more) likely to save in 2006 than those in the middle of the distribution. Similar effects are apparent for women.

Table 64: Impact of financial capability in 1991 on probability of saving in later years: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.104	−0.044	−0.061	−0.055	−0.033	−0.064
	[3.89]	[1.57]	[1.94]	[2.46]	[1.39]	[2.41]
Highest 20%	0.072	0.058	0.058	0.061	0.030	0.057
	[2.54]	[1.94]	[1.78]	[2.35]	[1.06]	[1.81]
Log-likelihood	−1488	−1305	−1024	−1785	−1641	−1249
N individuals	2508	2145	1696	3105	2742	2117

Notes: Marginal effects from probit models with saving from current income in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year *t*.

Table 65 presents the results when adding current financial capability to the models, to allow for correlation in financial capability over time. The general picture remains unaltered, although the sizes and statistical significance of the effects are reduced. The estimates again suggest that, even controlling for current financial capability, a person's financial capability in 1991 has impacts on their saving in later years and these are at the margins of statistical significance. However, these effects are dwarfed by the sizes of the effects of current financial capability which has large and highly significant impacts on saving. For example a man with low financial capability in 1991 is almost nine percentage points less likely to save in 1996 than an otherwise similar man in the middle of the financial capability distribution. However, a man who currently has low financial capability in 1996 is nineteen percentage points less likely to save than a man in the middle of the financial capability distribution. Therefore financial capability in 1991 has an effect on saving in later years, but the sizes and significance of these effects are small relative to the impact of current financial capability.

Table 65: Impact of financial capability in 1991 on probability of saving in later years, controlling for current financial capability: BHPS 1991–2006.

	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.088	−0.029	−0.056	−0.043	−0.030	−0.052
	[3.24]	[1.04]	[1.78]	[1.89]	[1.26]	[1.93]
Highest 20%	0.068	0.051	0.052	0.045	0.022	0.053
	[2.38]	[1.69]	[1.60]	[1.72]	[0.78]	[1.70]
Financial capability in t						
Lowest 20%	−0.190	−0.188	−0.087	−0.209	−0.099	−0.114
	[6.28]	[6.79]	[2.74]	[8.61]	[4.01]	[3.91]
Highest 20%	0.125	0.139	0.116	0.140	0.124	0.134
	[3.67]	[3.78]	[3.40]	[4.24]	[3.63]	[4.17]
Log-likelihood	−1458	−1269	−1012	−1732	−1624	−1227
N individuals	2508	2145	1696	3105	2742	2117

Notes: Marginal effects from probit models with saving from current income in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t.

Table 66: Impact of financial capability in 1991 on probability of saving in later years: BHPS 1991–2006.

	[1]		[2]	
	Men	Women	Men	Women
Financial capability in 1991				
Lowest 20%	−0.069	−0.046	−0.051	−0.032
	[4.59]	[3.60]	[3.47]	[2.62]
Highest 20%	0.035	0.023	0.010	0.001
	[2.14]	[1.58]	[1.46]	[0.66]
Financial capability in t				
Lowest 20%			−0.076	−0.086
			[10.49]	[13.32]
Highest 20%			0.053	0.059
			[8.55]	[10.15]
Log-likelihood	−11257	−14092	−11080	−13840
N individuals	2830	3459	2830	3459
N observations	22823	28599	22823	28599

Notes: Marginal effects from random effects probit results with saving from current income in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t, year dummies plus the individual means of time-varying covariates over time.

In Table 66 we allow for time-invariant individual-specific unobserved characteristics using random effects models. We estimate these both without (in [1]) and with current capability (in [2]). The results are generally consistent with those in the cross-sectional models. They

indicate that having low financial capability in 1991 has relatively large and statistically significant impacts on saving in later years, but having high financial capability in 1991 has smaller (and when allowing for current financial capability in [2] statistically insignificant) impacts. Men with low financial capability in 1991 are 6.9 percentage points less likely to save in later years than those in the middle of the capability distribution, and the size of this effect falls to five percentage points when also allowing for current financial capability (in [2]). Women with low financial capability in 1991 are 4.6 percentage points less likely to save in later years than those in the middle of the distribution, and the size of the effect falls to 3.2 percentage points when also including current financial capability.

Figure 37: Probability of saving by current financial capability and financial capability in 1991: BHPS 1991–2006
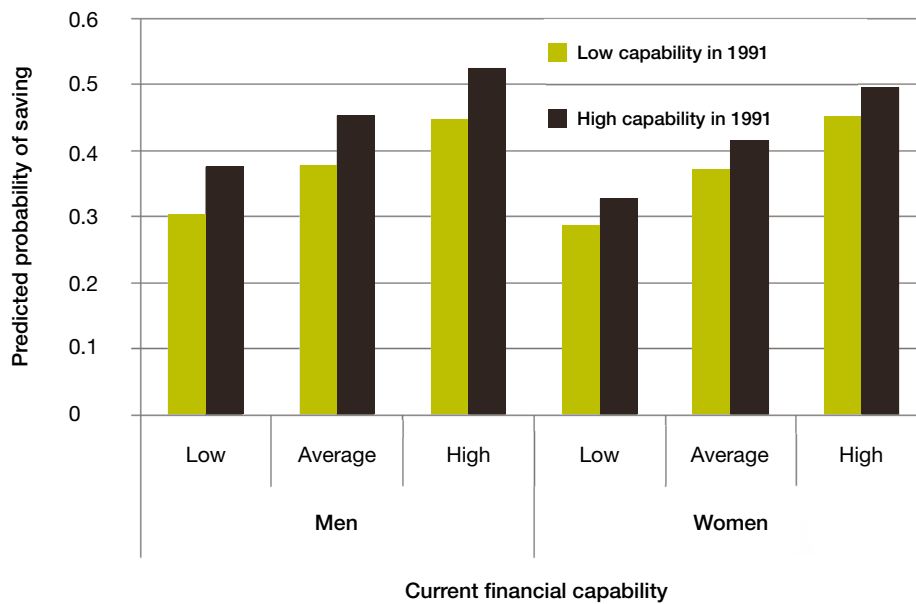
Figure 37 translates the marginal effects into predicted probabilities. Current financial capability has a much larger impact than capability in 1991 on the likelihood of saving. Focussing on men with high capability in 1991, more than one half with high current financial capability are predicted to save compared with 38% of those with low current financial capability. Among men with low capability in 1991, the predicted proportions are 45% and 30%. Therefore moving a man from low to high current capability increases his probability of saving by 15 percentage points, while the difference between those with low and high financial capability in 1991 is one half of that (seven percentage points or approximately 20%). A similar pattern emerges for women, where having low rather than high financial capability in 1991 is associated with a four percentage point lower probability (or 10%) of saving in later years. Therefore current financial capability has a large impact on the probability of saving, but financial capability in 1991 has an additional, smaller effect.

Therefore we find that financial capability in 1991, and having low financial capability in particular, has a significant impact on the probability of individuals saving in later years. The sizes of these effects are, however, relatively small compared to those related to current financial capability.

Saving regularly

In addition to saving from current income, from wave 10 (2000) onwards respondents were also asked whether or not they save on a regular basis rather than from time-to-time. In Table 67 we present the first set of cross-sectional estimates using this as the dependent variable and financial capability in 1991 as the explanatory variable of interest. The estimates provide some evidence that financial capability in 1991 affects the propensity to save regularly in later years. In particular, both men and women with low financial capability in 1991 were six percentage points less likely to save regularly in 2006 than those in the middle of the financial capability distribution. Although the coefficients associated with having high financial capability in 1991 are positive – indicating that such individuals were more likely to save regularly in later years – they are generally not statistically significant.

Table 67: Impact of financial capability in 1991 on probability of saving regularly in later years: BHPS 1991–2006.				
	Men		Women	
	2000	2006	2000	2006
Financial capability in 1991				
Lowest 20%	−0.033	−0.061	−0.028	−0.061
	[1.28]	[2.07]	[1.27]	[2.41]
Highest 20%	0.052	0.028	0.024	0.043
	[1.92]	[0.93]	[0.94]	[1.47]
Log-likelihood	−1212	−980	−1495	−1180
N individuals	2145	1696	2742	2117

Notes: Marginal effects from probit models with saving regularly in year *t* as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year *t*.

When we introduce current financial capability the sizes and significance of the impacts of financial capability in 1991 are reduced (Table 68). Having low financial capability in 1991 reduces the probability of saving regularly by between five and six percentage points for men and women (which is on the margins of statistical significance). Having high financial capability increases the probability, but is not statistically significant. As expected, current financial capability has large and statistically significant impacts on the probability of saving regularly. Having low financial capability reduces the probability of saving regularly in 2006 by six percentage points for men and ten percentage points for women, while having high financial capability increases the probability by nine and twelve percentage points for men and women.

In Table 69 we present the results when introducing unobserved individual-specific effects into the models using random effects. These are generally consistent with the cross-sectional models. The results in the first columns, which exclude current financial capability, indicate that men and women with low financial capability in 1991 were four and five percentage points less likely to save regularly in later years than those in the middle of the financial capability distribution. These effects are statistically significant. However, having relatively high financial capability in 1991 has no statistically significant impact on the probability of saving regularly in later years – the coefficients are positive but relatively small. The results in column [2] also include current financial capability. Even when controlling for this, we find that women who had low financial capability in 1991 were four percentage points less likely to save regularly in later years than those in the middle of the distribution. For men, however, although negative the effect is no longer statistically significant. Current financial capability has relatively large and statistically significant effects on the probability of saving regularly in these specifications. In

particular, men and women with low financial capability are more than four percentage points less likely to save regularly than those in the middle of the capability distribution, while those with high financial capability are three and six percentage points more likely to save regularly, all else equal.

Table 68: Impact of financial capability in 1991 on probability of saving regularly in later years, controlling for current financial capability: BHPS 1991–2006.				
	Men		Women	
	2000	2006	2000	2006
Financial capability in 1991				
Lowest 20%	−0.023	−0.058	−0.026	−0.050
	[0.88]	[1.95]	[1.19]	[1.97]
Highest 20%	0.047	0.024	0.018	0.040
	[1.71]	[0.78]	[0.70]	[1.37]
Financial capability in t				
Lowest 20%	−0.126	−0.061	−0.058	−0.097
	[4.92]	[2.03]	[2.53]	[3.53]
Highest 20%	0.108	0.094	0.099	0.116
	[3.25]	[2.92]	[3.17]	[3.84]
Log-likelihood	−1191	−972	−1485	−1162
N individuals	2145	1696	2742	2117

Notes: Marginal effects from probit models with saving regularly in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t.

These effects are highlighted in Figure 38, which plots the predicted probabilities of saving regularly by current financial capability and financial capability in 1991. This illustrates the clear gradient in saving regularly by current financial capability, with 25–30% of men with low current capability predicted to save regularly compared with 35–40% of those with high current capability. A similar pattern emerges for women. Also, financial capability in 1991 has an additional effect with men and women with high capability in 1991 being about three percentage points more likely than those with low capability in 1991 to save regularly. Hence although current financial capability has a large impact on the probability of saving regularly, capability in 1991 has an additional impact.

Therefore we find that financial capability in 1991, and having low financial capability in particular, has a significant impact on the probability of individuals saving regularly in later years. This impact remains for women even when also controlling for current financial capability.

Table 69: Impact of financial capability in 1991 on probability of saving regularly in later years: BHPS 1991–2006.				
	[1]		[2]	
	Men	Women	Men	Women
Financial capability in 1991				
Lowest 20%	−0.040	−0.050	−0.024	−0.040
	[2.38]	[3.56]	[1.47]	[2.91]
Highest 20%	0.022	0.010	0.002	−0.014
	[1.25]	[0.61]	[0.46]	[0.22]
Financial capability in t				
Lowest 20%			−0.042	−0.044
			[4.41]	[5.58]
Highest 20%			0.033	0.056
			[4.70]	[7.23]
Log-likelihood	−6192	−7580	−6118	−7478
N individuals	2430	3014	2430	3014
N observations	13260	16730	13260	16730

Notes: Marginal effects from random effects probit results with saving regularly in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t, year dummies plus the individual means of time-varying covariates over time.

Figure 38: Probability of saving regularly by current financial capability and financial capability in 1991: BHPS 1991–2006
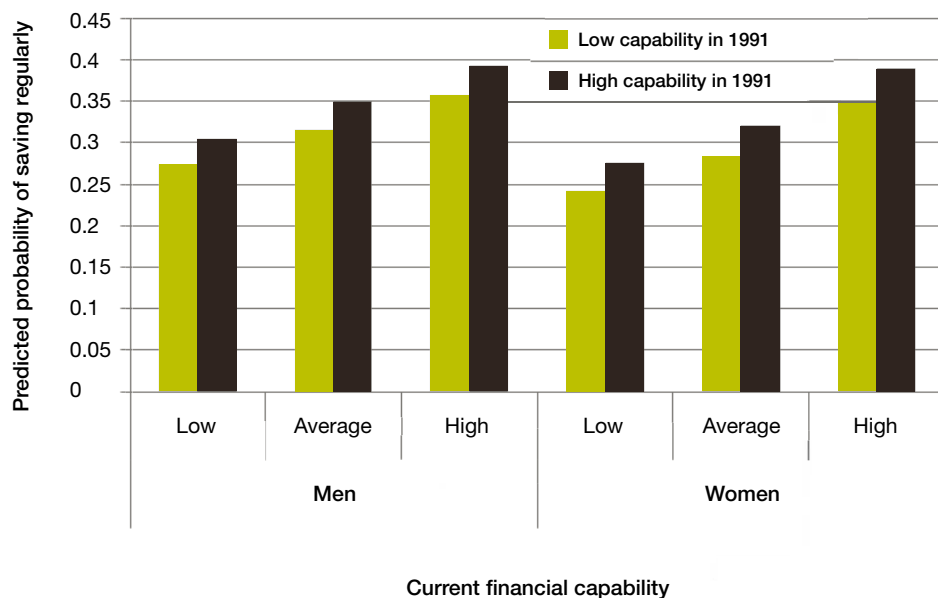
Saving long-term

Our final measure of saving relates to whether or not savings are mainly long-term savings for the future (which indicates long-term financial planning) or short-term savings for things needed now or unexpected events. This information was collected from wave 10 (2000) onwards. Descriptive statistics in Section 6 suggested that people who saved for the long-term had considerably higher financial capability in 1991 than those who did not, and our multivariate analysis determines the extent to which this relationship holds once potentially confounding and mediating factors are taken into account. Table 70 presents estimates from cross-sectional models. These indicate little relationship between financial capability in 1991 and the probability of long-term saving in later years – the estimated effects are small and statistically insignificant. The exception is for men with high financial capability in 1991, who were six percentage points more likely to save long-term in 2000 than those in the middle of the capability distribution. However this effect does not persist in 2006.

Table 70: Impact of financial capability in 1991 on probability of saving long-term in later years: BHPS 1991–2006.				
	Men		Women	
	2000	2006	2000	2006
Financial capability in 1991				
Lowest 20%	−0.028	−0.014	−0.019	−0.002
	[1.36]	[0.65]	[1.29]	[0.13]
Highest 20%	0.063	0.029	−0.013	0.004
	[2.95]	[1.40]	[0.82]	[0.26]
Log-likelihood	−924	−645	−996	−640
N individuals	2145	1696	2742	2117

Notes: Marginal effects from probit models with saving long-term in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t.

Table 71: Impact of financial capability in 1991 on probability of saving long-term in later years, controlling for current financial capability: BHPS 1991–2006.				
	Men		Women	
	2000	2006	2000	2006
Financial capability in 1991				
Lowest 20%	−0.023	−0.013	−0.018	0.001
	[1.11]	[0.60]	[1.22]	[0.06]
Highest 20%	0.055	0.028	−0.018	0.003
	[2.61]	[1.37]	[1.16]	[0.20]
Financial capability in *t*				
Lowest 20%	−0.043	−0.011	−0.033	−0.015
	[2.10]	[0.51]	[2.14]	[1.00]
Highest 20%	0.132	0.037	0.086	0.037
	[4.99]	[1.71]	[4.06]	[2.22]
Log-likelihood	−907	−643	−983	−636
N individuals	2145	1696	2742	2117

Notes: Marginal effects from probit models with saving long-term in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year *t*.

In Table 71 we add current financial capability to the models. Again we find little relationship between financial capability in 1991 and the probability of long-term saving in later years. The coefficients are generally small and not statistically significant, with again the exception being for men with high financial capability in 1991. Such men were 5.5 percentage points more likely to save long-term in 2000 than those in the middle of the financial capability distribution. Coefficients on current financial capability indicate that men and women with high financial capability are more likely to save long-term than those in the middle of the distribution, and the sizes of these effects are large. There is also some evidence that those who currently have low financial capability are less likely to save long-term, particularly in 2000.

Table 72: Impact of financial capability in 1991 on probability of saving long-term in later years: BHPS 1991–2006.				
	[1]		[2]	
	Men	Women	Men	Women
Financial capability in 1991				
Lowest 20%	−0.011	−0.020	−0.004	−0.016
	[0.90]	[2.26]	[0.29]	[1.76]
Highest 20%	0.028	−0.005	0.016	−0.014
	[2.14]	[0.50]	[1.35]	[1.07]
Financial capability in t				
Lowest 20%			−0.008	−0.021
			[0.98]	[3.20]
Highest 20%			0.016	0.027
			[2.18]	[4.42]
Log-likelihood	−4834	−5116	4802	−5067
N individuals	2430	3014	2430	3014
N observations	13260	16730	13260	16730
Notes: Marginal effects from random effects probit results with saving long-term in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t, year dummies plus the individual means of time-varying covariates over time.				

Our final set of models also allow for unobserved differences between individuals, with the estimates shown in Table 72. Two specifications are estimated, excluding (in [1]) and including (in [2]) current financial capability. The estimates in [1] show that women who were in the lowest 20% of the financial capability distribution in 1991 were two percentage points less likely to save long-term in later years compared with women in the middle of the financial capability distribution. Men in the highest 20% of the financial capability distribution were 2.8 percentage points more likely to save long-term in later years than those in the middle of the capability distribution. Therefore for women, having low financial capability appears to have lasting impacts on their propensity to save for the long-term, while for men it is having high financial capability that matters. However, when we also introduce controls for current financial capability (in [2]), the statistical significance of these effects disappear, suggesting that the impact of financial capability in 1991 is captured by people's current financial capability. Indeed, current financial capability has statistically significant effects on the probability of long-term saving – men and women with high financial capability are 1.6 and 2.7 percentage points more likely to save long-term than those in the middle of the distribution, while women with low financial capability are two percentage points less likely to save long-term.

Figure 39 translates these marginal effects into predicted probabilities of long-term saving by current financial capability and financial capability in 1991. This indicates a clear relationship

between current financial capability and long-term saving for both men and women. For example 18–20% of men with high current capability are predicted to save for the long-term, compared with 15–17% of men with low current capability. About 10% of women with low current capability are predicted to save for the long-term, compared with 15% of those with high capability. However, the figure also suggests that, at least for men, financial capability in 1991 has an additional impact. For example, among men with high current capability, 20% of those who also had high capability in 1991 are predicted to save for the long-term compared with 18% of those with low capability in 1991. This gap is also evidence among those with low and average current capability, but is less evident among women.

Figure 39: Probability of long-term saving by current financial capability and financial capability in 1991: BHPS 1991–2006
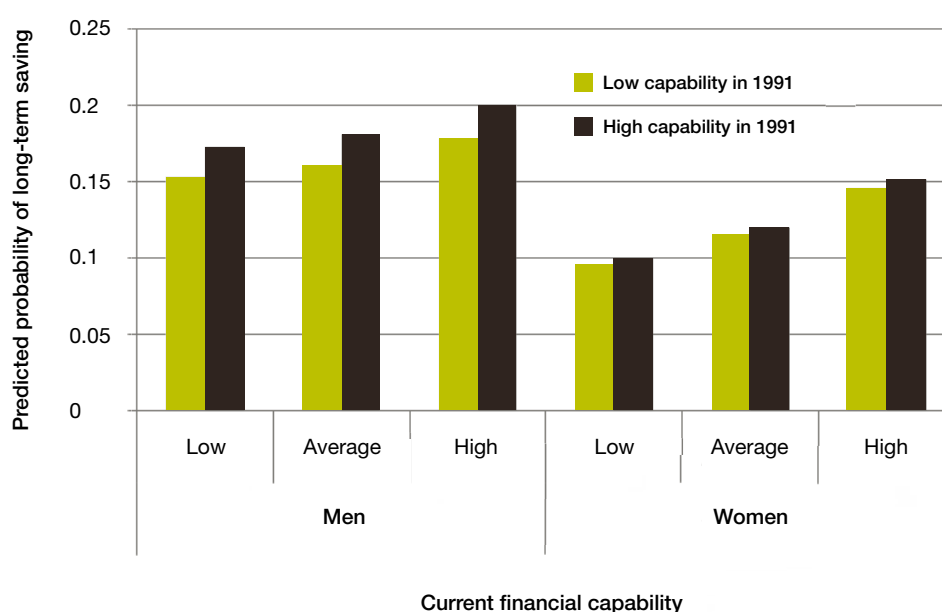
Our estimates suggest that financial capability in 1991, and having low financial capability in particular, has a significant impact on the probability of individuals saving in later years and saving regularly in later years. While some of these effects can be explained by current financial capability, a number of them persist suggesting that low financial capability at a particular point in time reduces the propensity of people to save, and to save regularly, in future years.

8.6   Household income

The final outcome of interest relates to household income, deflated to January 2006 prices. Descriptive statistics in Section 6 suggested persistent differences over time in household income for people with low financial capability and high financial capability in 1991, and in these multivariate models we examine whether this finding is robust to controlling for a range of potentially confounding and mediating factors.

Table 73 presents the results from cross-sectional models looking at the impact of financial capability in 1991 on household income in 1996, 2000 and 2006. These indicate that financial

capability in 1991 has large and statistically significant impacts on household income in later years, particularly among men. In particular, men in the lowest 20% of the financial capability distribution in 1991 had household incomes in later years that were between 5% and 10% lower than those in the middle of the capability distribution. Furthermore there is no evidence that the size of the impact fell over time – in fact the opposite appears to be true. The size of the effect was larger in 2006 (9.9%) than in 1996 (5.4%). There is also evidence that having high financial capability in 1991 was associated with higher household incomes in 1996 for men (by 7%), but the size and statistical significance of this effect did fall over time. A similar pattern emerges among women, with those who had low financial capability in 1991 having incomes in later years between 5% and 7% lower than those in the middle of the financial capability distribution. The sizes and statistical significance of these effects also fell over time.

Table 73: Impact of financial capability in 1991 on household income in later years: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.054	−0.081	−0.099	−0.068	−0.052	−0.054
	[2.32]	[2.81]	[2.68]	[3.13]	[1.93]	[1.73]
Highest 20%	0.070	0.044	0.035	0.020	0.042	0.016
	[3.20]	[1.60]	[1.02]	[0.95]	[1.58]	[0.52]
R^2	0.630	0.549	0.501	0.685	0.592	0.539
N individuals	2506	2141	1693	3102	2736	2117
Notes: OLS regression results with log household income in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year *t*.						

In Table 74 we present the results of adding current financial capability to the models. This has the effect of reducing the size and significance on household income of the effects of financial capability in 1991. However, among men, the impact of being in the lowest 20% of the financial capability distribution in 1991 on household income in later years remains negative and statistically significant (in 2000 and 2006), reducing income by 6.5% (in 2000) and 8.5% (in 2006). Being in the top 20% of the financial capability distribution in 1991 increases household income in 1996 by 5.2% relative to being in the middle of the capability distribution. Among women, we find that low financial capability in 1991 is associated with 5.8% lower income in 1996, but this effect does not persist into the later years. Having high financial capability in 1991 has no impact on household income in later years among women. Therefore we find that when adjusting financial capability in 1991 for income, its impact on household income in later years remains statistically significant (particularly in the case of having low financial capability for men), but the size of the effect is reduced.

Table 74: Impact of financial capability in 1991 on household income in later years, controlling for current financial capability: BHPS 1991–2006.						
	Men			Women		
	1996	2000	2006	1996	2000	2006
Financial capability in 1991						
Lowest 20%	−0.039	−0.065	−0.085	−0.058	−0.046	−0.036
	[1.70]	[2.27]	[2.32]	[2.71]	[1.74]	[1.17]
Highest 20%	0.052	0.018	0.021	0.002	0.017	−0.003
	[2.39]	[0.64]	[0.60]	[0.10]	[0.64]	[0.10]
Financial capability in t						
Lowest 20%	−0.147	−0.180	−0.141	−0.171	−0.193	−0.218
	[6.32]	[6.85]	[4.12]	[8.43]	[7.93]	[7.61]
Highest 20%	0.067	0.091	0.124	0.104	0.082	0.092
	[2.62]	[2.77]	[2.68]	[3.90]	[2.53]	[2.19]
R^2	0.637	0.562	0.509	0.695	0.596	0.554
N individuals	2506	2141	1693	3102	2736	2117

Notes: OLS regression results with log household income in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t.

Table 75: Impact of financial capability in 1991 on household income in later years: BHPS 1991–2006.				
	[1]		[2]	
	Men	Women	Men	Women
Financial capability in 1991				
Lowest 20%	−0.079	−0.068	−0.044	−0.044
	[4.36]	[4.24]	[2.48]	[2.89]
Highest 20%	0.053	0.027	0.014	−0.012
	[3.04]	[1.73]	[0.83]	[0.80]
Financial capability in t				
Lowest 20%			−0.071	−0.080
			[8.97]	[11.40]
Highest 20%			0.043	0.053
			[4.71]	[6.15]
R^2	0.689	0.757	0.712	0.777
N individuals	2830	3459	2830	3459
N observations	22785	28752	22785	28752

Notes: Random effects GLS regression results with log household income in year t as the dependent variable. Absolute ratio of coefficient to standard error in brackets. All models also control for age, whether or not respondent is an immigrant, whether respondent is in good physical health, marital status, number of children, household structure, highest qualification achieved, housing tenure, employment status of respondent and other household members, type of job if employed, whether spouse works if married, region of residence, all measured at year t, year dummies plus the individual means of time-varying covariates over time.

In Table 75 we present the results from the random effects models that also allow for time-invariant individual-specific unobserved characteristics. These might be important if people have unobserved effects that are related to both their financial capability at a point in time and their household income. The results show that both men and women who had low financial capability in 1991 had lower incomes in later years than those in the middle of the capability distribution – the effects are negative and statistically significant. For men it reduced household

income by 8%, and for women by 7%. Furthermore, men who had high financial capability in 1991 had household incomes in later years that were 5% higher than those in the middle of the capability distribution. In [2] we also introduce controls for current financial capability. In these specifications we find that men and women with low financial capability in 1991 had household incomes that were 4.4% lower than those in the middle of the capability distribution. Although the sizes of these effects are smaller than those associated with current financial capability, they are statistically significant.

Figure 40 plots estimated household incomes conditional on financial capability in 1991 and current capability based on the results in model [2]. As in Figure 40 (using income-unadjusted financial capability), a clear relationship emerges between household income and current financial capability – men and women with high current capability are predicted to have higher incomes than those with low capability (by about £250 per month). The differences in estimated income between those with high and low financial capability in 1991, however, are small (about £120 per month for men and £60 per month for women). Therefore once we adjust financial capability for income, the relationship between financial capability in 1991 and income in later years remains significant but is relatively small.

Figure 40: Estimated monthly household income by current financial capability and financial capability in 1991: BHPS 1991–2006
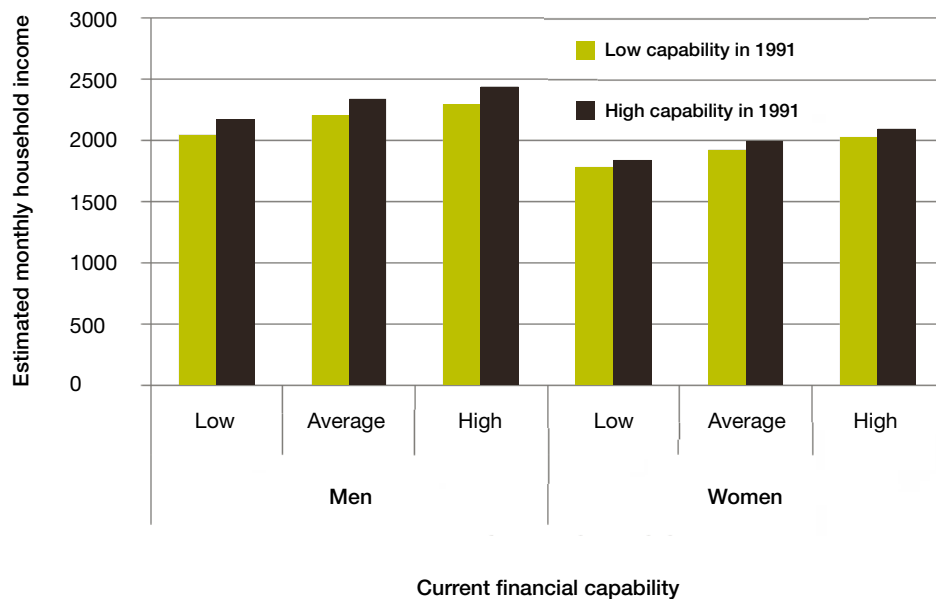
Therefore we find that having low financial capability in 1991 is associated with lower household income in later years, even when allowing for differences in both observable and time-invariant unobservable characteristics. People with low financial capability in 1991 have lower incomes in later years than those in the middle of the financial capability distribution, and this relationship cannot be explained by low household income in 1991 or persistence in financial capability over time.

8.7   Summary

Results from our multivariate models indicate that financial capability in 1991 does have persistent effects on outcomes in later years, even when controlling for a range of potentially mediating and confounding factors as well as individual-specific unobserved effects. We find evidence of persistence in financial capability over time, as having relatively low financial capability in 1991 is associated with having lower financial capability and with a higher probability of relatively low financial capability in subsequent years. Having relatively high financial capability in 1991 is associated with having higher financial capability and with a lower probability of relatively low financial capability in subsequent years. Financial capability in 1991 also has statistically significant impacts on people's life satisfaction, lifestyle, propensity to save and to save regularly, and household income in later years, and these effects remain even when allowing for contemporaneous financial capability. People with low financial capability in 1991 have lower life satisfaction, enjoy lower living standards, are less likely to save (and save regularly) and have lower household incomes than those in the middle of the capability distribution. However, we find that financial capability has little impact on employment status in subsequent years once we control for a range of other observed and unobserved characteristics and current financial management skills.

9 Summary and conclusions

The aim of this project is to investigate whether financial capability has long term impacts on people's outcomes in a range of domains, including psychological wellbeing, employment, lifestyle and living standards, incomes and savings behaviour. If so, then this would indicate longer term benefits (costs) associated with current financial capability (incapability), and place an even greater emphasis on the need to improve people's current financial management skills. We use data from the British Household Panel Survey to construct a measure of respondents' financial capability in 1991, and examine its relationship with a number of outcomes of interest over the period 1996 to 2006 using both descriptive bivariate analysis and more complex statistical modelling that allows us to control for the potentially confounding and mediating impacts of other observable factors and unobservable time-invariant individual-specific effects.

We create a measure of respondents' financial capability in 1991 using variables measuring perceived current financial situation; the perceived change in this since last year; whether the respondent saves from their current income; whether the household in which the respondent lives has problems meeting their housing payments; whether such problems have required borrowing; whether they have required cutbacks; and whether the household has been more than two months in housing arrears in the previous 12 months. Therefore this measure of financial capability, which we adjust for household income, relates more to people's ability to manage their money and to make ends meet, rather than to other domains of financial capability such as choosing suitable products, planning ahead and staying informed.

We use this constructed variable to explore the relationship between people's financial capability in 1991 and their financial capability, psychological wellbeing, labour market status, lifestyle, saving behaviour and household income between 1996 and 2006. Financial capability in later years is defined analogously to capability in 1991. We use people's GHQ scores, reported life satisfaction and whether or not they have a health problem relating to anxiety or depression as measures of psychological wellbeing. Their labour market status is captured using three variables indicating whether or not they are in employment, whether or not they are in full-time employment and whether or not they are unemployed. Respondents' lifestyle and living standards are measured by the number of the following that the households in which they live are able to access or do: keep their home adequately warm; pay for an annual holiday; replace worn out furniture; buy new clothes; eat meat on alternate days; and feed visitors once a month. Savings behaviour is captured using three variables which identify whether or not people are able to save from their current income (other than to meet regular bills), whether they save regularly (as opposed to from time-to-time), and whether their savings are mainly long-term savings for the future (as opposed to short-term savings for things needed now or unexpected events).

Descriptive statistics suggest that financial capability, psychological wellbeing, employment status, lifestyle and living standards, saving behaviour and household income in subsequent years are strongly related to people's financial capability in 1991. In particular we find that higher financial capability in 1991 is associated with higher financial capability, better psychological wellbeing, higher chances of employment (and full-time employment), lower chances of unemployment, being able to afford more items, and with saving, saving regularly and saving long-term, as well as higher incomes in later years.

Estimating multivariate statistical models allows us to take into account potentially confounding factors that jointly determine an individual's financial capability at any particular point in time and these outcomes of interest in later years. Results from these models suggest that having relatively low financial capability in 1991 is associated with having lower financial capability

and with a higher probability of relatively low financial capability in subsequent years. Having relatively high financial capability in 1991 is associated with having higher financial capability and with a lower probability of relatively low financial capability in subsequent years. In particular, low rather than high financial capability in 1991 doubles the probability of having low financial capability in later years for both men and women (from 15% to 30% – see Figure 29).

Financial capability in 1991 also has statistically significant impacts on people's life satisfaction, lifestyle, propensity to save and to save regularly, and household income in later years, and these effects remain even when allowing for contemporaneous financial capability. Among men, having low rather than high financial capability in 1991 is associated with a life satisfaction some 0.2 points lower in later years, which is equivalent in size to the impact of being unemployed rather than in full-time work (but smaller than the sizes of effects of being divorced or separated relative to being married and of being in bad rather than good health). Furthermore, having low financial capability in 1991 and in later years is associated with a life satisfaction some 0.5 points lower – which exceeds the sizes of effects of being divorced, separated or widowed rather than married and of being in bad rather than good health. The effects for women are considerably smaller.

The long-term impacts of financial capability on saving behaviour can be illustrated by its impact on the propensity to save. Men with low financial capability in 1991 are about seven percentage points (or approximately 20%) less likely to save in later years than those with high financial capability in 1991, all else equal (see Figure 37). Among women, the effect is about one half of that for men (four percentage points or about 10%). These are sizeable impacts, if smaller than those of current financial capability. Having high rather than low financial capability in 1991 is associated with higher household incomes in later years, by about £120 per month for men and £60 for women (see Figure 41). However, we find that financial capability has little impact on employment status in subsequent years once we control for a range of other observed and unobserved characteristics and current financial management skills.

The results from our analysis lead us to conclude that a person's financial capability at a point in time has, in some cases, relatively large and statistically significant impacts on their outcomes in later years. This suggests that improving people's current financial management skills will not only have immediate effects on, for example, their psychological wellbeing and money management skills, but also have longer lasting effects on their mental health, living standards, savings behaviour and household income. Therefore the benefits of programmes that promote financial capability, and particularly people's ability to make ends meet and manage their money, may reach beyond the more immediate into the medium to long-term. At the same time, our evidence suggests that the failure to help improve the financial management skills of individuals at the bottom of the financial capability distribution may have longer term impacts across a number of different domains.

These findings may be sensitive to the extent to which people with different financial capability experience shocks or events that we do not observe that might also affect their outcomes in later years. Our estimation procedure allows for time invariant unobserved or unobservable characteristics of individuals, such as personality traits, ability, or motivation, which may affect both financial capability and other outcomes. However, if people with different financial capabilities are exposed to particular events or situations that we are unable to capture in our data, these may confound the effects we find with our statistical models.

This research also raises some other important and interesting issues that are worthy of investigation. For example, we have for data reasons focused on making ends meet domain of financial capability (with some aspects of planning ahead), but what about other domains? What are the longer-term implications of being able to plan ahead, choose appropriate

financial products and of staying informed? We have also explicitly focused on the relationship between people's financial capability in 1991 and their outcomes between 1996 and 2006, and found lasting impacts. But what are the longer term consequences of persistently high or low financial capability? Do people who consistently exhibit high financial capability over a number of years enjoy greater benefits in later years than those with more transient financial capability? Conversely, is persistently low financial capability associated with larger penalties than we report here? Finally, the dynamics of people's lives and their association with financial capability are worth exploring in more depth. For example, how do financially capable and financially incapable people respond to change, such as a job loss or a birth for example? Do the financially capable forego some aspect of their lifestyle in order to maintain their capability status? Do, as we would expect, the less financially capable struggle more when faced with a negative financial shock? These are just some potential avenues that are worth investigating.

10 References

Argyle, M. (1989), *The psychology of Happiness*, Routledge: London.

Arulampalam, W., Booth, A.L. and Taylor, M.P. (2000), 'Unemployment persistence', *Oxford Economic Papers* 52, 24–50.

Atkinson, A., McKay, S., Kempson, E. & Collard, S. (2006). *Levels of financial capability in the UK: Results from a baseline survey*. FSA Consumer Research Paper 47. London: FSA.

Atkinson, A., McKay, S., Kempson, E. & Collard, S. (2007). Levels of financial capability in the UK. *Public Money and Management* February, 29–36.

Cappellari, L. & Jenkins, S.P. (2007). Summarising multiple deprivation indicators. In Jenkins, S.P. & Micklewright, J. (eds), *Inequality and Poverty Re-Examined*. Oxford: Oxford University Press.

Chamberlain, G. (1984), "Panel data", in Griliches, Z. and Intriligator, M.D. (eds) *Handbook of Econometrics*, Amsterdam: North Holland.

European Commission (2007), Minutes of Financial Capability Conference 28th March 2007, http://ec.europa.eu/internal_market/finservices-retail/docs/capability/minutes_en.pdf

Financial Services Authority (2005). *Measuring financial capability: An exploratory study*. London: FSA.

Financial Services Authority (2006). *Financial capability in the UK: Establishing a baseline*. London: FSA.

Financial Services Consumer Panel (2003a). *Financial services consumer panel research report: Consumer concerns in Great Britain*. Financial Services Consumer Panel: Spring.

Financial Services Consumer Panel (2003b). Financial services consumer panel research report: Understanding financial needs. Financial Services Consumer Panel: Spring.

Hardy, G.E., Shapiro, D.A., Haynes, C.E., Rick, J.E. (1999). Validation of the General Health Questionnaire-12: Using a sample of employees from England's health care services. *Psychological Assessment 11* (2), 159–165.

HM Treasury (2007). *Financial capability: The Government's long-term approach*. London: HMSO.

Hu, Y., Stewart-Brown, S., Twigg, L. and Weich, S. (2007). 'Can the 12-item General Health Questionnaire be used to measure positive mental health?', *Psychological Medicine*, 37: 1005-1013.

Huppert FA, Whittington JE (2003), 'Evidence for the independence of positive and negative wellbeing: implications for quality of life assessment', *British Journal of Health Psychology* 8:107-122.

Marmot, M., Ryff, C., Bumpass, L., Shipley, M. & Marks, N. (1997). Social inequalities in health: Next questions and converging evidence. *Social Science and Medicine* 44, 901–910.

Mason, C. & Wilson, R. (2000). *Conceptualising financial literacy*. Loughborough University

Business School Research Series 2000-7.

McCabe, C.J., Thomas, K.J., Brazier, J.E. & Coleman, P. (1996), 'Measuring the mental health status of a population: A comparison of the GHQ-12 and the SF-36', *British Journal of Psychiatry* 169, 516-521.

Melhuish, E. and Malin, A. (2008), *An investigation of the relationship between financial capability and psychological wellbeing in mothers of young children*, Report for the FSA.

Mundlak, Y. (1978), "On the pooling of time series and cross section data", *Econometrica*, 46 (1), pp.69–85.

National Institute of Adult Continuing Education (2007). F*inancial capability: The Government's long-term approach*. A NIACE response to the HM Treasury Paper. Available online at: http://www.niace.org.uk/organisation/advocacy/Treasury/financial-capability.htm

Noctor, M., Stoney, S. & Stradling, S. (1992). *Financial literacy: A discussion of the concepts and competencies of financial literacy and opportunities for its introduction into young people's learning*. National Foundation for Educational Research.

Nunnally, J.C. and Bernstein, I.H. (1994), *Psychometric theory*, 3rd Edn. New York: McGraw-Hill.

Pevalin, D.J. (2000), 'Multiple applications of the GHQ-12 in a general population sample: an investigation of long-term retest effects', *Social Psychiatry and Psychiatric Epidemiology* 35, 508-512.

Taylor, M.P. (2007), 'Tied migration and subsequent employment: Evidence from couples in Britain', *Oxford Bulletin of Economics and Statistics* 69 (6), 795–818

Taylor, M.P. (2009), *The impact of life events on financial capability: evidence from the BHPS*, Financial Services Authority Consumer Research Paper no. 79, London: FSA.

Taylor, M.P. (2011), 'Measuring financial capability and its determinants using survey data', *Social Indicators Research*, forthcoming.

Taylor, M.P., Berthoud, R and Jenkins, S.P. (2004), Low income and multiple disadvantage 1991-2001: Analysis of the British Household Panel Survey, *A report for the Social Exclusion Unit in the Breaking the Cycle Series*, ODPM: London.

Taylor, M.P., Jenkins, S. and Sacker, A. (2009), *Financial capability and wellbeing: evidence from the BHPS*, Financial Services Authority Occasional Paper Series no. 34, London: FSA.

Taylor, M.P., Pevalin, D.J. & Todd, J. (2007). The psychological costs of unsustainable housing commitments. *Psychological Medicine* 37, 1027–1036.

Weich, S. & Lewis, G. (1998). Poverty, unemployment and common mental disorders: Population based cohort study. *British Medical Journal* 314, 591–595.

Werneke, U., Goldberg, D.P., Yalcin, I., Uston, B.T. (2000). The stability of the factor structure of the General Health Questionnaire. *Psychological Medicine* 30, 823–829.

Wildman, J. (2003). Income related inequalities in mental health in Great Britain: Analysing the causes of health inequality over time. *Journal of Health Economics* 23, 295–312.

11 Appendices

Appendix 1: Results using income-unadjusted financial capability.

Gender, health and age by financial capability quintile group: BHPS 1991–2006			
	Income-unadjusted financial capability		Sample average
	Lowest 20%	Highest 20%	
Gender			
Man	44.4	49.1	45.4
Woman	55.6	50.9	54.6
Health			
Good health	59.5	79.2	68.8
Poor/average health	40.5	20.8	31.2
Age			
Below 25	8.2	6.3	5.6
25–34	17.8	18.7	16.1
35–44	20.2	22.1	20.0
45–54	17.9	21.2	18.8
55–64	14.3	13.5	14.9
65 and above	21.8	18.1	24.6
Notes: Weighted using cross-sectional weights. Column percentages. Table reads, for example, that 44% of people in the lowest 20% of the financial capability distribution are men, while 56% are women.			

Marital status by financial capability quintile group: BHPS 1991–2006			
	Income-unadjusted financial capability		Sample average
	Lowest 20%	Highest 20%	
Marital status			
Married	55.9	65.1	62.3
Cohabiting	7.2	6.8	6.2
Widowed	9.1	6.9	10.2
Divorced/separated	12.3	5.0	7.7
Single never married	15.5	16.2	13.7
Notes: Weighted using cross-sectional weights. Column percentages. Table reads, for example, that 56% of people in the lowest 20% of the financial capability distribution are married.			

Highest qualification level by financial capability quintile group: BHPS 1991–2006			
	Income-unadjusted financial capability		Sample average
	Lowest 20%	Highest 20%	
Qualification level			
Degree	10.8	11.8	10.9
Other higher qual.	24.0	27.7	24.8
A-Levels or equiv.	10.0	10.1	9.7
GCSEs or equiv.	18.9	18.2	18.3
Other qualification	9.7	9.0	9.6
No qualification	26.6	23.1	26.8
Notes: Weighted using cross-sectional weights. Column percentages. Table reads, for example, that 11% of people in the lowest 20% of the financial capability distribution have a degree.			

Labour market status by financial capability quintile group: BHPS 1991–2006			
	Income-unadjusted financial capability		Sample average
	Lowest 20%	Highest 20%	
Labour market status			
Full-time job	34.3	62.3	44.2
Part-time job	10.2	11.3	11.4
Unemployed	8.0	0.5	2.8
Retired	24.6	19.1	26.5
Economic inactivity	22.9	6.9	15.0

Notes: Weighted using cross-sectional weights. Column percentages. Table reads, for example, that 34% of people in the lowest 20% of the financial capability distribution are in a full-time job.

Household type by financial capability quintile group: BHPS 1991–2006			
	Income-unadjusted financial capability		Sample average
	Lowest 20%	Highest 20%	
Household type			
Single non-elderly	8.6	8.4	7.0
Single elderly	9.7	7.4	10.7
Couple no children	26.4	36.4	32.1
Couple dependent child	28.1	25.7	26.6
Couple non-dep. child	12.2	15.3	13.3
Lone parent	12.3	4.5	7.9
Other household	2.8	2.2	2.4

Notes: Weighted using cross-sectional weights. Column percentages. Table reads, for example, that 9% of people in the lowest 20% of the financial capability distribution are in single non-elderly households.

Housing tenure by financial capability quintile group: BHPS 1991–2006			
	Income-unadjusted financial capability		Sample average
	Lowest 20%	Highest 20%	
Housing tenure			
Own outright	20.9	30.5	29.0
Own mortgage	41.1	55.6	45.5
Social tenant	29.2	8.5	19.0
Private tenant	8.8	5.4	6.5

Notes: Weighted using cross-sectional weights. Column percentages. Table reads, for example, that 21% of people in the lowest 20% of the financial capability distribution own their home outright.

Gross monthly household income by financial capability quintile group: BHPS 1991–2006			
	Income-unadjusted financial capability		Sample average
	Lowest 20%	Highest 20%	
Household income			
Mean	1897	3424	2521
Median	1508	3061	2115
10th Percentile	512	1080	652
90th Percentile	3731	6002	4837

Notes: Weighted using cross-sectional weights.

Transitions between financial capability quintile groups: BHPS 1991–2006

Financial capability at *t*–1	Financial capability at *t*					
Income-unadjusted	Lowest	Second	Middle	Fourth	Highest	N
Lowest quintile group	49.2	25.3	9.9	10.6	5.1	14730
Second quintile group	20.3	42.9	15.2	14.8	6.7	16440
Middle quintile group	11.7	24.4	30.3	18.0	15.6	10637
Fourth quintile group	10.3	18.9	14.9	32.2	23.6	13379
Highest quintile group	5.3	8.6	12.1	22.1	51.8	14074

Notes: weighted using cross-sectional weights. Table reads, for example, that 49.2% of people in lowest quintile group of income-unadjusted financial capability in one year (*t*–1) remained in the lowest quintile group in the subsequent year (*t*).

Correlations between financial capability in 1991 and in later years: BHPS 1991–2006

Financial capability in 1991	Correlation with financial capability in:			
	1996	2000	2006	1996–2006
Income-unadjusted	0.337	0.267	0.271	0.279
N	5613	4887	3813	51501

Notes: Figures shown are Spearman rank correlation coefficients.

Average financial capability in later years by financial capability quintile group in 1991: BHPS 1991–2006

Financial capability quintile group in 1991	Average financial capability in:			
	1996	2000	2006	1996–2006
Income-unadjusted				
Lowest financial capability	−0.199	−0.102	−0.099	−0.114
2	−0.052	−0.028	0.002	−0.011
3	0.058	0.085	0.084	0.089
4	0.107	0.093	0.131	0.129
Highest financial capability	0.245	0.244	0.223	0.244
N	5613	4887	3813	51501

Notes: Weighted using cross-sectional weights. Table shows, for example, that people in the lowest financial capability quintile group in 1991 had an average financial capability of −0.199 in 1996, compared with an average financial capability of 0.245 for those in the highest financial capability quintile group in 1991.

Transitions between financial capability quintile groups: BHPS 1991–2006

Financial capability in 1991	Financial capability in 1996					
Income-unadjusted	Lowest	Second	Middle	Fourth	Highest	N
Lowest quintile group	34.0	28.0	12.2	16.9	9.0	1425
Highest quintile group	9.1	13.5	15.8	37.2	24.5	1131
	Financial capability in 2000					
Income-unadjusted						
Lowest quintile group	41.0	13.3	19.6	14.5	11.6	1238
Highest quintile group	11.8	11.1	19.5	36.6	21.1	999
	Financial capability in 2006					
Income-unadjusted						
Lowest quintile group	41.0	18.9	13.2	20.6	6.6	946
Highest quintile group	12.3	13.9	18.2	41.4	14.3	830

Notes: Weighted using cross-sectional weights. Table reads, for example, that 34% of people in lowest quintile group of financial capability in 1991 remained in the lowest quintile group in 1996.

Correlations between financial capability in 1991 and GHQ scores in later years: BHPS 1991–2006				
	GHQ scores in:			
Financial capability in 1991	1996	2000	2006	1996–2006
Income-unadjusted	−0.120	−0.109	−0.141	−0.119
N individuals	5496	4784	3711	45718

Notes: Figures shown are Spearman rank correlation coefficients.

Correlations between financial capability in 1991 and life satisfaction in later years: BHPS 1991–2006				
	Life satisfaction in:			
Financial capability in 1991	1996	2000	2006	1996–2006
Income-unadjusted	0.124	0.136	0.176	0.135
N individuals	5565	4809	3736	46111

Notes: Figures shown are Spearman rank correlation coefficients.

Average financial capability in 1991 by suffering from anxiety or depression in later years: BHPS 1991–2006				
	1996	2000	2006	1996–2006
Income-unadjusted				
Suffers anxiety/depression	−0.330	−0.284	−0.327	−0.333
Does not suffer	−0.130	−0.135	−0.138	−0.133
N individuals	5610	4886	3813	51493

Notes: Weighted using cross-sectional weights. Table reads, for example, that the average financial capability in 1991 of people who reported suffering from anxiety or depression in 1996 was −0.330, compared to −0.130 for those who did not report suffering anxiety or depression.

Average financial capability in 1991 by employment status in later years: BHPS 1991–2006				
	1996	2000	2006	1996–2006
Income-unadjusted				
Employed full-time	−0.091	−0.137	−0.163	−0.138
Employed part-time	−0.212	−0.208	−0.162	−0.203
Unemployed	−0.489	−0.331	−0.459	−0.461
Retired	0.062	0.075	0.045	0.068
Inactive	−0.380	−0.353	−0.451	−0.370
N individuals	4281	3581	2590	37245

Notes: Weighted using cross-sectional weights. Table reads, for example, that the financial capability in 1991 of people in full-time employment in 1996 was −0.091 compared to −0.380 for those in unemployment in 1996.

Correlations between financial capability in 1991 and lifestyle in later years: BHPS 1991–2006				
	Lifestyle scores in:			
Financial capability in 1991	1996	2000	2006	1996–2006
Income-unadjusted	0.261	0.219	0.203	0.230
N individuals	5560	4866	3798	51267

Notes: Figures shown are Spearman rank correlation coefficients.

Average financial capability in 1991 by lifestyle in later years: BHPS 1991–2006				
Lifestyle	1996	2000	2006	1996–2006
Income-unadjusted				
0	−0.229	−1.307	−0.131	−0.510
1	−0.722	−0.940	−1.211	−0.825
2	−0.565	−0.524	−0.597	−0.586
3	−0.447	−0.427	−0.505	−0.469
4	−0.288	−0.309	−0.387	−0.339
5	−0.114	−0.164	−0.167	−0.157
6	0.013	−0.041	−0.072	−0.039
N individuals	5560	4866	3798	51267

Notes: Table reads, for example, that the average income-unadjusted financial capability in 1991 of people in households able to afford one item in 1996 was −0.722, compared to 0.013 for those in households able to afford all 6 items.

Average financial capability in 1991 by saving from current income in later years: BHPS 1991–2006				
	1996	2000	2006	1996–2006
Income-unadjusted				
Saves from current income	0.042	−0.016	0.021	0.012
Does not save	−0.263	−0.234	−0.264	−0.254
N individuals	5613	4887	3813	51501

Notes: Table reads, for example, that the average financial capability in 1991 of people who saved from current income in 1996 was 0.042, compared to −0.263 for people who were not saving from current income in 1996.

Average financial capability in 1991 by saving regularly in later years: BHPS 1991–2006			
	2000	2006	2000–2006
Income-unadjusted			
Saves regularly	0.002	0.044	0.019
Does not save regularly	−0.212	−0.248	−0.234
N individuals	4887	3813	29990

Notes: Table reads, for example, that the average financial capability in 1991 of people who saved regularly in 2000 was 0.002, compared to −0.212 for people who were not saving regularly in 2000.

Average financial capability in 1991 by saving for the long-term in later years: BHPS 1991–2006			
	2000	2006	2000–2006
Income-unadjusted			
Saves for long-term	0.040	0.056	0.047
Does not save for long-term	−0.183	−0.185	−0.187
N individuals	4887	3813	29990

Notes: Table reads, for example, that the average financial capability in 1991 of people saving for the long-term in 2000 was 0.04, compared to −0.183 for those not saving for the long-term.

Correlations between financial capability in 1991 and monthly household income in later years: BHPS 1991–2006				
	Real household income in:			
Financial capability in 1991	1996	2000	2006	1996–2006
Income-unadjusted	0.264	0.201	0.161	0.213
N individuals	5613	4887	3813	51501

Notes: Figures shown are spearman rank correlation coefficients.

Average financial capability in 1991 by monthly household income in later years: BHPS 1991–2006				
	1996	2000	2006	1996-2006
Income-unadjusted				
Lowest quintile	−0.284	−0.248	−0.262	−0.270
Second quintile	−0.250	−0.198	−0.171	−0.198
Third quintile	−0.169	−0.134	−0.131	−0.165
Fourth quintile	−0.056	−0.096	−0.156	−0.111
Highest quintile	0.072	−0.031	−0.030	0.002
N individuals	5613	4887	3813	51501

Notes: Table reads, for example, that the average financial capability in 1991 of people in the lowest household income quintile in 1996 was −0.284, compared to 0.072 for those in the highest household income quintile in 1996.

Complete estimates from random effects models including current financial capability											
	Financial capability				Lifestyle				Household income			
	Men		Women		Men		Women		Men		Women	
Low FC in 1991	−0.097	[7.07]	−0.107	[8.10]	−0.133	[4.10]	−0.123	[4.17]	−0.044	[2.48]	−0.044	[2.89]
High FC in 1991	0.093	[6.53]	0.074	[5.09]	0.035	[1.05]	0.018	[0.55]	0.014	[0.83]	−0.012	[0.80]
Low current FC					−0.176	[11.99]	−0.230	[17.45]	−0.071	[8.97]	−0.080	[11.40]
High current FC					0.030	[1.80]	0.051	[3.13]	0.043	[4.71]	0.053	[6.15]
Age	−0.004	[1.76]	−0.012	[5.89]	0.030	[6.59]	0.033	[7.76]	0.015	[6.17]	0.009	[4.35]
Age2/100	0.004	[2.11]	0.013	[6.86]	−0.034	[8.04]	−0.038	[10.30]	−0.014	[6.41]	−0.009	[4.60]
Immigrant	−0.081	[3.22]	−0.051	[2.10]	−0.086	[1.48]	−0.020	[0.38]	−0.000	[0.00]	−0.000	[0.02]
Good health	0.037	[4.54]	0.036	[4.83]	0.021	[1.38]	−0.007	[0.55]	−0.010	[1.17]	−0.008	[1.08]
Hhold income	0.075	[15.02]	0.062	[12.93]	0.033	[3.61]	0.035	[4.02]				
Hhold income2	−0.032	[10.89]	−0.026	[8.50]	−0.014	[2.51]	−0.018	[3.28]				
Hhold income3	0.002	[9.11]	0.003	[6.43]	0.001	[2.04]	0.002	[2.96]				
Married	−0.103	[3.30]	−0.141	[4.33]	−0.139	[2.43]	0.037	[0.63]	−0.111	[3.59]	−0.244	[7.81]
Cohabiting	−0.115	[3.89]	−0.144	[4.54]	−0.169	[3.10]	0.013	[0.24]	−0.098	[3.33]	−0.191	[6.27]
Widow	−0.047	[1.08]	−0.125	[3.67]	0.001	[0.01]	0.125	[2.03]	−0.015	[0.35]	−0.073	[2.22]
Divorced	−0.164	[5.37]	−0.161	[5.75]	−0.125	[2.22]	0.074	[1.46]	0.059	[1.96]	−0.138	[5.12]
One child	−0.044	[2.06]	−0.000	[0.00]	0.017	[0.42]	−0.010	[0.33]	−0.108	[5.10]	−0.076	[4.51]
Two children	0.005	[0.21]	0.029	[1.37]	0.076	[1.71]	−0.019	[0.49]	−0.184	[7.68]	−0.153	[7.46]
Three children	0.050	[1.51]	0.122	[4.11]	0.106	[1.75]	0.014	[0.27]	−0.245	[7.51]	−0.237	[8.32]
Four+ children	0.166	[2.96]	0.213	[4.34]	0.133	[1.29]	−0.028	[0.32]	−0.395	[7.13]	−0.333	[7.07]
Household size	−0.053	[5.21]	−0.023	[2.51]	−0.110	[5.95]	−0.055	[3.32]	0.130	[13.16]	0.153	[17.43]
Single elderly	0.062	[1.67]	0.076	[2.81]	0.040	[0.60]	0.205	[4.22]	0.109	[2.96]	−0.101	[3.89]
Couple no child	0.129	[4.33]	0.126	[4.04]	0.270	[4.91]	0.344	[6.13]	0.318	[10.70]	0.414	[13.89]
Couple dep chld	0.167	[4.33]	0.075	[1.97]	0.318	[4.49]	0.411	[6.00]	0.309	[8.07]	0.459	[12.59]
Couple non-dep	0.108	[3.25]	0.064	[1.82]	0.253	[4.17]	0.349	[5.47]	0.356	[10.86]	0.510	[15.06]
Lone parent	0.132	[4.46]	−0.002	[0.08]	0.059	[1.09]	0.076	[1.63]	0.296	[10.09]	0.343	[13.86]
2+ unrelated	−0.184	[4.68]	−0.053	[1.17]	−0.059	[0.81]	0.011	[0.14]	0.303	[7.78]	0.473	[10.86]
Other hhold	0.147	[3.28]	0.061	[1.34]	0.133	[1.63]	0.280	[3.43]	0.387	[8.73]	0.468	[10.73]
Higher degree	0.067	[2.00]	−0.046	[1.21]	0.115	[1.56]	0.003	[0.04]	0.522	[13.97]	0.398	[10.28]
First degree	0.023	[1.03]	0.005	[0.24]	0.011	[0.23]	0.022	[0.47]	0.367	[14.95]	0.339	[14.91]
Other high qf	0.006	[0.41]	−0.003	[0.17]	0.054	[1.56]	0.047	[1.45]	0.175	[9.79]	0.155	[9.79]
A-Levels	0.020	[1.01]	0.021	[1.02]	0.031	[0.72]	0.143	[3.39]	0.137	[6.04]	0.118	[5.60]
GCSE	0.021	[1.16]	0.025	[1.57]	0.022	[0.54]	0.080	[2.35]	0.114	[5.45]	0.078	[4.64]
Other qf	0.040	[1.88]	0.007	[0.39]	0.046	[0.97]	0.035	[0.87]	0.047	[1.86]	0.039	[1.96]
Own outright	0.095	[7.23]	0.092	[7.25]	−0.013	[0.52]	0.030	[1.29]	−0.052	[3.97]	−0.073	[5.93]
Social rent	−0.056	[2.63]	−0.060	[2.96]	−0.301	[7.69]	−0.156	[4.29]	−0.055	[2.61]	−0.083	[4.29]
Private rent	0.003	[0.18]	−0.052	[2.73]	−0.247	[7.08]	−0.153	[4.42]	−0.075	[3.99]	−0.070	[3.79]
Number in work	0.000	[0.06]	−0.003	[0.36]	0.050	[3.23]	0.020	[1.42]	0.161	[19.35]	0.170	[22.63]
Part-time work	−0.059	[2.52]	−0.091	[8.28]	−0.018	[0.43]	−0.060	[2.98]	−0.271	[11.78]	−0.163	[15.41]
Self-employed	−0.003	[0.18]	−0.044	[2.12]	0.034	[1.15]	0.001	[0.03]	−0.310	[19.44]	−0.311	[15.43]
Unemployed	−0.340	[13.87]	−0.241	[9.74]	−0.171	[3.79]	−0.093	[2.06]	−0.616	[25.20]	−0.238	[9.94]
Retired	−0.109	[5.73]	−0.131	[7.75]	0.051	[1.46]	0.011	[0.34]	−0.427	[22.70]	−0.214	[13.15]
Inactive	−0.184	[10.52]	−0.152	[11.71]	−0.084	[2.52]	−0.111	[4.60]	−0.416	[23.26]	−0.199	[15.68]
Seasonal job	−0.151	[6.29]	−0.038	[1.89]	−0.123	[2.81]	−0.021	[0.59]	−0.002	[0.10]	−0.008	[0.42]
Fixed term job	−0.019	[0.80]	0.007	[0.31]	−0.126	[2.86]	−0.027	[0.66]	0.031	[1.31]	0.028	[1.31]
Spouse works	−0.017	[1.23]	0.114	[7.35]	0.014	[0.56]	0.071	[2.63]	0.096	[7.05]	0.328	[22.23]
Region	Yes		Yes		Yes		Yes		Yes		Yes	
Year	Yes		Yes		Yes		Yes		Yes		Yes	
N obs	22823		28599		22724		28464		22785		28572	
N individuals	2830		3459		2829		3459		2830		3459	
R2/Log l'hood	0.308		0.300		0.389		0.435		0.712		0.777	

Estimates from random effects generalised least squares regressions. All models also include individual means of the time varying covariates over time to allow for correlation between individual-specific effect and time-varying covariates.

Complete estimates from random effects models including current financial capability

	GHQ				Life satisfaction				Anxiety/depression			
	Men		Women		Men		Women		Men		Women	
Low FC in 1991	0.194	[1.23]	0.028	[0.18]	−0.138	[3.47]	−0.050	[1.35]	0.193	[1.71]	−0.010	[0.13]
High FC in 1991	−0.183	[1.12]	0.113	[0.67]	0.060	[1.44]	−0.039	[0.97]	0.007	[0.05]	−0.016	[0.17]
Low current FC	1.138	[15.32]	1.058	[13.96]	−0.258	[14.64]	−0.251	[14.59]	0.168	[2.63]	0.132	[3.15]
High current FC	−0.388	[4.62]	−0.476	[5.08]	0.104	[5.22]	0.086	[3.99]	−0.160	[1.68]	−0.015	[0.24]
Age	−0.063	[2.78]	−0.002	[0.10]	0.014	[2.56]	0.013	[2.34]	0.009	[0.50]	0.035	[2.65]
Age2/100	0.068	[3.19]	0.005	[0.26]	−0.012	[2.36]	−0.012	[2.59]	−0.008	[0.46]	−0.034	[2.93]
Immigrant	0.269	[0.94]	0.055	[0.20]	−0.155	[2.15]	−0.068	[1.02]	0.028	[0.14]	−0.007	[0.05]
Good health	−1.538	[20.12]	−2.033	[26.60]	0.271	[14.89]	0.296	[17.00]	−0.613	[9.25]	−0.764	[17.71]
Hhold income	0.087	[1.86]	−0.016	[0.32]	0.020	[1.81]	−0.005	[0.46]	−0.036	[0.40]	0.005	[0.16]
Hhold income2	−0.055	[2.03]	0.030	[0.82]	−0.007	[1.16]	0.003	[0.42]	0.011	[0.73]	0.004	[0.21]
Hhold income3	0.005	[1.91]	−0.003	[0.64]	0.000	[1.26]	0.000	[0.44]	−0.005	[0.77]	0.000	[0.07]
Married	1.077	[3.75]	0.823	[2.43]	0.011	[0.16]	−0.112	[1.46]	0.230	[0.82]	0.087	[0.45]
Cohabiting	0.173	[0.64]	0.843	[2.56]	0.087	[1.37]	−0.111	[1.50]	0.128	[0.50]	0.418	[2.20]
Widow	2.095	[5.09]	2.080	[5.87]	−0.269	[2.78]	−0.214	[2.69]	0.157	[0.43]	0.180	[0.93]
Divorced	1.522	[5.39]	1.036	[3.56]	−0.285	[4.31]	−0.079	[1.21]	0.362	[1.42]	0.176	[1.13]
One child	−0.184	[0.93]	0.135	[0.74]	0.086	[1.86]	−0.008	[0.19]	−0.126	[0.68]	0.166	[1.51]
Two children	−0.257	[1.15]	−0.195	[0.88]	0.156	[2.96]	0.051	[1.02]	−0.177	[0.84]	0.056	[0.41]
Three children	−0.557	[1.82]	−0.600	[1.94]	0.224	[3.14]	0.095	[1.37]	−0.102	[0.34]	0.261	[1.41]
Four+ children	−0.302	[0.58]	−1.047	[2.05]	0.088	[0.73]	0.136	[1.20]	−0.958	[1.68]	0.214	[0.75]
Household size	0.086	[0.91]	0.281	[2.92]	−0.049	[2.21]	−0.070	[3.24]	−0.026	[0.30]	−0.008	[0.14]
Single elderly	−0.126	[0.36]	−0.701	[2.50]	0.004	[0.05]	0.050	[0.80]	0.556	[2.01]	−0.152	[1.06]
Couple no child	−0.334	[1.21]	−0.906	[2.80]	0.075	[1.16]	0.270	[3.70]	0.169	[0.68]	−0.271	[1.52]
Couple dep chld	−0.113	[0.32]	−1.143	[2.90]	−0.058	[0.69]	0.250	[2.80]	0.450	[1.42]	−0.494	[2.23]
Couple non-dep	0.029	[0.10]	−0.757	[2.06]	−0.039	[0.54]	0.210	[2.54]	0.517	[1.85]	−0.255	[1.22]
Lone parent	0.255	[0.93]	−0.335	[1.25]	−0.188	[2.91]	−0.003	[0.05]	0.715	[3.20]	−0.289	[2.05]
2+ unrelated	0.803	[2.18]	−1.006	[2.14]	−0.117	[1.36]	−0.087	[0.83]	0.653	[2.00]	0.026	[0.10]
Other hhold	−0.354	[0.86]	−1.058	[2.24]	−0.155	[3.69]	0.261	[2.45]	−0.077	[0.21]	−0.078	[0.30]
Higher degree	0.804	[2.23]	0.364	[0.86]	−0.303	[3.41]	−0.197	[1.98]	0.612	[2.07]	0.189	[0.79]
First degree	0.803	[3.34]	0.105	[0.42]	−0.315	[5.30]	−0.067	[1.12]	0.646	[3.40]	−0.097	[0.68]
Other high qf	0.153	[0.90]	−0.277	[1.61]	−0.155	[3.69]	−0.029	[0.70]	0.354	[2.64]	−0.077	[0.82]
A-Levels	0.352	[1.64]	−0.053	[0.23]	−0.190	[3.62]	−0.095	[1.78]	0.047	[0.25]	0.060	[0.47]
GCSE	0.088	[0.45]	−0.147	[0.81]	−0.161	[3.32]	−0.092	[2.15]	0.104	[0.66]	−0.017	[0.17]
Other qf	0.079	[0.34]	−0.200	[0.93]	−0.041	[0.70]	−0.081	[1.58]	0.001	[0.00]	0.076	[0.66]
Own outright	−0.362	[2.98]	−0.013	[0.10]	0.056	[1.98]	0.050	[1.67]	−0.183	[1.66]	−0.056	[0.70]
Social rent	−0.096	[0.48]	−0.232	[1.11]	−0.008	[0.17]	0.003	[0.06]	−0.002	[0.01]	−0.061	[0.53]
Private rent	−0.561	[3.18]	0.087	[0.44]	0.038	[0.91]	0.042	[0.94]	−0.347	[2.02]	−0.038	[0.34]
Number in work	0.017	[0.22]	−0.131	[1.57]	0.025	[1.33]	0.018	[0.95]	−0.066	[0.88]	0.006	[0.13]
Part-time work	−0.453	[2.11]	−0.009	[0.08]	0.092	[1.82]	0.053	[2.03]	0.429	[2.12]	0.152	[2.08]
Self-employed	−0.088	[0.59]	−0.216	[0.99]	0.035	[0.99]	0.070	[1.42]	0.144	[0.96]	0.045	[0.33]
Unemployed	1.100	[4.82]	1.126	[4.37]	−0.215	[4.03]	−0.217	[3.72]	0.251	[1.43]	0.277	[1.97]
Retired	−0.690	[3.89]	−0.569	[3.22]	0.174	[4.17]	0.184	[4.59]	0.101	[0.64]	0.133	[1.27]
Inactive	1.050	[6.25]	0.284	[2.06]	−0.175	[4.36]	0.040	[1.27]	0.611	[4.76]	0.404	[5.04]
Seasonal job	−0.098	[0.44]	−0.674	[3.22]	−0.037	[0.71]	0.053	[1.12]	0.189	[0.81]	0.002	[0.01]
Fixed term job	−0.178	[0.81]	−0.557	[2.40]	0.035	[0.68]	0.070	[1.33]	0.104	[0.45]	−0.092	[0.64]
Spouse works	0.035	[0.27]	−0.094	[0.58]	−0.060	[2.00]	0.053	[1.46]	−0.177	[1.40]	−0.214	[2.26]
Region	Yes		Yes		Yes		Yes		Yes		Yes	
Year	Yes		Yes		Yes		Yes		Yes		Yes	
N obs	22431		28136		20430		25607		22820		28594	
N individuals	2820		3449		2820		3454		2830		3459	
R2/Log l'hood	0.279		0.270		0.319		0.309				−6062.4	

Estimates from random effects generalised least squares regressions (anxiety/depression models are random effects probit coefficients). All models also include individual means of the time varying covariates over time to allow for correlation between individual-specific effect and time-varying covariates.

Complete estimates from random effects models including current financial capability

	Saves from current income				Saves regularly				Saves for the long-term			
	Men		Women		Men		Women		Men		Women	
High FC in 1991	0.107	[1.46]	0.043	[0.66]	0.048	[0.46]	−0.017	[0.22]	0.104	[1.35]	−0.077	[1.07]
Low current FC	−0.341	[10.49]	−0.384	[13.32]	−0.221	[4.41]	−0.236	[5.58]	−0.052	[0.98]	−0.165	[3.20]
High current FC	0.305	[8.55]	0.336	[10.15]	0.212	[4.70]	0.332	[7.23]	0.108	[2.18]	0.220	[4.42]
Age	−0.012	[1.27]	0.001	[0.09]	−0.000	[0.03]	0.003	[0.24]	0.023	[1.51]	0.041	[2.85]
Age2/100	0.013	[1.45]	−0.006	[0.73]	0.003	[0.22]	−0.011	[0.86]	−0.014	[0.96]	−0.040	[2.96]
Immigrant	−0.216	[1.75]	−0.023	[0.22]	−0.247	[1.55]	−0.054	[0.39]	−0.084	[0.59]	0.126	[1.05]
Good health	0.004	[0.12]	0.028	[0.95]	−0.005	[0.11]	0.040	[0.93]	−0.016	[0.28]	0.102	[2.00]
Hhold income	0.125	[6.12]	0.169	[6.18]	0.180	[3.86]	0.165	[4.03]	0.089	[1.86]	0.048	[1.09]
Hhold income2	−0.044	[3.61]	−0.015	[4.92]	−0.013	[2.58]	−0.014	[3.07]	−0.009	[1.77]	−0.050	[1.15]
Hhold income3	0.004	[2.70]	0.003	[4.60]	0.003	[1.99]	0.003	[2.81]	0.002	[1.70]	0.002	[1.43]
Married	−0.184	[1.47]	−0.221	[1.71]	−0.012	[0.05]	−0.296	[1.35]	−0.227	[0.97]	0.159	[0.65]
Cohabiting	−0.106	[0.89]	−0.223	[1.76]	0.095	[0.46]	−0.423	[1.97]	−0.224	[1.00]	0.080	[0.34]
Widow	−0.243	[1.34]	−0.181	[1.32]	−0.345	[1.22]	−0.060	[0.26]	−0.518	[1.55]	0.740	[2.81]
Divorced	−0.260	[2.10]	−0.212	[1.89]	−0.122	[0.62]	−0.029	[0.15]	−0.225	[1.05]	0.315	[1.42]
One child	−0.257	[2.88]	−0.003	[0.04]	−0.233	[1.68]	0.063	[0.57]	−0.306	[2.15]	0.102	[0.81]
Two children	−0.221	[2.19]	−0.063	[0.73]	−0.104	[0.64]	−0.025	[0.19]	−0.184	[1.10]	−0.100	[0.64]
Three children	−0.233	[1.69]	0.165	[1.39]	0.002	[0.01]	0.202	[1.05]	−0.154	[0.64]	0.006	[0.03]
Four+ children	−0.128	[0.54]	0.238	[1.19]	−0.616	[1.41]	0.338	[0.92]	−0.330	[0.65]	−0.646	[0.96]
Household size	−0.037	[0.87]	−0.057	[1.52]	−0.073	[1.06]	−0.129	[2.12]	−0.047	[0.63]	−0.007	[0.10]
Single elderly	0.195	[1.30]	−0.031	[0.29]	0.058	[0.26]	0.131	[0.78]	−0.443	[1.62]	−0.158	[0.80]
Couple no child	−0.023	[0.19]	0.002	[0.01]	−0.311	[1.57]	0.284	[1.41]	0.014	[0.07]	0.178	[0.80]
Couple dep chld	0.133	[0.84]	−0.102	[0.67]	0.009	[0.03]	0.337	[1.35]	0.298	[1.10]	0.167	[0.60]
Couple non-dep	0.050	[0.37]	−0.118	[0.82]	−0.132	[0.59]	0.255	[1.10]	0.122	[0.51]	0.191	[0.74]
Lone parent	0.277	[2.25]	−0.063	[0.60]	0.351	[1.85]	−0.063	[0.38]	0.027	[1.00]	0.190	[1.03]
2+ unrelated	−0.234	[1.41]	0.194	[1.08]	0.103	[0.36]	0.188	[0.65]	0.352	[1.13]	0.605	[1.96]
Other hhold	−0.117	[0.65]	0.153	[0.82]	−0.174	[0.58]	0.399	[1.31]	0.017	[0.05]	−0.168	[0.49]
Higher degree	0.486	[3.07]	0.077	[0.49]	0.496	[2.37]	0.166	[0.79]	0.502	[2.76]	0.483	[2.71]
First degree	0.335	[3.23]	0.146	[1.56]	0.316	[2.26]	0.345	[2.70]	0.430	[3.38]	0.637	[5.47]
Other high qf	0.373	[4.98]	0.141	[2.20]	0.279	[2.69]	0.222	[2.46]	0.312	[3.16]	0.334	[3.87]
A-Levels	0.337	[3.64]	0.145	[1.71]	0.262	[1.96]	0.177	[1.43]	0.240	[1.90]	0.281	[2.38]
GCSE	0.465	[5.40]	0.233	[3.44]	0.310	[2.57]	0.249	[2.60]	0.207	[1.80]	0.316	[3.40]
Other qf	0.171	[1.69]	0.106	[1.33]	0.039	[0.28]	0.157	[1.36]	0.072	[0.53]	0.152	[1.36]
Own outright	0.182	[3.38]	0.051	[1.02]	0.112	[1.39]	0.128	[1.68]	0.187	[2.22]	0.398	[4.91]
Social rent	0.096	[1.07]	−0.038	[0.46]	−0.049	[0.31]	0.049	[0.33]	−0.104	[0.53]	0.256	[1.36]
Private rent	0.040	[0.51]	−0.068	[0.90]	−0.090	[0.71]	0.038	[0.31]	0.048	[0.34]	0.248	[1.75]
Number in work	−0.049	[1.36]	0.049	[1.53]	−0.077	[1.41]	0.044	[0.93]	−0.035	[0.60]	0.030	[0.54]
Part-time work	−0.221	[2.33]	−0.110	[2.67]	−0.233	[1.64]	−0.062	[0.98]	0.191	[1.28]	−0.037	[0.51]
Unemployed	−1.205	[9.09]	−0.436	[4.26]	−1.195	[5.20]	−0.494	[3.08]	−0.789	[3.12]	−0.161	[0.85]
Retired	−0.758	[9.62]	−0.578	[8.72]	−0.634	[5.16]	−0.506	[5.00]	−0.343	[2.56]	−0.579	[4.93]
Inactive	−0.682	[8.58]	−0.491	[9.69]	−0.632	[5.13]	−0.438	[5.62]	−0.455	[3.38]	−0.431	[4.95]
Seasonal job	−0.304	[3.06]	−0.153	[1.96]	0.063	[0.41]	−0.253	[1.86]	−0.245	[1.39]	−0.123	[0.79]
Fixed term job	0.089	[0.91]	−0.098	[1.15]	0.286	[1.64]	−0.146	[1.07]	0.186	[1.07]	−0.108	[0.71]
Spouse works	0.064	[1.12]	0.151	[2.41]	0.088	[1.00]	0.062	[0.64]	0.115	[1.24]	0.223	[2.01]
Region	Yes		Yes		Yes		Yes		Yes		Yes	
Year	Yes		Yes		Yes		Yes		Yes		Yes	
N obs	22823		28599		13260		16730		13260		16730	
N individuals	2820		3459		2430		3014		2430		3014	
R2/Log l'hood	−11079.6		−13850.2		−611.1		−7478.2		−4802.4		−5067.0	

Estimates from random effects generalised least squares regressions (anxiety/depression models are random effects probit coefficients). All models also include individual means of the time varying covariates over time to allow for correlation between individual-specific effect and time-varying covariates.

Complete estimates from random effects models including current financial capability												
	Employment				Full-time employment				Unemployment			
	Men		Women		Men		Women		Men		Women	
Low FC in 1991	−0.204	[1.43]	0.130	[1.19]	−0.244	[1.70]	0.252	[2.05]	0.044	[0.45]	0.038	[0.50]
High FC in 1991	0.229	[1.60]	0.059	[0.51]	0.214	[1.49]	0.011	[0.08]	−0.201	[1.64]	0.112	[1.32]
Low current FC	−0.343	[7.53]	−0.301	[7.76]	−0.358	[7.89]	−0.310	[7.22]	0.589	[8.08]	0.364	[5.58]
High current FC	−0.003	[0.05]	0.200	[4.47]	−0.018	[0.35]	0.154	[3.33]	−0.454	[3.69]	−0.154	[1.65]
Age	0.155	[6.46]	0.351	[14.41]	0.199	[8.25]	0.259	[9.92]	0.001	[0.03]	−0.041	[1.43]
Age2/100	−0.261	[9.92]	−0.447	[15.83]	−0.319	[12.02]	−0.384	[12.74]	−0.009	[0.30]	0.045	[1.29]
Immigrant	−0.759	[3.00]	−0.367	[1.94]	−0.675	[2.66]	−0.046	[0.21]	0.321	[1.98]	0.186	[1.43]
Good health	0.113	[2.16]	0.164	[3.92]	0.116	[2.24]	0.076	[1.69]	−0.077	[0.92]	−0.045	[0.62]
Married	−0.003	[0.02]	−0.965	[5.79]	0.103	[0.61]	−0.514	[2.99]	−0.101	[0.37]	0.794	[2.87]
Cohabiting	0.134	[0.83]	−0.778	[4.72]	0.248	[1.57]	−0.389	[2.30]	−0.143	[0.57]	0.703	[2.61]
Widow	−0.901	[2.19]	−0.670	[3.01]	−1.003	[2.45]	−0.383	[1.61]	0.351	[0.55]	−0.025	[0.05]
Divorced	−0.045	[0.26]	−0.453	[3.29]	−0.148	[0.89]	−0.247	[1.72]	−0.180	[0.68]	0.750	[3.36]
One child	−0.433	[3.52]	−0.827	[9.03]	−0.657	[5.38]	−1.071	[11.99]	0.143	[0.72]	0.123	[0.86]
Two children	−0.609	[4.55]	−1.211	[11.56]	−0.791	[5.93]	−1.909	[18.04]	0.201	[0.90]	0.068	[0.41]
Three children	−0.412	[2.37]	−1.446	[10.80]	−0.567	[3.28]	−2.427	[15.91]	−0.259	[0.89]	−0.069	[0.31]
Four+ children	−1.147	[4.04]	−1.827	[8.50]	−1.473	[5.26]	−2.852	[9.10]	0.005	[0.01]	0.054	[0.14]
Household size	0.012	[0.25]	−0.053	[1.21]	0.019	[0.39]	−0.011	[0.25]	0.009	[0.12]	0.055	[0.78]
Couple no child	−0.095	[0.59]	0.131	[0.75]	−0.184	[1.16]	0.031	[0.17]	0.152	[0.58]	−0.096	[0.34]
Couple dep chld	0.135	[0.65]	−0.028	[0.14]	0.157	[0.77]	−0.490	[2.33]	0.039	[0.12]	0.012	[0.04]
Couple non-dep	−0.182	[1.03]	−0.240	[1.24]	−0.233	[1.35]	−0.351	[1.78]	0.238	[0.86]	−0.121	[0.38]
Lone parent	0.012	[0.07]	−0.216	[1.58]	−0.049	[0.30]	−0.424	[3.13]	0.159	[0.71]	0.084	[0.37]
2+ unrelated	0.413	[1.95]	−0.263	[1.12]	0.113	[0.55]	0.086	[0.38]	−0.499	[1.34]	−0.035	[0.10]
Other hhold	−0.134	[0.54]	−0.031	[0.11]	−0.097	[0.41]	−0.135	[0.49]	0.351	[0.91]	0.198	[0.47]
Higher degree	1.172	[4.41]	0.568	[2.32]	0.859	[3.25]	1.586	[6.00]	−0.090	[0.33]	−0.240	[0.97]
First degree	1.113	[6.11]	0.889	[5.92]	0.809	[4.50]	1.565	[9.52]	0.158	[1.02]	0.099	[0.74]
Other high qf	0.498	[3.56]	0.561	[4.79]	0.403	[2.93]	0.944	[7.22]	−0.032	[0.26]	−0.063	[0.59]
A-Levels	0.362	[2.16]	0.308	[2.21]	0.275	[1.67]	0.630	[4.13]	−0.215	[1.34]	0.089	[0.68]
GCSE	0.588	[3.58]	0.435	[3.52]	0.415	[2.56]	0.843	[6.03]	−0.245	[1.66]	0.077	[0.72]
Other qf	0.531	[2.46]	0.091	[0.62]	0.578	[2.66]	0.416	[2.49]	−0.015	[0.09]	0.173	[1.40]
Own outright	−0.425	[5.37]	−0.323	[4.32]	−0.502	[6.35]	−0.419	[5.21]	0.236	[1.58]	−0.120	[0.83]
Social rent	−0.324	[2.85]	−0.167	[1.65]	−0.315	[2.76]	−0.182	[1.68]	0.310	[1.86]	0.037	[0.23]
Private rent	−0.211	[2.10]	−0.200	[2.19]	−0.170	[1.70]	−0.143	[1.48]	0.034	[0.21]	0.203	[1.36]
Spouse works	0.183	[2.75]	0.354	[4.70]	0.1180	[1.80]	0.030	[0.35]	−0.095	[0.80]	−0.280	[2.09]
Region	Yes		Yes		Yes		Yes		Yes		Yes	
Year	Yes		Yes		Yes		Yes		Yes		Yes	
N obs	17848		20035		17848		20035		17848		20035	
N individuals	2294		2531		2294		2531		2294		3014	
R2/Log l'hood	−8253.9		−7538.6		−5956.0		−6914.5				−1733.2	

Coefficients from random effects probit models. All models also include individual means of the time varying covariates over time to allow for correlation between individual-specific effect and time-varying covariates.

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