The significance of socio-economic status, financial sophistication, salience and the scale of deliberation in UK retirement planning

Gordon L Clark, Janelle Knox-Hayes, and Kendra Strauss.
Oxford University Centre for the Environment, South Parks Road, Oxford, OX1 3QY, UK

Abstract. Many British workers rely upon their accumulated pension savings for retirement income. Whether they appreciate the importance of saving for the future, and whether they intend to do so, are not well-understood. Based upon a representative sample of UK residents, we show that the perceived importance of pension planning is positively correlated with respondents' risk tolerance, age and income, and whether their spouses participate in employer-sponsored pension plans. Those less likely to believe planning for the future is important are younger, earn less, are women, and will rely upon others for their expected retirement welfare. It is also apparent that generic sources of information provided remotely or at the national scale for individual and household pension planning, preparedness, and knowledge of annuities do not stand comparison with the perceived value of intimate and specialist relationships. The unit of retirement planning is typically the household, rarely the region, and hardly ever the nation. To better understand these findings we frame their interpretation with reference to recent behavioral research that emphasizes people's limited cognitive and social resources and the use of heuristics such as salience in setting priorities. The implications of this framework and our empirical findings for the design and delivery of private pensions conclude the paper.

Keywords. Pensions, planning, salience, scale, UK evidence

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Contact. gordon.clark@ouce.ox.ac.uk

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Introduction

The UK basic state pension is a modest flat-rate entitlement, providing a benefit intended to keep those solely reliant upon the state for retirement income just above the poverty line.[1] Looking forward, supplementary pensions including employer-sponsored occupational pensions, personal pensions, and stakeholder pensions are expected to makeup the difference between the state-pension and people's retirement income aspirations (Hills 2006). As a consequence, the UK government, like many other western governments, has sought to encourage working men and women to take greater responsibility for retirement planning. Given the prospective value of the state basic pension, pension saving may be the only way most people will achieve a reasonable standard of living in retirement (Pensions Commission 2005).

For many writers, this responsibility reflects larger forces at work including the long-term transformation of 20th century welfare states (Esping-Anderson 1999), the increasing importance of markets for the provision of social goods (Smith and Easterlow 2005), and the financialization of everyday life (Boyer 2000; Langley 2008). From a continental European perspective, this "new" responsibility for many people could fracture social solidarity and unravel stakeholder capitalism (De Deken et al. 2006). From an Anglo-American perspective, greater individual responsibility is more likely seen to be part-and-parcel of long-term structural changes in economy, culture and society (Preda 2004), epitomised by the decline of defined benefit pension plan coverage rates and the growth in private sector defined contribution and personal pension plans (Munnell 2006; Strauss 2008a).

There is a 'premium' on planning for retirement to be reaped by those willing and able to plan. This premium will be shared with government to the degree that the realisation of individuals' plans for future welfare will take a significant portion of the burden of funding the retirement of successive generations off-the-public purse thereby allowing for a more equitable distribution of limited public resources between, perhaps, education for the young and health care for the old (Tanzi and Schuknecht

[1]/. For an overview of UK public and private pensions see Pemberton, Thane and Whiteside (2006). Notwithstanding initiatives to recapture the promised value of state pension provision, the state basic pension and the more recent state earnings-related pension have withered in value over the past 50 years. The systematic discounting of state provision has had significant welfare effects, particularly for women who tend not to benefit from private employer provision of supplementary pensions.

2000). Not surprisingly, the UK government has developed programmes designed to improve financial literacy, the availability of information relevant to saving for the future, and the decision-metrics and procedures used by individuals when trying to reconcile their income aspirations with the ever-present risks and uncertainties associated with financial decision-making. For a review of the relevant literature in relation to the objectives of UK financial literacy policy see de Meza et al. (2008).

At issue is the extent to which people believe retirement planning to be important, have the capacity and resources necessary to plan, and are able to carry-through on well-conceived plans. For some theorists, it is assumed that people are ready and able to plan for the future—their apparent self-interest in realising life-time consumption goals is believed sufficient to motivate planning now and in the future. If the bedrock of standard microeconomic theory, some years ago Deaton (1992) raised doubts about the extent to which observed patterns of income, consumption and saving were consistent with the permanent income hypothesis.[2] Similarly, those writing at the interface between psychology and economics have raised doubts about individuals' decision-making competence in the context of risk and uncertainty (Kahneman and Tversky 1979). To the extent people have well-defined discount functions many find it difficult to marshal the requisite cognitive resources for planning and are often unable to carry-through on plans for the future (Ainslie 2005).

Whether individuals can play the planning role assigned them and the extent to which intervention may be required to 'guide' effective retirement decision-making, are topics that pre-occupy pension specialists (Mitchell and Utkus 2004). Inspired by Lusardi and Mitchell (2007, 2008), we tackle a subset of issues at the heart of this research. Based upon a 2006 representative random sample of UK working men and women aged 18-59 years who participate in employer-sponsored supplementary pension schemes (notably defined contribution schemes and the like) we seek to determine the correlates of (1) the importance attributed by respondents to retirement

[2]/. See also Scholz et al. (2006) who argue for the relevance of an "augmented" life-cycle model including behavorial effects and uncertainty as regards end-of-life for understanding American saving for retirement. Their model depends upon government funding of social security and retiree health care as well as the realisation of household wealth in the form of housing and mutual fund investments. Smith (2008, 14) provides a broader perspective on the "meanings, materiality, and multiple values associated with [UK] homeownership."

planning, (2) the degree to which respondents believe they are prepared to plan, and (3) their knowledge of annuities (a financial instrument that converts accumulated savings into a guaranteed income stream until death). In doing so, we clarify what is meant by pension planning with implications for the structure of our analysis; we explain the logic of the data and statistical procedures used to produce the results; and we offer an interpretation of the results emphasizing the sophistication of financial judgement, the salience of the issue for respondents' welfare, and the scale at which respondents make planning decisions.

We find that the older the respondent, the higher their income, and the degree to which they recognise pensions are designed to supplement retirement income, the more likely they believe planning to be important, are prepared for planning, and are knowledgeable about annuities. The scale of effective retirement planning is the household—respondents with a spouse claiming similar entitlements are more likely to believe planning for retirement is important. By contrast, remote sources of planning advice and information carry less weight for our respondents than expert advice relevant to the circumstances of respondents' households. These findings reinforce arguments by Strauss (2008b) about the importance of social differentiation and scale for behaviour under risk and uncertainty. These results also give weight to Bathelt and Glückler's (2005) 'relational' theory of economic geography albeit embedded in personal relationships of commitment or contract.

In the following section, we begin with first principles—the scope of human rationality and our propensity to plan for the future. Drawing upon the relevant literature from philosophy and cognitive science (section 2), we suggest that realising our potential depends, in part, upon our 'environment': the decision-relevant resources owed to our respondents' particular circumstances (section 3). This is the backdrop for section 4 where we explain the empirical analysis, including the survey questions underpinning analysis. In section 5, the survey is described in more detail, and the results of our statistical models presented in terms of the importance of planning, respondents' preparedness, and their knowledge and understanding of annuities. These results are brought together in section 6, with implications and conclusions in the final section of the paper.

Rationality and Planning

We assume that people are rational and plan for the future. These behavioural traits are embedded in our biological heritage—it could hardly be otherwise given evolutionary imperatives. These assumptions underpin the study of decision-making in the human sciences including Bratman's (1987) seminal treatise on the foundations of reasoning and planning. They also underwrite conventional microeconomic propositions such as the permanent income hypothesis, a core element in how theorists conceptualize life-time consumption and income and related saving behaviour (Legros 2006). For many social scientists, rationality has a singular and universal form: whatever the culture or society, individuals' have clear goals and objectives which drive behavior now and in the future (compare with Henrich et al. 2005).

The behavioral revolution associated with Kahenman and Tversky (1979) and Simon (1956) has sought to break the nexus between substantive rationality (human nature) and procedural rationality (behaviour in context). Based upon experimental psychology, analysts have sought to identify and explain the scope of behavioural 'anomalies' and 'biases' thereby challenging the assumption that human rationality (in substance) maps onto, in an unproblematic way, human behavior. Krueger and Funder (2004) identified more than 40 such biases; the list is growing as experimental procedures become more refined. Moreover, the work of Kahneman and Tversky and others indicates that many people are not particularly effective decision-makers under risk and uncertainty. This is important for a variety of reasons, including the fact that so many people's retirement income is dependent upon their ability to function in global financial markets subject to costly episodes of market volatility (Langley 2008).

While there is little direct evidence that social status is correlated with certain types of behavioral anomalies and biases, there is evidence that consistency of decision-making is correlated with domain-specific skills and expertise (Wagner 2002). This finding has implications for the quality of individual financial decision-making including the selection of those responsible for long-term investment (Clark et al. 2007). Unclear, at present, is whether people are cognitively predisposed to perform more or less well certain types of tasks and functions (Kahneman's 2003 argument), whether commonsense and experience can makeup for cognitive shortfalls

(Gigerenzer's 2004 argument for the significance of heuristics), and whether education can be effective in self-regulating acknowledged behavioural biases (Doherty's 2003 optimistic scenario).[3] Nonetheless, we can hypothesize that, all things being equal, a resource-rich environment can compensate for people's acknowledged shortcomings in behavior and/or knowledge and experience (as suggested by Clark and Strauss 2009 and Hershey et al. 2008).

This assumes that behavior results from the deliberate weighing of options with the resources at hand in a cost-effective manner. Deliberation may be a human trait (Hurley 2008), but it need not be as self-conscious as often assumed in philosophy and social science. Further more, deliberation is a cognitive process; it need not function in the manner suggested by the formal optimizing decision-procedures cribbed from linear programming and operations research (March 1994).

As noted in the cognitive science literature, planning for the future is similarly a deeply embedded human trait. In fact, it is widely believed that this cognitive function is located in the frontal lobes of the brain wherein self-control and ancillary functions provide sub-conscious mechanisms for governing individual behaviour. Often invoked at this junction are case-studies and in particular the celebrated case of one Phineas Gage who experienced frontal lobe trauma, survived, but then exhibited quite erratic behavior (Libet 2004).[4] For some, this trait has its origins in human evolution—specifically the claimed innate commitment in favour of the conservation of human life (a selfish interest) and/or the protection of progeny (perhaps an altruistic interest). We note, as well, the premium placed on time-dependent behavior traced by historians and geographers back to the industrial revolution and to contemporary market imperatives driving the measurement of time and planning for

[3]/. To the extent that government has addressed the implications of this research for individual pension planning, it would seem that financial education with idealised decision-protocols are common responses to the apparent predicament in which many people find themselves (see the recent report by the DWP 2006 on personal accounts and financial education).

[4]/. A detailed description of the case and the implications of Gage's head trauma for understanding the status of foresight and planning are to be found in Damasio (1994) and Damasio et al. (1994). The interaction between canonical cases and the tried and tested evidence gleaned from controlled experiments is important in psychology and cognitive science if not the social sciences such as economics, politics, and (to an extent) economic geography.

the future. Calibrating the value of time is a practice deeply embedded in everyday life (Thrift and Glennie 2004).

Whatever the contemporary significance or otherwise of planning, we can *generally* agree with Bratman (1987, 8) when he says that "we are planning creatures. We form future-directed intentions as parts of larger plans, plans which play characteristic roles in coordination and ongoing practical reasoning; plans which allow us to extend the influence of present deliberation to the future." However, we must take care to be clear about the scope of our agreement and where there may remain disagreement about the significance of intention and the scope of planning.

Too much can be made of our planning potential. In much of the social science literature, planning is seen as a means to an end that combines deliberation with an over-arching future-oriented optimizing framework. We ought to be cautious about the generality of this framework for three reasons. First, just because we are "planning creatures" does not necessarily mean that we are conscious of related actions; planning could well be a finely-honed intuition which is used day in and day out without agents ever being aware that this is what we *should* do in situations X, Y, and Z. Second, planning need not be intuition or a fixed repertoire of actions that originates with the person who takes action; planning could involve the imitation and emulation of others' actions and outcomes such that the individual concerned neither deliberates over actions to imitate nor consciously makes a choice of those he or she wishes to emulate (Hurley 2008). Third, planning may be an illusion; it presupposes control over the relevant decision-variables and related environment (Wenger 2002).

If, for most people, planning is simply a process of matching day-to-day imperatives a repertoire of possible actions in response or is a largely unproblematic process of imitating others' actions given their place in our immediate field of vision, there would seem to be much less to planning than imagined by social scientists. But if planning is responsive to the salience of the issue, and demands the sophisticated application of knowledge outside of commonplace routines, planning may well claim significant cognitive resources such as attention and deliberation. See generally Gabaix et al. (2006). If so, we should also recognise people are not equally endowed with either the cognitive resources or social resources to make good on intended

actions and outcomes. Assuming we are "planning creatures", Bratman presumes we are equally endowed with the capacity to act.

The Planning Process

For heuristic purposes, we can classify human planning by reference to the nature and significance of the issue (salience), distinguishing between the routine and the important, and the nature and significance of the cognitive resources used in the planning process (sophistication), distinguishing between the use of "fast and frugal" techniques such as intuition and the use of decision-techniques that require consciousness and deliberation. So, for example, in Figure 1 the upper left-hand box identifies a type of planning (Type 1) that is both commonplace and largely incremental in its positive and negative effects. By contrast, the bottom right-hand box identifies a type of planning (Type 4) that is demanding in terms of its use of cognitive resources and possibly very important in terms of its long-term effects on human welfare. There are, no doubt, people who occupy the spaces set aside for Type 2 and Type 3 planning deploying scarce cognitive resources to make routine plans (being cautious) and responding to significant issues without the benefit of conscious deliberation (being impulsive).

[INSERT FIGURE 1 ABOUT HERE]

But what drives the planning process? Standard treatments of the topic begin with beliefs and desires—being states of mind that have, presumably, three characteristics (Bratman 1987, 22): they control conduct, are relatively consistent or stable over the flow of life-events, and provide the impetus for action. There is no need for beliefs and desires to be anything more than a set of prior commitments which may or may not be recognised as such by agents. For example, a basic belief/desire may be self-preservation. Another belief/desire may be the love and respect of others. From beliefs and desires come intentions to realise those interests. By this logic, intention is the transfer-function between motivation and action wherein the latter is the expression in concrete form of the former. For intention to be effective people need the cognitive resources consistent with realising their interests as well as the social resources to sustain the chosen action or actions that are intended to realise underlying

beliefs and desires. There are many instances where people's beliefs and desires are frustrated by poor reasoning and a lack of resources.

Bratman's model of "commonsense" planning is amenable to the application of optimization methods, and it has a recipe for public policy. But whether it is, in fact, consistent with the evidence as to how people make and execute plans is open to dispute. One problem, often recognised as such, has to do with the origin of beliefs and desires. By the previous account, beliefs and desires are distinct from cognitive processes being primal urges, emotional commitments, or metaphysical incantations. For some, beliefs and desires reside in the mind while cognition resides in the brain. But, as we know, this is a categorical mistake (Ryle 1949). In any event, recent research in the cognitive sciences disputes the plausibility of a sequential order to the planning process as set out above. Libet (2004) contends, on the basis of experimental evidence, we act before we recognise that we have decided to act. 'Intention' may be backwards-looking rather than forward-looking.

This is not to say, though, that consciousness and deliberation are superficial behavioral traits more related to self-justification than calculated decision-making and action. In fact, the experimental evidence suggests that consciousness and deliberation play vital roles in governing behavior especially in cases where agents take the time to check on their initial impulses or plans of action and revise accordingly to their circumstances (Bratman 2007). In this sense, Type 2 and Type 4 planning are second-order versions of Type 1 and Type 3 planning being sophisticated expressions of self-conscious deliberation where salience (at some threshold value) governs the level of attention paid to the issue at hand (see Pacherie 2006). Whether people articulate the differences between these types of planning is debateable. Those who hold to a strong version of rationality believe that people have a ready grasp of their relevance and act accordingly. Others are not so sanguine (as indicated by the logic of the Interim Report of the UK Pensions Commission 2004).

To illustrate, imagine an employer is unsure as to whether to require employees to make a deliberate choice to opt-in to its pension scheme or to require them to opt-out of auto-enrolment. Assuming this is a significant decision for the employee, one that has long-term consequences for his/her welfare and that of their families, the

employer could rely upon employees' capacity for self-conscious deliberation over the costs and benefits of participation. In effect, the opt-in decision is an idealised version of Type 4 planning. There could be, no doubt, some employees able to recognise the significance of the issue and deploy the appropriate cognitive and social resources to plan for the future. But there may be people who are unable to discriminate between routine and significant planning decisions (Type 2 and Type 4) in effect using scarce cognitive and social resources in the same way they deal with planning to go to a football match.

It is widely recognised that many people neither appreciate the importance of pension saving nor are equipped to make informed decisions especially when dealing with complex financial products such as annuities (Poterba 2006). Idealising employees' planning capacities may be a recipe for naïve decision-making (Type 1), self-defeating decision-making (Type 2), and short-term decision-making (Type 3). Employers, concerned about their responsibility for the decisions made by employees, may auto-enrol employees and offer opt-out options to those self-confident about their knowledge and understanding of the issues (i.e. Type 4 planners). As we know, most people do not exercise their opt-out right just as most participants in employer-sponsored pension saving schemes do not exercise their right to make investment decisions. There may be Type 2 planners who claim the right to deliberate and decide—recognising this possibility, the employer could make the opt-out option difficult to understand and time-consuming to execute such that impulsiveness is constrained by the structure of the decision-making process.

In effect, those that use auto-enrolment to structure employee pension saving decision-making take advantage of the fact that most people are on automatic pilot when it comes to planning for the future (as implied by Pacherie 2006). Likewise, those that advocate stepwise time-dependent escalation devices to increase the rate of pension saving appear to assume that most people are Type 1 planners. That is, it is assumed that most people can accommodate incremental changes in pension contribution rates within the mix of issues they regularly respond to on a month-to-month or year-to-year basis. Benartzi and Thaler's (2005) formula for employer sponsored defined contribution schemes assumes most people are NOT type 4

planners (being one justification for employers and government to take a more active and paternal interest in the long-term consequences of people's choices).

Framing the Empirical Analysis

The application of conscious deliberation to retirement planning depends, in part, upon agents' recognition of the significance of the issues at hand. Otherwise, planning is likely to be governed by intuitive reaction to events rather than conscious reason (perhaps along the lines suggested by Rachin's 2000 signal-response model). In this paper, we consider whether our survey respondents appreciate the significance of retirement planning, have the necessary resources to plan, and have the knowledge and understanding appropriate to purchasing annuities—a type of financial product directly relevant to preserving the accumulated value of retirement savings through a guaranteed income stream (Sheshinski 2008). Here, as in other related studies, we use a random survey of relevant respondents to test their views on these three matters evaluating opinion against their socio-economic status and risk-preferences—proxies for the resources available for making planning decisions.

The base-line survey was designed to capture respondents' attitudes and behavioral predispositions with respect to pension and retirement income saving and investment. Sponsored by Mercer Human Resource Consulting (London), a commercial polling company was contracted to implement a national representative survey of working men and women between the ages of 18 and 59 years currently enrolled in some form of employer-sponsored retirement plan. The initial goal was to obtain over 1200 completed survey. In fact, 937 survey respondents were obtained.[5] Many problems were encountered in finding a representative sample of respondents able and willing to spend time with interviewers (explained in detail by Strauss 2008c). In Table 1, we present a summary of the age and gender characteristics of the actual survey respondents against planned quotas. Respondents were weighted towards older age groups and towards women (compared to the planned quotas of the survey).

[INSERT TABLE 1 ABOUT HERE]

[5]/. As shown below in Tables 2, 3 and 4, however, the actual number of surveys with the requisite responses consistent with the needs of the statistical analysis varied by topic such that we had to exclude about another 150 respondents because of incomplete data.

Not withstanding lists of many thousands of potential respondents, it was difficult to find respondents that matched both desired gender and age characteristics and who had sufficient knowledge of their pension savings to be able to respond in a consistent manner—this introduced a certain bias in the analysis such that care must be taken in generalizing the findings to the entire UK population. At the same time, we acknowledge the contested validity of generic surveys of attitudes and opinions. There may be significant differences between expressed opinions and preferences and actions, especially in surveys that do not tie respondents to particular tasks, functions and role-related domains. However, in a remarkable study of the link between expressed risk-related attitudes and behavior (albeit in an experimental setting), Dohman et al. (2005, 1) showed that expressed attitudes were "a good predictor of risky choices with real money at stake." Wiseman and Levin (1996), Weber et al. (2002), and Dorn and Huberman (2004) have also noted that the link between attitudes and behavior is highly domain-specific.

Elsewhere, it has been shown that there are systematic age and gender effects on risk attitudes and putative asset allocation decisions (Clark and Strauss 2008). Similarly, we have found that gender, income, and household status interact such that men are more risk-tolerant than women, older higher income men are more risk tolerant that middle aged higher income men, and younger lower income women are more risk adverse than older higher income women. These findings are similar to those found in other countries such as Germany; see Dohman et al. (2005). We also found, moreover, a significant 'household effect' in that men and women who have a spouse with some form of pension entitlement engage in risk-sharing within the household. It would appear that they 'plan' either in response to their circumstances (weighted by gender, age and income) or by deliberate policies of risk management with respect to desired long-term household retirement income (also weighted by gender, age, and income). Here, we interrogate this implication directly with tests of both the importance attributed to planning and respondents' preparedness.

About 80 questions were asked of respondents. After an introductory question which sought their agreement to the interview (Yes or No), those agreeing to participate were asked two 'qualifying' questions. S1: "First can I just check, are you currently

working in an organization with at least 10 employees worldwide?' Yes – Continue; No – Terminate. S3A[S]: "The survey concerns pensions and benefits at work, do you currently have any form of pension?" Yes – Continue; No – Terminate. Thereafter a series of questions were asked to establish respondents' type or types of pension plans, excluding those who indicated that they currently participated in defined benefit or final salary schemes. In doing so, it was intended that the survey concentrate on those for whom their own pension planning would have tangible benefits: those who by the nature of the employer-sponsored pension plan have personal responsibility for risk-taking and the expected value of the accumulated pool of retirement assets. From here, the link to respondents' knowledge and understanding of annuities is clear (in theory, at least).

A set of questions established respondent's gender, age, location, job type, household status, annual income, and spousal pension entitlement. Question 9[S] asked respondents to strongly agree, agree, neither agree nor disagree, disagree, strongly disagree, or N/A with the statement: "Planning for my retirement is an important issue for me". Thereafter a series of similar statements were posed designed to elicit respondents' preparedness or otherwise for long-term retirement planning. For example, statement 10[S] was "I know where to get more information about planning for my retirement if I need to" and statement 12[S] was "my understanding of the savings and investment options available for long-term financial planning is reasonably good (or better)." Based on a string of eight related statements, an index of preparedness was constructed using the response options noted above to create a respondent-specific score on preparedness (explained in the Appendix).

A set of questions were posed to elicit respondents' attitudes to risk, investment, and annuities. As in Clark and Strauss (2008), risk tolerance was determined by asking respondents (Question 25[S]) to choose either "I aim to get the best possible growth in the value of my savings, even if that means taking some risks which could cause my savings to fall in value (designated risk-tolerant) or "I prefer to have safe and secure savings and investments, even if that means they do not grow in value as much as

they could" (designated risk-averse) or N/A.[6] Mixed in with a series of questions regarding their knowledge and understanding of different types of investment funds including cash, bonds, and equities was question 27[S]: "If you retired today, you would be required to use your pension savings to buy an annuity. How good is your understanding of what an annuity is?" Respondents were given the following response options: very good, good, neither good nor poor, poor, very poor, and N/A. Note, in another study using different data Clark and Knox-Hayes (2007) found evidence of 'regional ecologies of finance' with respect to the intended purchase of annuities. In this paper, we sought to determine if there was a discernable scale (individual, household, and regional) at which pension planning takes place (given Sunley's 2000 regional map of UK pension potentials).

Summary of Empirical Findings

We began with a model designed to predict respondents' importance of planning, using the ordinal logistic regression estimation technique processed through the Stata statistical package. The results are summarized in Table 2A, noting those variables found significant at the 90 percent, 95 percent, and 99 percent confidence levels. For the interpretation of results, a statistically significant negative sign on the estimated parameter of being female means that compared to a male, women were less likely to attribute importance to pension planning. Note, for categorial variables we used a baseline case, as in respondent income, to calibrate the relative significance of different levels of income. In Table 2A, the log odds coefficient of 0.63 on the AGE 30-39 category indicated that being between the ages of 30 to 39 years increases the log odds of being in a higher planning category by 63 per cent (compared to the reference group). The related odds ratio of 1.88 indicates that the odds of being in a higher planning category should be multiplied by 1.88 if the person is 30 to 39 years (compared to the reference group).

[INSERT TABLE 2A ABOUT HERE]

[6]/. In effect, we ask people to indicate whether they are risk tolerant or risk adverse given Kahneman and Tversky's (1979) demonstration that most people fear loosing more than they value the dividends from risk taking. Below, we refer to risk tolerance as having a 'sophisticated' understanding of the implications of market-based pension saving institutions. There are other ways of gauging the sophistication of savings behaviour including the consistency of decision-making (Cubitt et al. 2004).

As widely recognised in the literature, it was found that AGE was statistically significant, with parameter signs and estimated values indicating that the older the respondent the more likely they believed planning to be important. It was found that GENDER was statistically significant, though at a weaker level than other significant variables suggesting that women were less likely than men to believe pension planning to be important. INCOME was also statistically significant, with the likelihood of indicating planning to be important strengthening with income. By contrast, it was found that neither REGION of residence nor the expected REPLACEMENT rate of income supplements due to pension saving were statistically significant.[7] Below, it is shown that respondents' REGION of residence does appear significant in other cases but not to the extent found in Clark and Knox-Hayes (2007).

As indicated above, we sought to determine respondents' RISK tolerance in saving using a question that gave a dichotomous choice. It was found that RISK tolerant respondents were more likely to believe that pension planning is important. We also posed a related question about personal responsibility for asset allocation. Question 48[S] began by noting that it is 'sensible' for people to shift their assets out of "high risk assets such as equities" as they approach retirement. Respondents were given 5 response options including (1) leaving the choice and strategy with the respondent, (2) leaving the choice with the respondent but with provider advice on strategy, (3) leaving the decision with the provider, (4) don't know, and (5) n/a. This is a significant issue, having implications for the conservation of accumulated wealth and the translation of pension savings into an annuity.[8] Respondent attitudes with respect to the desired level of responsibility for age-related retirement saving management were NOT significant for either the importance of pension planning, or preparedness, or their knowledge and understanding of annuities.

[7]/. Region was coded using respondents' STD identifiers, based upon the Office of National Statistics UK regions. See http://www.statistics.gov.uk/geography/downloads/GB_GOR98_A4.pdf

[8]/. Answers to this question have significant implications for the design of defined contribution savings schemes that use asset allocation rebalancing systems dependent upon participants' age and expected years to retirement (Bodie and Treussard 2007). Whether participants take an interest in the 'glide-path' to retirement and whether plan sponsors should institute systems that do so automatically are issues to be resolved in the design of such systems (especially in the UK; see Byrne et al. 2007).

Consistent with Clark and Strauss (2008), it was found that respondents with a SPOUSE also entitled to supplementary pensions were more likely to believe pension planning is important, just as those respondents who indicated that they will RELY upon another for retirement welfare were found to be less likely to believe that pension planning is important. As for information in pension planning, those who used INFORMATION sources other than a pension specialist were less likely to believe pension planning is important. This was especially apparent for those who used more geographically remote sources of information such as the internet and booklets. Interestingly, it seems that bank advisors were less effective in this respect than insurance company representatives.

Table 2B summarises the strength of the estimated coefficients for the predicted probabilities on the significant variables. For the binary variables, the predicted probabilities estimate the likelihood of being in a specific category when the binary variable is 'active' (holding all other variables constant to their mean).[9] For the SPOUSAL variable, the probability of being in the strongly agreed category that planning is important increases by 10.2 per cent when respondents have a spouse with a pension entitlement. For nominal variables, the predicted probability is specified with an 'if statement' for each category. The predicted probability of being in the strongly agreed category that planning is important increases by 22.2 per cent if the respondent's AGE is 50 years or more. For ordinal variables, the predicted probability of being in a response category is calaculated using a 1 unit increase against the mean of the ordinal predictor. The probability of strongly agreeing that planning is important decreases by 11 per cent with a 1 unit increase in RELYING upon another.

[INSERT TABLE 2B ABOUT HERE]

Turning to planning preparedness, Table 3 summarizes the results of the OLS regression using the same set of variables. In this case, AGE and INCOME were significant (as before) although it was found that the parameters on younger age

[9]/. Although the survey listed 5 response options on whether planning is important from strongly agree to strongly disagree only 2 respondents chose the strong disagree response option. These respondents were eliminated from the analysis; therefore, the strong disagree category is absent from the predicted probability analysis.

groups were not significant while it was found that the parameters on lower income groups were significant. As anticipated, the older the respondent and the higher their income the more likely they would indicate that they were prepared for pension planning. In this instance, however, other variables were significant including the parameter on REGION (but just the southwest) and, importantly, respondents' expectations as to the income REPLACEMENT rate of their pension savings. That is, the higher the expected value of respondents' pension savings against earned income the more likely they would indicate preparedness for pension planning. In this case, GENDER was not significant.

[INSERT TABLE 3 ABOUT HERE]

Again, RISK tolerance was found to be highly significant and positive in effect although the parameter value was less than half that found in the previous analysis. And once again, respondents with a SPOUSE entitled to a pension benefit were positively disposed to planning preparedness while those RELIANT on others for retirement income were more likely to indicate less preparedness. Consistent with the findings summarized in Table 2A, compared to a pension specialist those reliant on other sources of INFORMATION were less likely to be prepared for planning. In this case, though, many more sources of information were found significant and it was difficult to discern a pattern in terms of the estimated value of the relevant parameters. Intriguingly, those that would rely upon a colleague or relative and those that would rely on a manager in their organization for information were less likely to indicate preparedness than those reliant upon booklets and the media. In the next section, we suggest one interpretation to this finding—a colleague or relative might be their first 'port-of-call' after respondents' spouses.

Finally, Tables 4A and 4B summarize the results from our ordinal logistic regression analysis of the correlates of respondents' knowledge of annuities. These are consistent with the previous results in that AGE, INCOME, REPLACEMENT, and REGION (weak) of residence have the same signs as before and are significant predictors of the likelihood respondents have knowledge of the structure and design of annuities. Also significant are RISK tolerance, INFORMATION sources, and RELIANCE on others for pension income upon retirement. But notice that neither

GENDER nor SPOUSAL entitlement is significant and INFORMATION sources other than a pension specialist are of limited number and significance. In this case, the two sources significant are a colleague or relative and a manager in the organization. Generic and institutional sources of annuity information are not statistically significant.

[INSERT TABLE 4A ABOUT HERE]

To give a better indication of the strength of the coefficients we also calculated predicted probabilities of significant variables (Table 4B). For the binary variable RISK the predicted probabilities estimates the probability of having a specific category of knowledge of an annuity when the binary variable is active (holding all other variables constant at their mean). For RISK, the probability of having a good knowledge of an annuity increases by 15.4 per cent when respondents indicated RISK tolerance. For nominal variables, the predicted probability is again specified with an 'if' statement for each category. For example, the predicted probability of indicating a 'good' knowledge of annuities increases by 19.7 per cent *if* the respondent's AGE is 50 years or older. For ordinal variables, the predicted probability of being in each category is calculated with a 1 unit increase (centred around the mean) in the ordinal predictor. So, the probability of having a good knowledge of annuities decreases by 2.9 per cent with a 1 unit (mean-centred) increase in RELYING on another.

[INSERT TABLE 4B ABOUT HERE]

Sophistication, Salience, and Scale

Comparing results across the three issues considered, Table 5 provides a list of the independent variables, their statistical significance by issue and the sign on the estimated parameters. The importance of planning was the simplest issue, respondents being asked to give their opinion about the importance of planning against a 5-point Likert scale. More complex was preparedness for planning, being an index of eight factors relevant to pension planning each of which based on respondents' attitudes against a 5-point Likert scale. Research suggests that many people either do not understand the nature of annuities, or discount the benefits of annuities compared to self-investing and the prospect of making a bequest (Poterba

2006). Here, again, respondents' opinions about their understanding of an annuity were set against a 5-point Likert scale (see Dawes 2008 on the virtues of 5-point scales compared with 7- and 10-point scales).

[INSERT TABLE 5 ABOUT HERE]

Not withstanding the conceptual differences between these elements of pension planning, there was a high degree of consistency in results: the significance of selected independent variables and the signs on estimated parameters. Further, there were some interesting results. For example, while the literature on decision-making suggests that men and women have different levels of risk tolerance (risk aversion), the GENDER variable was only weakly significant for the importance of planning and insignificant otherwise (see Bajtelsmit 2006).[10] Whereas we showed in a larger study devoted to the intended take-up of annuities in the aftermath of the 1990s bubble and bust that REGION of residence was a significant factor in discriminating between respondents (Clark and Knox-Hayes 2007), here the effect was weaker and less systematic.[11] In all cases, the signs on the estimated parameters were the same and most estimated parameters were significant at the 95% or 99% confidence levels.

We now turn to interpreting the results. Like others writing on financial behavior and pension saving (see Agarwal et al. 2008), our interpretations are suggestive rather than definitive. Further, as argued above, care must be taken not to over-interpret the results in the sense of attributing intentionality to each and every factor in the pension planning process. In doing so, we distinguish three types of affects or aspects of pension planning beginning with RISK tolerance. It has been noted many times that people are risk adverse—a core empirical finding underpinning the behavioral revolution in the social sciences (Baron 2008). Here, it was found that those indicating RISK tolerance as opposed to risk aversion were more likely to believe pension planning to be important, were prepared for pension planning, and had good

[10]/. We also tested for the interaction between the GENDER and SPOUSAL variable and found that if the latter was not included the former was not significant for any of the three issues considered.

[11]/. It should be noted that the sample size in this current paper is much smaller than that used in Clark and Knox-Hayes (2007) and that a larger sample related to planning may well see the emergence of the comprehensive REGION effects noted in the previous paper.

or very good knowledge of annuities. This suggests that financial sophistication may be a precondition for deliberate pension planning.

From Table 5, it is also apparent that AGE, INCOME, and recognition of the role of pension savings in the REPLACEMENT of earned income were significant. The older a respondent the more likely he or she believed pension planning to be very important. If intuitively plausible, this result does not accord entirely with theoretical expectations derived from the permanent income hypothesis (see Deaton 1992). It seems that as people come closer to retirement they are either more conscious of the need to plan for the near future, or they more likely recognise the costs of having not adequately planned for retirement in the past. The INCOME effect reinforces the AGE result: either people seek to conserve their accumulated wellbeing, and/or they fear for their standard of living over the near future.[12] The effect of REPLACEMENT on retirement planning is simpler: given the similar size of statistically significant coefficients of different replacement rates, it would seem that it is sufficient to recognise that pension saving is designed to replace earned income. Each variable is indicative of the salience of pension planning (see also Gabaix et al. 2006).

Perhaps the most interesting set of significant predictors of pension planning are those that refer to the scale of decision-making. As we noted in Clark and Strauss (2008), some respondents are clearly influenced by the existence of a SPOUSAL pension entitlement. This could mean that there is mutual learning between partners.[13] As such, the relevant retirement income planning unit could be, in fact, the household not the individual. It could also mean that individuals are aware or become aware that their long-term welfare is a function of their partner's survival prospects (see

[12]/. It is possible that older, higher income people have a better sense of what can be achieved by pension saving because of their life-time success and/or the fact that there is a clear cause and effect relationship between pension saving (now) and retirement income (near future) given a declining capacity to earn higher income. See Wenger (2002, Ch 3) on the psychological relationship between individual experience and the perception of agency which is amplified by the consistency of success.

[13]/. An intimate interest in another's pension prospects may prompt discussion of the implications of different pension saving options and the costs and benefits of alternative courses of action. Each may think it necessary to justify his or her plans thereby linking in a deliberate fashion plans with intended outcomes (separately and together). See Pettit (2007) on the virtues of discursive deliberation.

generally Friedberg and Webb 2006).[14] Reinforcing this result is the fact that some respondents intend to RELY upon others for their retirement, discounting the value they attribute to their own pension planning while implicitly or explicitly placing a premium on others' best intentions *and* planning capacity.

That there is such an intimate scale to pension planning is a significant result compared to the relative lack of significance attributed to REGION of residence. Just as important in this respect, however, are the results on the sources of pension planning INFORMATION. Against the base-case, a pension specialist, other sources of pension planning information were found to be less likely to contribute to a sense that planning is important and that respondents were prepared for planning. Notably, an insurance company advisor and bank advisor were deemed to be more likely to prompt respondents to suggest pension planning is important than geographically remote sources of information such as the media and the internet. It was harder to draw this implication from the results on preparedness, although it should be noted that a pension specialist is clearly more important than being a relative or colleague. On annuities, it would seem that the only other source of information of value to respondents was a colleague or relative but note the small size of the parameter. We would contend that the significance attributed to pension specialists is a similar effect to SPOUSAL entitlement and RELIANCE on others—in this instance, though, regulated by contract and fee-for-service rather intimacy.

We would also contend that there is evidence for another consistent but negative scale effect. According to our respondents, generic information sources such as the media and the internet are not as valued as sources of information that come from direct contact with advisors albeit less knowledgeable about the specific issues related to pension planning. If systematic across the UK, this finding suggests that a "national money guidance service" as recommended by the Thoresen Review (2008) may be ineffective unless remote sources of information are complimented with personal advice from truly independent professional sources.

[14]/. This result suggests the existence of implicit or explicit tontine-like household pension planning. A tontine is a club for mutual insurance wherein those who begin in the club bet on their survival against other members such that as club members die those surviving receive larger and larger shares of income until the person who out-lives all others gets the benefit of all members' initial investment. It was a common form of 'pension' saving in England during the middle-ages and has some relevance even today. See Sheshinski (2008) and Goldsticker (2007).

Implications and Conclusions

We began this paper with a discussion about the substantive importance of rationality and planning for human beings. At the same time, we sought to distinguish between our biological heritage and our capacity to act and plan in the manner assumed by social scientists. Too often, biological predisposition is presumed to extend through to actual behavior ignoring the cognitive and social resources necessary for effective decision-making as well as the role that context plays in channeling behavior (see Goldstein et al. 2001). In any event, we also suggested that too much is made of conscious deliberation invoking recent research in the cognitive sciences to suggest that 'planning' can be the expression of routine signal-response mechanisms that govern human behavior; people may plan but do so without the conscious deliberation often assumed by theorists. To illustrate, we noted that imitation and emulation are possibly just as significant prompts for forward-looking actions as conscious deliberation (Hurley 2008).

It is clear that distinguishing between different types of planning and discriminating between routine signal-response and conscious deliberation requires very different techniques of research than that typical of the social sciences and human geography. In this paper, we have taken a small part of the planning puzzle, focusing upon a group of respondents who were asked their attitudes about the importance of pension planning, preparedness, and knowledge of annuities. In effect, we asked them to be self-conscious about these issues without making any assumptions about whether attitudes necessarily translate into action, and whether these attitudes rule-out those types of planning that are neither self-conscious nor as forward-thinking as we might expect of pension and retirement income planning to be. Being circumspect about the nature of planning should temper the scope of implications to be drawn from our empirical results. Being circumspect also suggests more depth to the topic than standard treatments such as the permanent income hypothesis would seem to imply.

We note that there is a type of planning that is a self-conscious check on impulse and intuition—even if Kahneman (2003) believes impulse and intuition to be the best available solutions to decision-related tasks, we believe that pension and retirement saving decisions carry important implications for long-term welfare. As a

consequence, it is crucial for public and private institutions to set prompts and incentives for people to take account of the likely results of their planning decisions (however arrived at) (see Benartzi and Thaler 2005). More optimistic analysts, writing in the wake of the behavioral revolution, argue or seek to show that most people develop appropriate and informed if not optimal solutions to common planning problems (Doherty 2003, Gigerenzer 2004). In this case, it may be useful to know about the correlates of respondents' attitudes to pension planning as a guide to designing effective public policy.

In this paper we showed that there are three types of significant correlates of pension planning. There are correlates, such as risk tolerance, that are indicative of respondent financial sophistication; as in many other studies of expertise and intelligence, those that understand the substantive foundations of financial decision-making may be, all things being equal, more likely to recognize the importance of pension planning (compare with Wagner 2002). Just as important are factors that drive the salience of pension planning for respondents, matching a related argument made by Gabaix et al. (2006) to the effect that salience is crucial given the cognitive and resource costs of deliberation. Those who recognize that pension planning is important are those who have the most to loose from not planning. Perhaps, this reflects Kahneman and Tversky's (1979) finding about the importance of loss aversion in decision-making under risk and uncertainty.

As for pension planning, scale counts: that is, with household relationships and with knowledgeable advisors but not at the workplace (compare Bernheim 1998). There is a certain intimacy to these particular relationships that adds value to respondents' confidence in pension planning. By contrast, respondents tended to discount the value of generic sources of information compared to specialist advisors. This is, of course, consistent with the fact that skills and expertise are domain-specific; by training and education or by virtue of the tacit knowledge embedded in certain roles and responsibilities, it is not surprising that respondents value pension specialists over bank advisors and insurance company salespersons. Whether respondents do, in fact, recognize this logic is impossible to determine. They may distrust advisors with an obvious interest in selling pension products and services by the companies that

employ them (ignoring the fact that most 'independent' pension advisors are actually on retainer to large financial service companies).[15]

In terms of public policy, three implications deserve mention. Following on from the discussion immediately above, there are reasons to doubt the utility of generic financial advisory services. If discounted by those respondents most likely to believe pension planning is important, these services are, at best, ignored by those without the sophistication needed to make informed judgments about the nature and quality of proffered advice. At worst, generic advisory services may encourage unwarranted confidence in those who can least afford to make errors in pension planning. A second and related implication is that those people able and willing to make plans for the future may benefit from government policy designed to improve the quality and quantity of advice offered by specialist services. This may mean requiring disclosure by advisors about their relationships with financial service companies. A third implication is that the delivery of such advisory services may be best focused on the household rather than the individual or place of employment. At the margin, there is also evidence for considering regionally-targeted advisory programmes even if we share with many recent concerns about the effectiveness of financial literacy programmes in general (see Atkinson 2008).

Missing from this discussion are those who do not have the cognitive, social and hosuehold resources to deliberate over their pension plans and options. If financial literacy programmes and workplace education initiatives are not valued by respondents and appear not to make an appreciable difference to pension saving, our results tend to support public and private policies that put the onus on plan participants to make explicit any planning decisions that would depart from institutionally determined age-related and income-related pension planning policies (Thaler and Sunstein 2003). At the same time, our results suggest that even amongst those willing and able to make deliberate pension savings plans, their plans may come late in their working lives and may not make a substantial difference to their retirement income prospects.

[15]/. See Leyshon et al. (2004) and Leyshon et al. (2006) on the experience of many UK residents with retail financial service providers and the consequences thereof for lower income people.

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Figure 1. Classification of planning types with reference to the salience of issues and the sophistication of judgement

		Sophistication of Judgement	
		Intuition	Deliberation
Salience of Issue	Routine	Type 1 (incremental)	Type 2 (cautious)
	Important	Type 3 (impulsive)	Type 4 (long-term)

Source: Authors (noting the inspiration provided by Bratman 1987 and Wenger 2002)

Appendix 1. Variables in the Scaled 'Preparedness' Index

To construct the preparedness for retirement planning index, a set of 8 variables were developed from the survey questions and integrated into a single variable. Factor analysis was used to determine significant factors among the survey's knowledge, confidence and ability to afford expertise variables. The following 8 variables were loaded as a single factor with an Eigenvalue of 2.46. The 8 variables were scaled into the index with a reliability test Cronbach's alpha of 0.78 and an average interim covariance of 0.29. Note that all variables used a 5-point Likert response scale.

Variable Name	***Survey Question***
Planning Informed	I know where to get more information about planning for my retirement if I need to:
Confident11	I am confident that I am doing enough to make financial preparations for my retirement:
Knowledge15	I would like to do more to plan for my retirement, but I don't know what I should do:
Afford16	I would like to do more to plan for my retirement, but I don't know what I should do:
Confknowledge33	I feel comfortable that I have sufficient knowledge to choose how to spread my savings between these funds. [Referring to question 28: Imagine that you now have to invest your long-term savings, for the majority of years between now and your retirement. Please indicate how you would invest your money in the three types of funds listed, cash, bond, equity.]
Knowledge34	Choosing from this list of funds is too difficult and I need a simpler option:
Confknowledge43	In answering question 40, I felt comfortable that I had sufficient knowledge to make the choice between the funds available. [Referring to question 40: "Having read the knew definitions above, again imagine that you have to invest your long-term savings for the majority of years between now and your retirement. Assuming these funds are the only available options and you must put all your money in one fund, which fund would you chose?"]
Knowledgeannuity	If you retired today, you would be required to use your pension savings to buy an annuity. How good is your understanding of what an annuity is?

Table 1. Planned and actual survey response rates by age and gender

Male			
Age	**Quotas**	**Actual**	
18-21	**24**	**6**	25%
22-29	**93**	**52**	54%
30-39	**200**	**169**	85%
40-49	**177**	**165**	93%
50-59	**155**	**152**	98%
Total Male	**652**	**544**	83%

Female			
Age	**Quotas**	**Actual**	
18-21	**13**	**3**	23%
22-29	**75**	**64**	85%
30-39	**111**	**123**	111%
40-49	**80**	**121**	151%
50-59	**66**	**82**	124%
Total Female	**345**	**393**	114%
Total Responses	**997**	**937**	

Source: Clark and Strauss (2008)

Table 2A. Results of Ordinal Logistic Regression for the Importance of Planning

Variable	*B (Log Odds)*	*Robust s.e.*	*Odds Ratio*
Geographic Regions			
London (Baseline)	0		
East Anglia	-0.21	0.39	0.80
East Midlands	0.15	0.39	1.16
North East	0.45	0.39	1.57
North West	0.22	0.40	1.25
Scotland	0.34	0.43	1.41
Wales	0.21	0.45	1.23
West Midlands	0.38	0.42	1.47
South East	0.09	0.37	1.10
South West	0.36	0.40	1.43
Socio-demographic Variables			
Age 18-29 (Baseline)	0		
Age 30-39	**0.63****	**0.25**	**1.88****
Age 40-49	**1.08*****	**0.27**	**2.97*****
Age 50 or older	**1.22*****	**0.29**	**3.40*****
Female	**-0.29***	**0.18**	**0.74***
Have a spouse with a pension	**0.44*****	**0.16**	**1.56*****
Income £15,000 or less (Baseline)	0		
Income £15,001-£25,000	0.51	0.25	1.05
Income £25,001-£40,000	0.02	0.26	1.02
Income £40,001-£65,000	**0.57***	**0.31**	**1.77**
Income £65,000 or more	0.18	0.61	1.20
Risk/Information Variables			
Pensions Info: Pension Specialist (Baseline)	0		
Pensions Info: Manager in Organisation	-0.47	0.43	0.62
Pensions Info: Insurance Company	**-0.59****	**0.26**	**0.55****
Pensions Info: A booklet	**-0.79*****	**0.23**	**0.46*****
Pensions Info: Media	0.03	0.37	1.03
Pensions Info: The Internet	**-0.84***	**0.44**	**0.44***
Pensions Info: Bank Advisor	**-0.68*****	**0.21**	**0.50*****
Pensions Info: A Colleague or Relative	1.01	0.50	1.02
Income Expect: Don't Know (Baseline)	0		
Income Expect: 100% or more	0.57	0.39	1.76
Income Expect: 67%-99%	0.06	0.26	1.06
Income Expect: 50%-66%	0.10	0.26	1.10
Income Expect: 25%-49%	0.11	0.26	1.12
Income Expect: Less than 25%	-0.45	0.37	0.64
Savings Risk	**0.52****	**0.20**	**1.69****
Investment Risk (1-5)	0.52	0.09	1.04
Relying on Another (1-5)	**-0.54*****	**0.11**	**0.58*****
Likelihood ratio chi-square	112.74***		
N =	755		

*** p < 0.01; ** p < 0.05; * p < 0.1; Ordinal Logistic regression using robust standard errors

Table 2B. Probabilities of Significant Variables in the Ordinal Logistic Regression of Planning Importance

		Planning is Important			
Significant Variable	Strongly Disagree	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**
Socio-demographic Variables					
Age 30-39**		-1.14%	-7.3%	-1.5%	**+10.2%**
Age 40-49***		-2.0%	-11.4%	-6.0%	**+19.5%**
Age 50 or older***		-2.2%	-12.6%	-7.4%	**+22.2%**
Female*		+0.4%	+2.5%	+2.9%	-5.9%
Having a spouse with a pension***		-0.6%	-3.8%	-4.6%	**+9.1%**
Income £40,001-£65,000*		-0.5%	-3.6%	-9.2%	+13.4%
Risk/Information Variables					
Pensions Info: Insurance Company**		+0.7%	+4.3%	+8.0%	**-13.0%**
Pensions Info: A Booklet***		+1.2%	+7.6%	+5.9%	**-14.8%**
Pensions Info: The Internet*		+1.0%	+6.6%	+9.7%	-17.3%
Pensions Info: Bank Advisor***		+0.7%	+5.0%	+9.4%	**-15.2%**
Savings Risk**		-0.6%	-4.1%	-6.6%	**11.3%**
Relying on Another (1-5)***		+0.7%	+4.7%	+5.6%	**-11.0%**

Strength of significance: *** = $p < 0.01$; ** = $p < 0.05$; * = $p < 0.1$

Table 3. Results of OLS Regression for Respondents' Planning Preparedness (Scale)

Variable	*B*	*Robust s.e.*
Geographic Regions		
London (Baseline)	0	
East Anglia	-0.02	0.09
East Midlands	-0.03	0.09
North East	0.05	0.09
North West	0.01	0.09
Scotland	-0.03	0.10
Wales	0.07	0.09
West Midlands	-0.04	0.10
South East	-.05	0.10
South West	**0.19***	**0.10**
Socio-demographic Variables		
Age 18-29 (Baseline)	0	
Age 30-39	0.09	0.07
Age 40-49	**0.23*****	**0.07**
Age 50 or older	**0.39*****	**0.07**
Female	0.01	0.04
Have a spouse with a pension	**0.10****	**0.04**
Income £15,000 or less (Baseline)	0	
Income £15,001-£25,000	0.07	0.06
Income £25,001-£40,000	**0.22*****	**0.06**
Income £40,001-£65,000	**0.27*****	**0.07**
Income £65,000 or more	**0.32****	**0.14**
Risk/Information Variables		
Pensions Info: Pension Specialist (Baseline)	0	
Pensions Info: Manager in Organisation	**-0.39*****	**0.11**
Pensions Info: Insurance Company	**-0.20*****	**0.06**
Pensions Info: A booklet	**-0.17*****	**0.06**
Pensions Info: Media	**-0.24*****	**0.10**
Pensions Info: The Internet	**-0.25****	**0.12**
Pensions Info: Bank Advisor	-0.09	0.06
Pensions Info: A Colleague or Relative	**-0.34*****	**0.10**
Income Expect: Don't Know (Baseline)	0	
Income Expect: 100% or more	0.18	0.10
Income Expect: 67%-99%	**0.28*****	**0.07**
Income Expect: 50%-66%	**0.22*****	**0.06**
Income Expect: 25%-49%	**0.25*****	**0.07**
Income Expect: Less than 25%	-0.02	0.09
Savings Risk	**0.26*****	**0.05**
Investment Risk (1-5)	-0.01	0.02
Relying on Another	**-0.14*****	**0.02**
Constant	2.28***	0.14
R^2	0.31***	
N =	758	

*** = p < 0.01; ** = p < 0.05; * = p < 0.1; OLS regression using robust standard errors.

Table 4A. Results of Logistic Regression for Respondents' Knowledge of an Annuity

Variable	*B (Log Odds)*	*Robust s.e.*	*Odds Ratio*
Geographic Regions			
London (Baseline)	0		
East Anglia	0.17	0.30	1.19
East Midlands	0.34	0.28	1.40
North East	0.37	0.30	1.46
North West	-0.04	0.33	0.96
Scotland	0.15	0.37	1.16
Wales	**0.64***	**0.29**	**1.90***
West Midlands	-0.03	0.28	0.96
South East	-0.24	0.33	0.78
South West	**0.58***	**0.33**	**1.80***
Socio-demographic Variables			
Age 18-29 (Baseline)	0		
Age 30-39	**0.42***	**0.24**	**1.53***
Age 40-49	**0.95*****	**0.25**	**2.60*****
Age 50 or older	**1.55*****	**0.25**	**4.72*****
Female	-0.15	0.16	0.86
Have a spouse with a pension	0.15	0.15	1.17
Income £15,000 or less (Baseline)	0		
Income £15,001-£25,000	0.31	0.20	1.37
Income £25,001-£40,000	**0.66*****	**0.22**	**1.95*****
Income £40,001-£65,000	**0.99*****	**0.26**	**2.70*****
Income £65,000 or more	**1.01****	**0.46**	**2.74****
Risk/Information Variables			
Pensions Info: Pension Specialist (Baseline)	0		
Pensions Info: Manager in Organisation	**-0.68***	**0.37**	**0.51***
Pensions Info: Insurance Company	-0.18	0.23	0.84
Pensions Info: A booklet	-0.25	0.19	0.78
Pensions Info: Media	-0.05	0.35	0.96
Pensions Info: The Internet	-0.27	0.47	0.76
Pensions Info: Bank Advisor	-0.03	0.21	0.97
Pensions Info: A Colleague or Relative	**-0.81****	**0.34**	**0.44****
Income Expect: Don't Know (Baseline)	0		
Income Expect: 100% or more	**1.03*****	**0.32**	**2.83*****
Income Expect: 67%-99%	**1.10*****	**0.22**	**3.02*****
Income Expect: 50%-66%	**1.09*****	**0.19**	**2.99*****
Income Expect: 25%-49%	**1.24*****	**0.24**	**3.44*****
Income Expect: Less than 25%	**0.60****	**0.29**	**1.82****
Savings Risk	**1.06*****	**0.19**	**2.88*****
Investment Risk (1-5)	0.08	0.06	1.09
Relying on Another (1-5)	**-0.23*****	**0.08**	**0.80*****
Likelihood ratio chi-square	233.61***		
N =	756		

*** = p<0.01; ** = p<0.05; * = p<0.1; ordinal logistic regression using robust standard errors.

Table 4B. Probabilities in the Ordinal Logistic Regression of Knowledge of Annuity

	Knowledge of An Annuity				
Significant Variable	**Very Poor**	**Poor**	**Fair**	**Good**	**Very Good**
Socio-demographic Variables					
Age 30-39*	-7.1%	-2.4%	+5.0%	+3.8%	+0.6%
Age 40-49***	**-.13.7%**	**-8.9%**	**+10.3%**	**+10.5%**	+1.8%
Age 50 or older***	**-19.0%**	**-17.8%**	**+13.1%**	**+19.7%**	+4.1%
Income £25,001-£40,000***	**-7.7%**	**-8.9%**	**+6.0%**	**+8.9%**	+1.8%
Income £40,001-£65,000***	**-9.9%**	**-14.3%**	**+6.8%**	**+14.3%**	+3.2%
Income £65,000 or more**	**-9.2%**	**-15.2%**	**+5.6%**	**+15.3%**	+3.6%
Risk/Information Variables					
Pensions Info: Manager i*	**+10.5%**	**+5.5%**	**-7.8%**	**-6.9%**	**-11.8%**
Pensions Info: Colleague or Relative**	**+14.2%**	**+3.5%**	**-9.5%**	**-7.1%**	**-11.4%**
Income Expect: 100% or more***	**-16.6%**	**-7.0%**	**+11.7%**	**+10.2%**	+1.7%
Income Expect: 67%-99%***	**-.17.1%**	**-8.3%**	**+12.2%**	**+11.2%**	+2.0%
Income Expect: 50%-66%***	**-13.4%**	**-13.2%**	**+10.1%**	**+13.8%**	+2.7%
Income Expect: 25%-49%***	**-.13.9%**	**-16.0%**	**+9.9%**	**+16.5%**	+3.5%
Income Expect: Less than 25%**	-9.9%	-3.6%	+7.1%	+5.6%	+1.0%
Savings Risk***	**-10.4%**	**-15.3%**	**+6.9%**	**+15.4%**	+3.5%
Relying on Another (1-5)	+2.7%	+2.9%	-2.2%	-2.9%	-0.5%

Strength of significance: *** = $p < 0.01$; ** = $p < 0.05$; * = $p < 0.1$

Table 5. Statistically significant correlates of pension planning; parameter signs, strength of significance, and consistency across the indicators of planning capacity

Independent Variable	**Pension Planning**		
	Importance	**Preparedness**	**Annuity**
Age**	+ve	+ve	+ve
Gender	-ve (w)	x	x
Income**	+ve	+ve	+ve
Replacement Rate**	x	+ve	+ve
Region of Residence**	x	+ve (w)	+ve (w)
Risk Tolerance	+ve	+ve	+ve
Spousal Entitlement	+ve	+ve	x
Reliance on Others	-ve	-ve	-ve
Information Source**	-ve	-ve	-ve

*Where (w) refers to statistical significance at the 0.10 level and x indicates no statistical significance; ** indicates that the variable is set against a base-case.