Increasing comprehension of investment pathways for retirement

Quantitative evidence from the UK

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THE BEHAVIOURAL INSIGHTS TEAM

PREDICTIV

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Executive Summary

Many consumers in the UK struggle to make informed decisions about when and how to use their pension savings. For consumers not receiving regulated financial advice, the FCA is considering whether to require pensions drawdown providers to offer a range of ready-made investment options ('investment pathways'). The aim is to help consumers who do not have high levels of engagement with their pension to select investments that are broadly in line with their financial objectives.

This report presents the results of a quantitative evaluation of three alternative presentations of the investment pathways against a minimal information baseline (control). Specifically, we tested the addition of detailed descriptions for each of the pathways (treatment 1), integrated splitting, where individuals are allowed to split their money across options (treatment 2), and the addition of a separate annuity option (treatment 3), given that prior qualitative work indicated consumers were struggling with an annuity being part of an objective about taking all your money from your pension.

The evaluation was conducted as an online experiment with UK adults, between 54 and 70 years old, who have at least one defined contribution pension. Our focus in the experiment is on comprehension. Specifically, we look at whether individuals can make an informed choice between the investment options for specific consumer use cases. We operationalise this by taking individuals through an online decision simulation on Predictiv where they go through a series of five consumer case studies (scenarios). In each scenario participants had to decide which investment pathway was most appropriate for the consumer presented. Participants could allocate the consumer's pension pot to one option or choose to split between different options. We measure comprehension as our primary outcome by calculating the proportion of correctly answered scenarios across treatments. In addition, we also have two secondary outcomes: the participant's understanding of key terms relating to the pathways, and the participant's choice of pathway that is appropriate for their personal circumstances.

We find that the detailed description (treatment 1) significantly increases comprehension by 4 percentage points. The other treatments have no statistically significant impact relative to the control. This overall effect hides variation in understanding across the scenarios. On the annuity scenario, all presentations, and especially the separate annuity option (treatment 3) significantly increase accuracy by as much as 47 percentage points relative to the control. However, on the non-annuity scenarios, the integrated splitting feature, which makes It easier to spread money across more than one option, (treatments 2 and 3) appears to negatively impact on the proportion of people making informed choices.

Based on these results, we make five recommendations for the FCA and drawdown providers. First, presenting a separate annuity option will help consumers who are clear they need an annuity make an informed choice. Second, integrated splitting should not be taken forward in the design of investment pathways. Third, further research and evaluation of the presentation of investment pathways should be

conducted to help consumers make an informed choice, particularly for non-annuity scenarios. Fourth, additional support should be provided for consumers with specific pension needs. Finally, alternative intervention options beyond information provision should be considered to assist consumers in making an informed decision, such as experiential learning.

01 / Introduction

Since 2015 consumers have more flexibility in how and when they access their pension savings. This includes consumers making decisions about their retirement and how the majority of their pension pots will be invested or used. Previous research by the Financial Conduct Authority (FCA)[i] suggests that many consumers struggle with these decisions and may be making poor investment choices as a result.

As a potential solution to this problem, the FCA suggests offering a small range of investment options to consumers who have not yet received financial advice. These 'pathways' would cover a small number of typical uses that a consumer might have for their pension pot and use elements from choice architecture to help consumers select options that are line with their financial objectives.

Prior to making further recommendations on the pathways, the FCA commissioned the Behavioural Insights Team (BIT) to evaluate different presentations on consumer's ability to make informed choices.

This report describes the results from an online experiment with 1,468 consumers aged between 54 and 70 years old with at least one defined contribution pension. The main focus of the experiment is to build quantitative causal evidence on how different presentations of the investment pathways affect comprehension. We measure comprehension in two ways. First, we look at whether people can apply the information they are given about the pathways when choosing an investment option in various consumer scenarios. Secondly, we look at how well consumers understand a series of key elements of the decision pathways, such as whether they can use their pension pots across different options and whether they are locked in once they have chosen a specific pathway.

The aim of this project is to understand whether consumers can make an informed choice between the pathways given the information provided. The results will inform a recommendation on the future design of the pathways as well as provide information to pension drawdown providers who are considering how to help consumers choose investment options at retirement.

The following chapters of the report cover the project background, the interventions that we evaluated, a detailed description of the experimental design and recruited sample, and a presentation of the results. We also review to what extent our results are generalisable beyond the sample in our study and discuss recommendations off the back of our results.

02 / Background

The Government's 2015 pension freedoms provided more flexibility in how and when consumers can access their pension savings. At the same time, the freedoms require consumers to make decisions about their retirement, including important decisions on how to invest their pension pots.

In June 2016, the FCA launched the Retirement Outcomes Review (ROR)[ii]. Its purpose was to assess how the market was evolving, to address any emerging issues that might cause consumers harm and to put the market on a good footing for the future. The review focused primarily on consumers who do not take regulated advice ('non-advised consumers') in decumulation (when consumers convert their savings into a retirement income), on the basis that those taking regulated advice receive support already. Regulated advice is not affordable or appropriate for everyone, and the review focused on those who will look to their pension provider or public sources for support and guidance around their retirement decisions.

The FCA report[iii] found that many consumers struggled to make investment decisions or were insufficiently engaged. This was leading to consumers either ending up in their drawdown provider's default option or making a poor investment choice because their drawdown provider didn't provide a solution that was easy to understand or navigate.

The FCA[iv] have suggested that offering non-advised drawdown consumers a small range of investment options ('investment pathways') – with carefully designed choice architecture – could be a fruitful way to help them select investments that broadly meet their objectives for their pot in retirement.

The idea behind the pathways is to prompt active choice between a small number of investment options. With the research on the pathways concluded, the FCA is consulting on making rules to require the high-level objectives of the pathways and having providers develop specific investment solutions for each pathway. This would result in an offering of a small number of ready-made drawdown investment solutions within a simple choice architecture. Note that the pathways are not intended to offer an optimal solution for consumers in every circumstance. Indeed, many non-advised consumers will want to take a more bespoke approach. For those consumers, firms may offer investment solutions outside of the scope of these objectives, but the pathways should be appropriate for most individuals.

The research informing the pathways was split into a qualitative and quantitative phase. The qualitative phase focused on formulating descriptions of the pathways in line with consumer objectives. The quantitative phase, for which BIT was commissioned, aimed to test specific variations of the presentation on comprehension of the material. Comprehension was seen as a critical measure to assess whether people could make an informed choice between the pathways given the information provided. We also collected descriptive information on how well the pathways fit with people's self-reported money needs.

03 / Interventions

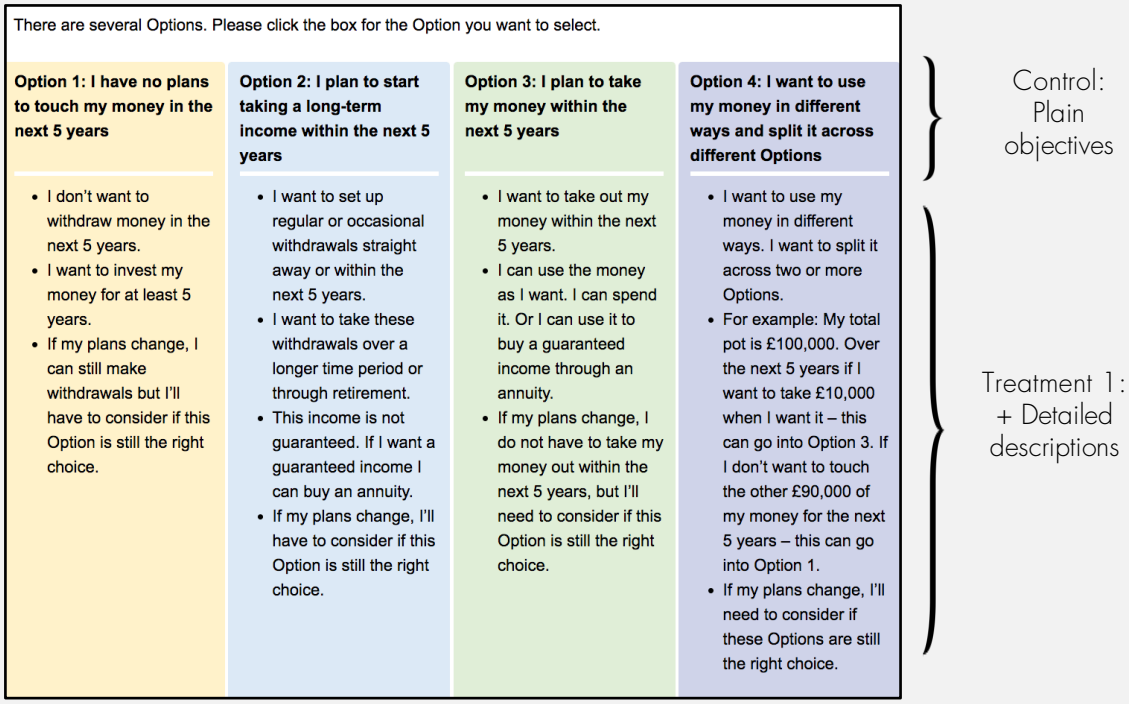
We are looking to evaluate whether alternative presentations of the investment pathways can support consumers making more informed choices about their pension pots. We compare three interventions against a 'plain objectives' control. The box below shows the control condition and treatment 1 visually. Screenshots of all four of the presentations can be found In Annex 1.

Control

In the control, individuals are presented with four options. Each option is described at a high level only (e.g., "I have no plans to touch my money in the next 5 years"). The fourth option in the set allows individuals to split their money. If this is selected, it opens a separate box underneath the main presentation where individuals can allocate their pot across options 1 through 3.

Treatment 1

Treatment 1 uses the same presentation as the control but gives individuals more detail on each of the options. Specifically, the detailed descriptions outline specific use cases that correspond with the specific options, such as not accessing money or wanting to invest it for at least 5 years. The evidence was mixed on how much detail to show for this decision-making context. Although the academic literature suggests simplification can lead to increased comprehension (and better decisions[v]), other research shows very low-levels of consumer understanding on decumulation options[vi].



Treatment 2

The second treatment uses a similar interface to treatment 1, providing both the plain objectives and the detailed descriptions. However, instead of presenting individuals with a separate splitting option, splitting is integrated into the main presentation. Specifically, individuals immediately see that they can split their money and are asked how much of their pot they want to allocate to that option. They can also allocate their full pot to one option by selecting "I want to allocate all of my money to this Option" or enter a value that equals their full allowance. This treatment is informed by insights from qualitative research for this project which found some confusion when the splitting was presented as a fourth option. This presentation is shown in the box below. Note that for this treatment, only three options were presented with integrated splitting.

Treatment 3

Finally, treatment 3 adds an additional option by splitting out the annuity use case separately (i.e., "I plan to set up a guaranteed income (annuity) within the next 5 years"). In the other treatments, this option is incorporated under option 3 ("I plan to take my money within the next 5 years", with annuity mentioned as part of the detailed description). This means that there are four options to choose from in this treatment, compared to three options in the others. This treatment was informed by insights from the qualitative research for this project, which found participants were struggling to

connect an annuity to the option which is about taking all the money out of the pension. By separating it out as an option, we make the annuity option more salient, which should make it easier for individuals to identify it. Note that for this treatment, four options were presented with integrated splitting and consequently, the Option 4 text for Treatment 3 differs to the Control and Treatment 1.

Treatment 3:
+ Separate annuity option

There are several Options. You can choose to put all of your money in one of these Options, or you can split your money across two, three or four Options.

Option 1: I have no plans to touch my money in the next 5 years	**Option 2: I plan to set up a guaranteed income (annuity) within the next 5 years**	**Option 3: I plan to start taking a long-term income within the next 5 years**	**Option 4: I plan to take my money within the next 5 years**
• I don't want to withdraw money in the next 5 years. • I want to invest my money for at least 5 years. • If my plans change, I can still make withdrawals but I'll have to consider if this Option is still the right choice.	• I want to buy an annuity within the next 5 years. • I want a guaranteed income for life or a set period. • Once you buy an annuity you cannot usually change your mind.	• I want to set up regular or occasional withdrawals straight away or within the next 5 years. • I want to take these withdrawals over a longer time period or through retirement. • This income is not guaranteed. If I want a guaranteed income I can buy an annuity. • If my plans change, I'll have to consider if this Option is still the right choice.	• I want to take out all my money within the next 5 years. • If my plans change, I do not have to take all my money out within the next 5 years, but I'll need to consider if this Option is still the right choice.
☐ I want to allocate all of my money to this Option	☐ I want to allocate all of my money to this Option	☐ I want to allocate all of my money to this Option	☐ I want to allocate all of my money to this Option

You can split across two, three or four Options. Note that the amount you allocate across Options must add up to the total you have. Use the text box to type the amount you want to allocate. Change the amount using the + and – buttons.

I want to allocate + £ [ ] – to this Option.	I want to allocate + £ [ ] – to this Option.	I want to allocate + £ [ ] – to this Option.	I want to allocate + £ [ ] – to this Option.

For example: My total pot is £100,000. If I plan to take out £10,000 over the next 5 years, then I can put this amount in Option 4. If I don't want to touch the other £90,000 of my money for the next 5 years – this can go into Option 1.

Treatment 2:
+ Integrated splitting

04 / Trial design and implementation

Rationale of the trial design

We are evaluating the effectiveness of the alternative pathway presentations by looking at whether people can make an informed choice about their pension pots. This is difficult to measure in a practical context for two main reasons. First, individuals could choose a specific pathway for reasons other than (lack of) comprehension, such as risk tolerance. Second, previous FCA research[vii] indicated that hardly any consumers considered what to do with the remainder of the pot. We are thus looking for a more direct measure of whether consumers have understood the information in the pathways and can use it when choosing how to allocate the money in their pension pot.

Rationale of an online experiment

We wanted to rigorously evaluate the alternative presentations at an early stage in the design process, before they go out to consumers as a real investment choice. Consequently, we chose a Predictiv online experiment to generate quantitative causal evidence on how different presentations of the pathways affect comprehension.

Predictiv online experiments

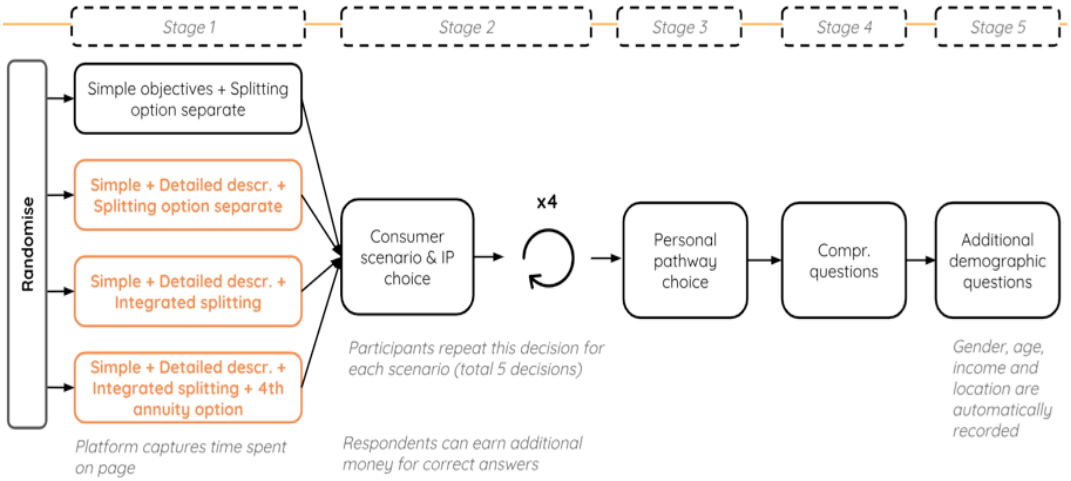
Predictiv (www.predictiv.co.uk) is an online research platform that was built by the Behavioural Insights Team to run randomised controlled trials with online populations. It enables governments and other organisations to test new policies and interventions before they are deployed in the real world.

Predictiv provides access to millions of individual participants in over 60 countries, and has the functionality to run a range of online experiments. This includes applied comprehension tests, as used in this report, where individuals are asked to apply information in a context that is relevant to them. Various academic studies show that the results from simulated decision environments closely match behaviour outside the test environment.

Predictiv online tests are a valuable addition to a methodological toolkit: they offer a high degree of flexibility to test different ideas; can deliver results within short timeframes; and provide quantitative, causal evidence on which ideas are most promising for changing behaviour.

In the experiment, individuals of the target population were taken through a simulation where they were presented with the investment pathways and asked to make a choice for a series of consumer scenarios. This allowed us to have an objective measure of whether someone was able to choose the appropriate pathway. Individuals in the experiment were randomly allocated to a different presentation of the pathway, which allowed us to establish their causal impact on comprehension.

Experiment design



The experiment was conducted entirely online using the Predictiv platform.

Stage 1. After a series of screening questions, eligible participants were randomly assigned to see one of the four investment pathway presentations. This presentation was accessible to the participant in stages 2 and 3 of the experiment.

Stage 2. Participants were given information on a specific consumer scenario and asked to choose the pathway that was most suitable for that consumer. Participants completed this task for all 5 consumer scenarios (see Table 1), which were presented in random order. Participants saw the same treatment (presentation of investment pathways) for each of the 5 scenarios. The proportion of correctly answered scenarios was our primary outcome, used as a measure of comprehension. We chose to use 5 scenarios instead of one to increase the power in our experiment. Using this design and a reasonable assumption of a standard deviation of 1.5 (on a 5-point measure), the minimum detectable effect size (MDES) was 5.94 percentage points across treatments. We feel that this made the trial sufficiently powered.

Stage 3. Participants were asked about the current size of their personal pension pot, reported their financial needs regarding their pension and then made the pathway choice for themselves. We used this as a measure of the distribution of personal preferences across treatments.

Stage 4. Participants completed four short questions about key terms or elements of the pathways decision mentioned in the pathways. These questions also measured

comprehension, used as a secondary outcome by calculating the number of correct answers.

Stage 5. Participants answered some additional demographic questions (see annex for details). These were included as covariates in our analyses.

Table 1: Consumer scenarios and correct responses

Scenario:	Correct pathway	Rationale
Charlie is 57 and loves his job. He has a pension pot of £75,000. He plans to continue working full time until he is at least 67, when he'll fully retire. He has no immediate plans to dip in to this pension pot before reaching 67.	Option 1	
Deborah is 64 and is working part time. She has a pension pot of £40,000. She plans to fully retire in two years. She has other pensions, but doesn't think they will give her enough money in retirement. She plans to use this pension pot as well as her other pension income in retirement. She wants this money to last for as long as possible, but doesn't want to get locked in to an annuity.	Option 2 (option 3 in treatment 3)	Although she doesn't say she wants a regular income, she needs the money to last and will start taking income next year.
Dinti is 62 and is looking forward to finishing work next month. She has a pension pot of £30,000. She also has a final salary pension she can start taking when she is 65, so wants to use this pension pot to keep her going until then. She wants to take regular withdrawals from this pension pot over the next few years for living expenses. She thinks she is likely to use all this pension pot by the time she retires.	Option 3 (option 4 in treatment 3)	Although she says she wants regular withdrawal she only wants a short term rather than long term income.
Graham is 55. He has a pension pot of £30,000. He is still working. He doesn't think he'll be able to retire until at least 65. Next year he plans to visit family in Australia, and estimates he will use about £10,000 from this pension pot to pay for that. But he has no other plans to dip into this pot before he retires.	Split between Options 1 and 3 (in treatment 3, options 1 and 4).	
Harriet is 61 and hoping to retire at 64. She has a pension pot of £80,000. She likes the security of a guaranteed income. She's heard about an annuity and thinks she'll use her money to buy one when she retires.	Option 3 (option 2 in treatment 3)	She is likely to purchase an annuity within the next five years

Recruitment and eligibility

We targeted consumers that could be presented with the investment pathways in practice. Specifically, we recruited individuals between 54 and 70 years old who had at least one defined contribution pension. In addition, we aimed to recruit individuals who had not received regulated advice (non-advised consumers) or who had received this more than five years ago. Finally, we also aimed to maintain a UK nationally representative sample based on gender, location and household income.

Predictiv has access to over 200,000 adults in the UK, who are profiled on gender, age, income and location (NUTS level, e.g., South East England). In addition to these standard criteria we used a set of bespoke screening questions to capture whether someone has a defined contribution pension and if they had previously received regulated advice. The full set of screening questions are included in the annex.

Sample

We collected 1,468 responses between 25 October and 13 November 2018. Our original target for this study was 1,800 respondents. However, this was not feasible given the strict screening criteria and timeframe. Participants took an average of 14 minutes to complete the experiment and were financially compensated for their time. In addition, they could earn additional money by choosing the correct investment pathway for each of the consumer scenarios.

Tables 2 and 3 provide a breakdown of the demographic characteristics of the 1,468 individuals in our sample. Our sample is broadly in line with ONS data, with an equal proportion of men and women and the average age is 60.4 years old. Roughly 51% have a household income of less than £25,000 and 18% earn more than £45,000 per year. Roughly 36% of participants have post-secondary or vocational training and 27% have completed college. All regions in the UK are present in our sample in line with ONS statistics. On average, respondents report having a financial knowledge score of 5.26, where 0 is not knowledgeable at all and 10 is very knowledgeable. On risk preferences in financial matters, participants are leaning towards the risk averse side of the spectrum, with an average score of 3.22, where 0 is 'unwilling to take risks' and 10 is 'fully prepared to take risks'. We believe this is representative of usual financial risk preference for this age group. Previously, modal scores on this scale have been estimated at approximately 5 (ranging between 2 and 8), though older ages were associated with lower risk preference.

On characteristics regarding pensions, most respondents have money remaining in their pension pots; 20.5% report that they do not know the size of their pension. 55.2% of respondents are accumulating pensions, 21.4% are decumulating, and 11.9% are doing both. Regarding financial advice, the majority of respondents (68.7%) have never received advice and 20.1% received it more than five years ago. A total of 4.5% of respondents received regulated advice within the last year.

Table 2: Breakdown of recruited sample on basic demographics

	Control	Treatment 1	Treatment 2	Treatment 3
Gender				
Female	222 (51.9%)	190 (49.1%)	175 (48.3%)	142 (48.8%)
Male	206 (48.1%)	197 (50.9%)	187 (51.7%)	149 (51.2%)
Age				
Average (st. dev)	60.3 (4.62)	60.1 (4.63)	60.3 (4.87)	60.8 (4.51)
Household income				
< £25k	221 (51.6%)	204 (52.7%)	186 (51.4%)	133 (45.7%)
£25k - £44,999	133 (31.0%)	105 (27.1%)	116 (32.0%)	111 (38.2%)
> £45k	74 (17.3%)	78 (20.2%)	60 (16.6%)	47 (16.2%)
Location (NUTS)				
London	34 (7.9%)	34 (8.8%)	27 (7.5%)	29 (10.0%)
North	105 (24.5%)	84 (21.7%)	82 (22.7%)	68 (23.4%)
South & East	159 (37.2%)	142 (36.7%)	120 (33.2%)	90 (30.9%)
Midlands	63 (14.7%)	68 (17.6%)	63 (17.4%)	56 (19.2%)
Wales, Scotland & Ireland	67 (15.7%)	59 (15.3%)	70 (19.3%)	48 (16.5%)
Education (highest attained)				
None	13 (3.0%)	6 (1.6%)	6 (1.7%)	4 (1.4%)
GCSE	145 (33.9%)	141 (36.4%)	130 (35.9%)	94 (32.3%)
A-level	80 (18.7%)	69 (17.8%)	63 (17.4%)	56 (19.2%)
Vocational	77 (18.0%)	70 (18.1%)	65 (17.9%)	53 (18.2%)
Undergraduate	65 (15.2%)	65 (16.8%)	55 (15.2%)	57 (19.6%)
Prof. qualification	19 (4.4%)	17 (4.4%)	24 (6.6%)	9 (3.1%)
Postgraduate	29 (6.8%)	19 (4.9%)	19 (5.3%)	18 (6.2%)
Financial knowledge (0 = Not at all knowledgeable; 10 = Very knowledgeable; note: 'Don't know' excluded)				
Average (st. dev)	5.16 (2.39)	5.27 (2.34)	5.25 (2.38)	5.42 (2.34)
Risk preference (0 = Unwilling to take risks; 10 = Fully prepared to take risks)				
Average (st. dev)	3.18 (2.57)	3.26 (2.50)	3.38 (2.61)	3.54 (2.68)
Total N	**428**	**387**	**362**	**291**

Note. All demographics in this table were balanced across treatment groups (see Annex 2 for significance values)

Table 3: Breakdown of the recruited sample on pension characteristics

	Total sample
Size of remaining pension	
Under £5,000	213 (14.5%)
£5,000 - £9,999	71 (4.8%)
£10,000 - £14,999	56 (3.8%)
£15,000 - £19,999	50 (3.4%)
£20,000 - £29,999	105 (7.2%)
£30,000 - £49,999	171 (11.7%)
£50,000 - £74,999	109 (7.4%)
£75,000 - £99,999	89 (6.1%)
£100,000 - £124,999	77 (5.3%)
£125,000 - £149,999	34 (2.3%)
£150,000 - £174,999	27 (1.8%)
£175,000 - £199,999	18 (1.2%)
£200,000 - £249,999	30 (2.0%)
£250,000 - £499,999	37 (2.5%)
£500,000 - £749,999	14 (1.0%)
£755,000 - £999,999	1 (0.1%)
£1,000,000 or more	4 (0.3%)
Don't know	301 (20.5%)
Prefer not to say	61 (4.2%)
Proportion in accumulation/decumulation	
Accumulation only	810 (55.2%)
Decumulation only	314 (21.4%)
Both	175 (11.9%)
Other	169 (11.5%)
Previously sought IFA advice	
Never	783 (53.3%)
Never, but I intend to	226 (15.4%)
More than 5 years ago	295 (20.1%)
Between 3-5 years	41 (2.8%)
Between 1-2 years	57 (3.9%)
Less than 1 year	66 (4.5%)

Finally, we assess the drop-out rate of participants across the treatments, which is summarised in table 4. We find significant differences across treatments. Specifically, retention is lower in treatments 2 and 3 compared to the control condition ($p<0.001$).

Differential attrition can make it more difficult for us to be confident that our randomisation to treatments was successful. In other words, it could be that specific types of individuals choose to drop out, which can influence our comprehension score measure. This means that the comprehension score in a given treatment could be

affected by the pathway presentation, but also by the types of people that have decided to remain in the experiment.

To address this concern, we run a series of balance checks to assess the composition of our sample on observables across treatments. On our covariates of age, gender, income, education level, location, financial knowledge and risk preferences we do not find that participants differ across treatments on these characteristics. However, in the control condition we find more individuals who received advice more than 5 years ago or have never received advice compared to individuals in the treatment conditions. This is statistically significant for treatments 1 and 3, and weakly significant (p=0.10) for treatment 2 (see Annex 2 for full *p* values). This finding suggests that the differential drop out we observe across treatments could be correlated with the recency with which people have received advice, with people who received advice less recently being less represented in our treatment groups.

Given this finding, we look at how comprehension differs between individuals who never received advice, or who received it long ago, and those who received it more recently. We find no significant differences, neither in the control or in any of the treatments. This makes us more confident that differences in comprehension that we observe across treatments are not driven by the imbalance in our sample on whether someone has received advice. The main analyses in this report are also run with regressions that control for the full set of demographic characteristics, including whether the participant has previously received advice.

Table 4: Completion rate across treatments

	Started and saw treatment	Completed	Completion rate
Control: Simple objectives + splitting option separate	493	428	86.82%
Treatment 1: Simple objectives + Detailed description + Splitting option separate	469	387	82.52%
Treatment 2: Simple objectives + Detailed description + Integrated splitting	475	362	76.21%
Treatment 3: Simple objectives + Detailed descriptions + Integrated splitting + 4th annuity option	395	291	73.67%
Total	1,832	1,468	80.13%

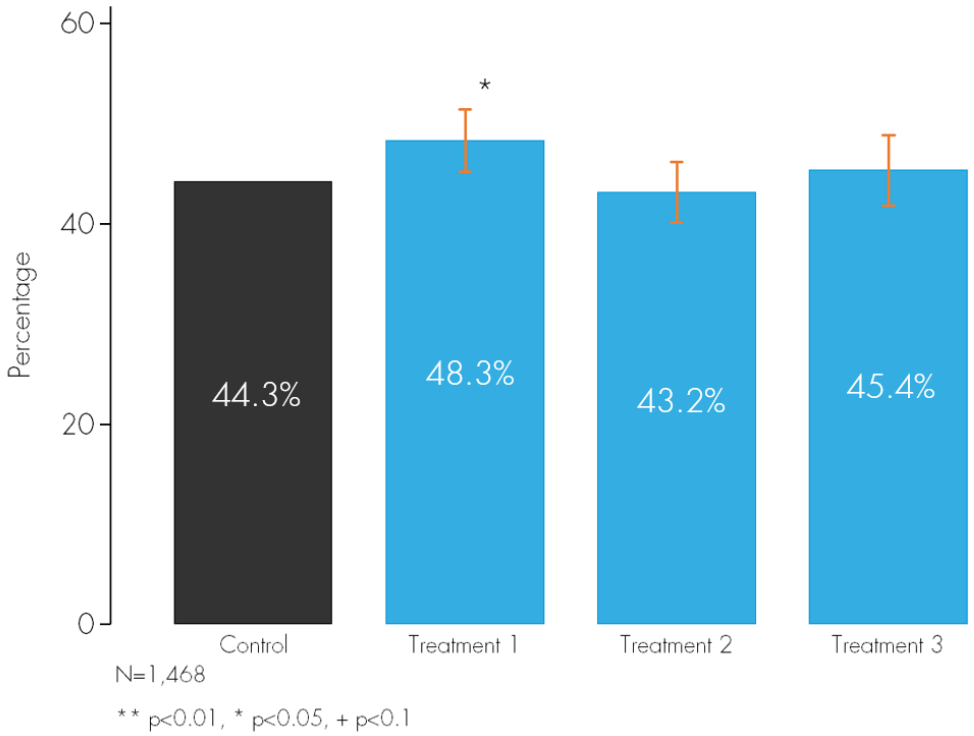
05 / Main findings

Our main findings focus on comprehension of the pathways. Our primary outcome was measured as the proportion of correct answers across the scenarios. Our secondary outcome of comprehension represents understanding of key terms relating to the pathways, measured using four questions. All reported results are based on ordinary least squares (OLS) regressions with demographic controls and robust standard errors. These outputs can be found in the annex.

Primary outcome: Comprehension of investment pathways

Figure 1 shows the proportion of correctly answered scenarios across treatments. If respondents selected randomly, we would expect that on average, they would answer 1.25 scenarios correctly in the control, treatment 1 and treatment 2, and 1 scenario correctly in treatment 3. On average, participants in the control condition answer 44.3% of the scenarios correctly (roughly 2 out of 5). We find a statistically significant increase between the control and treatment 1 (a 4 percentage points increase to 48.3%). There are no statistically significant differences between the control and treatment 2 (43.2%) or treatment 3 (45.4%). For this reason, we conclude that on our primary outcome variable, adding detailed descriptions over just the plain objectives improves understanding of the investment pathways. The other interventions, namely integrating the pot splitting (treatments 2 and 3) and separating the annuity option (treatment 3) do not appear to help people choose the appropriate pathway for various pension use cases.

Figure 1: Proportion of correct answers across treatments



These overall comprehension results hide interesting variation across treatments for the different scenarios. These results are summarised in table 5.

Table 5: Proportion of correct answers across consumer scenario and intervention

	Control	T1	T2	T3
Proportion with correct answer (%)				
Scenario 1: Charlie	81.3%	77.9%	80.6%	69.2%*
Scenario 2: Deborah	46.5%	48.0%	41.6%	44.1%
Scenario 3: Dinti	53.5%	50.7%	41.9%*	36.4%**
Scenario 4: Graham	22.7%	21.6%	16.2%*	12.7%**
Scenario 5: Harriet	17.5%	43.4%**	35.7%**	64.7%**
Overall accuracy	42.8%	41.7%	42.9%	45.7%

Note. *** p<0.001, ** p<0.01, * p<0.1 in comparison to control.

For the annuity scenario (number 5 – Harriet) there are stark treatment differences on the proportion of correct choices. In the control, the proportion is 17.5%. This increases significantly across the treatments, to 43.4% (treatment 1), 35.7% (treatment 2) and 64.7% (treatment 3). This supports the notion that treatment 3 is helping people choose the correct pathway for the annuity use case. However, the detailed description (treatment 1) also appears to be having a significant effect. Taken together, this suggests that the separate annuity option in treatment 3 has an added effect on comprehension for the annuity use case.

On the non-annuity scenarios, with the exception of scenario 2, it appears that treatment 3 has a negative effect on the proportion of correct answers. Treatment 2 also appears to have a negative impact of comprehension for two out of the five scenarios. Taken together with the results mentioned above, this suggests that the integrated splitting feature may have an adverse impact on people's understanding of the investment pathways on non-annuity scenarios. We are not able to conclusively say whether there is an added negative effect of the additional option (treatment 3) over and above the integrated splitting feature (treatment 2).

Another point of interest in this analysis is that the significantly positive impact on overall comprehension by treatment 1 appears to be mainly driven by the annuity scenario (scenario 5). On this scenario we see a significant increase in comprehension, whereas treatment 1 does not do better than the control on the other scenarios. While the detailed descriptions do provide more information than the simple objectives in the control, it is worth reflecting on how the information provision can be further improved to help people make informed choices for use cases where an annuity is not necessarily the best choice.

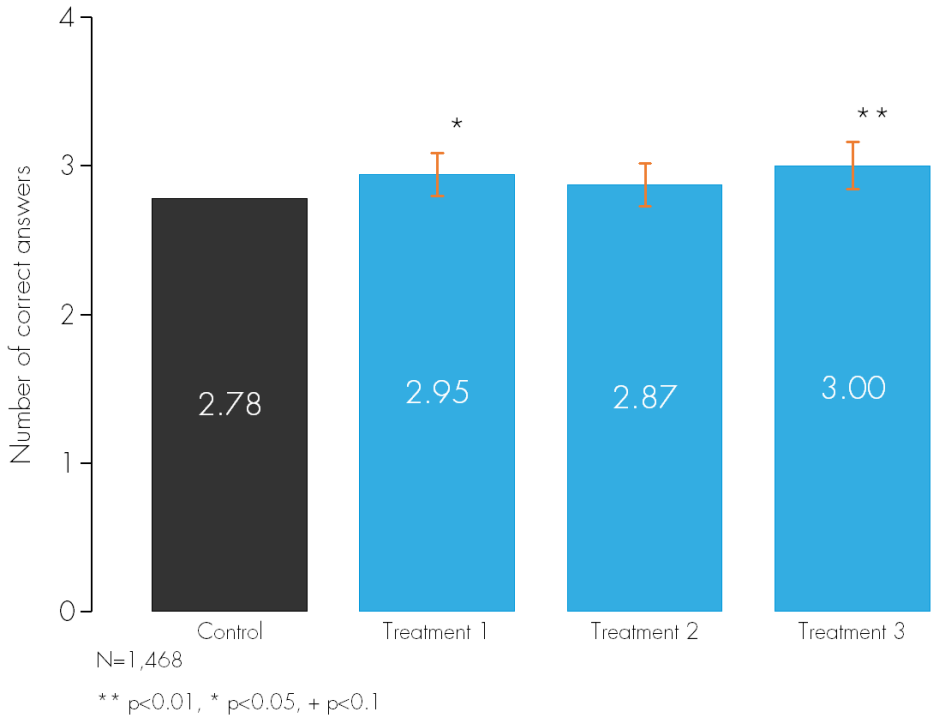
Finally, we find significant differences in accuracy across the scenarios, suggesting that certain scenarios are more difficult for participants than others. Specifically, our results suggest that the scenario about Charlie (continuing to work and not using his pension pot) is easiest for participants. On the other end of the spectrum, the scenario

of Graham (using a portion of the money now and leaving the rest untouched), where it is best if respondents split their money across options, appears to be the most difficult. These findings imply that consumers with more complex personal circumstances would benefit from more assistance from drawdown providers. However, as this is an online experiment and there are considerations of external validity (see section below), we should concentrate on relative differences between the control and the treatment groups rather than absolute levels.

Secondary outcome: Comprehension of key terms

Figure 2 shows the treatment effects on the understanding of key terms across 4 questions (see Annex 1 for the text of the questions). We find a statistically significant increase in comprehension scores for treatments 1 and 3, compared to the control (2.95 and 3.00, respectively, compared to 2.78). This effect appears to be mainly driven by participants' understanding about whether they can change their minds after choosing a pathway (a 10-12 percentage point increase), and whether an income from a pension is always guaranteed (a 7-14 percentage point increase). Interestingly, both of these questions relate to the annuity scenario, where it is not possible to change your mind once you buy an annuity and which does guarantee an income. It appears that the detailed descriptions and the separate annuity option have a positive effect on the participant's understanding of these key terms.

Figure 2: Comprehension of key terms



06 / Additional findings

We also report on additional analysis[viii] about subgroup effects (this is explicitly exploratory analyses), individual preferences and choices that participants made when choosing for themselves, as well as learning effects. As with the main analysis, the corresponding regression outputs can be found in the annex.

Exploratory analysis: Comprehension by demographic subgroups

We explored differences across demographic subgroups for interest and due to the small sample size across treatments, we interpret these findings with caution. Firstly, participants were categorised according to the status of their pension into one of four groups based on whether their pension was in accumulation only, in decumulation only, in both accumulation and decumulation, or 'other' (any participant not qualifying under the first three groups). This pension status variable was included in the model used for primary analysis investigating comprehension across the five scenario questions. We find no significant evidence that comprehension scores differ across the four subgroups, though comprehension was directionally higher for those in decumulation relative to accumulation.

Secondly, participants were categorised according to whether they had a degree (undergraduate, postgraduate or professional qualification) or not. We find that understanding was 6.2 percentage points higher on the scenarios and 29.7 percentage points higher on key terms for those with a degree compared to those without ($p<0.001$).

Lastly, we categorised participants based on their self-reported financial knowledge, where one group was below the median and the other group was above the median. Those categorised as 'above the median' rated themselves between 7-10 on a scale of financial knowledge, where 0 is 'not at all knowledgeable' and 10 is 'very knowledgeable'. The remainder of participants were categorised as having low self-reported financial knowledge. We found that those with self-reported financial knowledge above the median scored 5.3 percentage points higher on the scenarios and 19 percentage points higher on the key terms ($p<0.001$ and $p=0.001$, respectively). There is no evidence that comprehension of the annuity scenario differed between those with high and low self-reported financial capability.

Individual preferences over investment pathways

Participants were asked to indicate their requirements for their own pension by selecting from a list of 10 needs. Participants were invited to select all the needs that applied to them and they could select as many as they wanted.

Table 6 below shows the distribution of the number of self-reported needs. The vast majority (71.25%) of participants selected only 1 need for their personal pension, with

individuals declaring two needs accounting for 15.7%. No one selected more than 5 needs.

Table 6: Distribution of the number of self-reported needs across the sample

	Total sample
Number of needs identified	
0	58 (4.0%)
1	1046 (71.3%)
2	230 (15.7%)
3	101 (6.9%)
4	22 (1.5%)
5	11 (0.8%)

Figure 3 shows the frequency with which specific needs were mentioned. Providing a guaranteed income was the requirement most frequently selected by participants in relation to their own personal pension (29.8%), followed by being able to access their pension flexibly (20.8%).

Figure 3: Distribution of self-reported needs

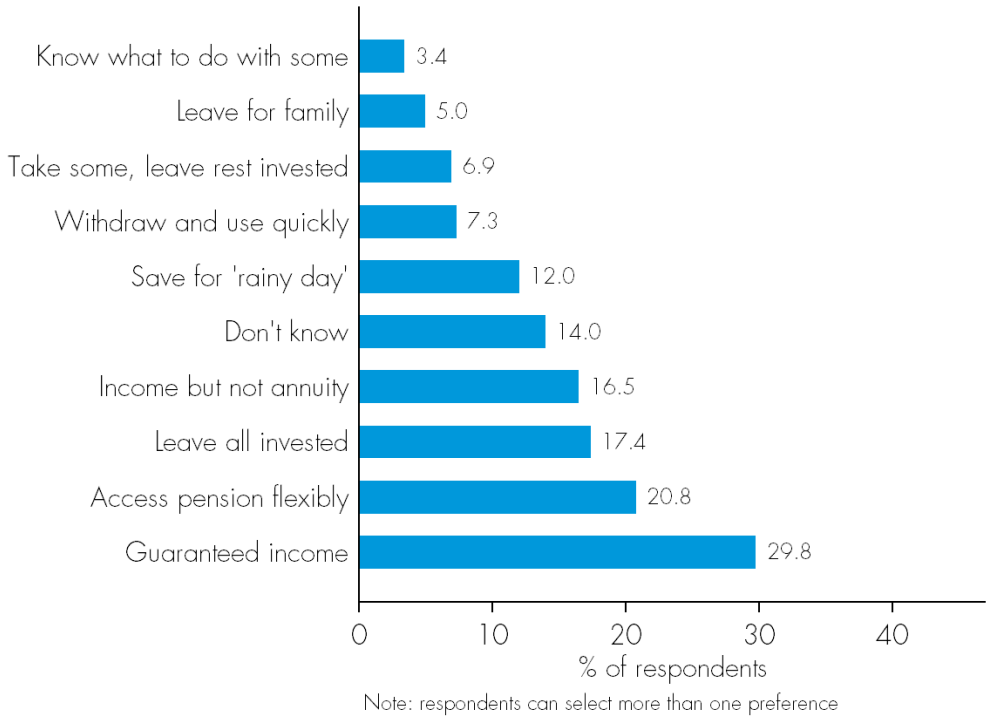


Table 7 below shows the distribution of choices across options when participants were asked to decide what they would do with their personal pension. Note that people who do not know the size of their pension pot or declined to declare are excluded here. There is little difference in the percentage of people choosing each option across treatment groups. Supporting this, a regression analysis found no evidence of a

difference in the proportion of participants choosing to split their personal pension across treatment groups.

Interestingly, 437 (29.8%) of people selected a guaranteed income as their preference. However, only 240 (16.3%) chose the corresponding option for a guaranteed income. There are different reasons why people may indicate a guaranteed income as a need and decide differently (e.g., having a high tolerance for risk; having certain beliefs about the security of different investment options). However, it would be fruitful for future work to examine the extent to which this discrepancy is due to lack of comprehension and, if so, how this can be remedied.

Table 7: Distribution of pathway choices and pension pot allocations across options

	Control	T1	T2	T3
Distribution across choices				
A : I have no plans to touch my money in the next 5 years	143 (33.4%)	121 (31.3%)	129 (35.6%)	85 (29.2%)
B : I plan to start taking a long-term income within the next five years	76 (17.8%)	70 (18.1%)	68 (18.8%)	35 (12.0%)
C: I plan to take my money within the next 5 years	68 (15.9%)	67 (17.3%)	68 (18.8%)	37 (12.7%)
D: I plan to set up a guaranteed income (annuity) within the next 5 years				40 (13.8%)
Proportion splitting (more than 1 option)	141 (32.9%)	129 (33.3%)	97 (26.8%)	94 (32.3%)
Distribution of personal pension across options when splitting (%)				
Proportion allocated to A: 'no plans to touch'	60.3%	39.6%	43.3%	25.2%
Proportion allocated to B: 'long-term income'	20.7%	36.2%	28.1%	15.8%
Proportion allocated to C: 'take within 5 years'	19.0%	24.1%	28.6%	28.2%
Proportion allocated to D: 'set up an annuity'				30.8%

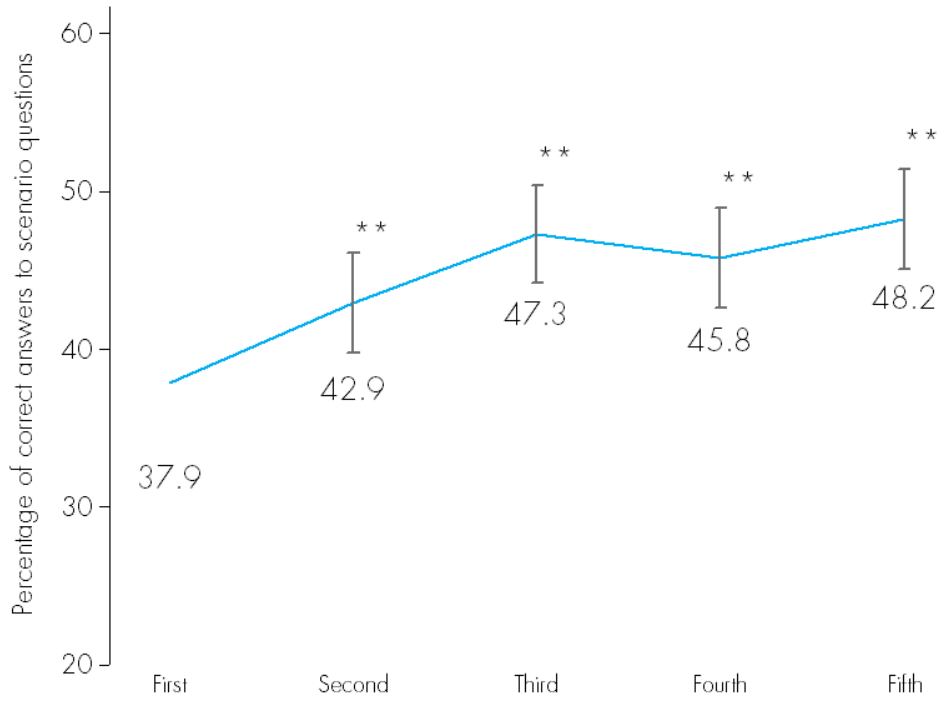
Learning effects

Participants in the experiment went through five consumer scenarios in random order. For this reason, it is interesting to look at learning effects. In other words, do individuals get better at making choices over the pathways as they review more material?

Figure 4 shows learning effects across the order of scenarios. Compared to the scenario presented first, we see a positive and significant increase in accuracy as participants go through more scenarios and this effect is relatively large. By the third scenario, respondents are 9.4 percentage points more likely to identify the correct pathway compared to their accuracy on the first scenario, which increases slightly by the fifth scenario to 10.3 percentage points. Note that we did not give respondents feedback as they went through the scenarios, which suggests that participants are learning more about the pathways as they read through more consumer scenarios. Interestingly, the learning effect between the first and fifth scenario well exceeds the impact of our most successful intervention (the difference between treatment 1 and the

control is 4 percentage points). In terms of how this impacts our overall results, we find that treatment 1 is still significantly better than the control condition after controlling for order and scenario effects. These results indicate that it may be useful for drawdown providers to provide illustrative case studies alongside the pathways options.

Figure 4: Proportion of correct answers across scenario order



07 / External validity

An important consideration for our study is to what extent the results can be generalised to individuals beyond those who participated in the experiment. In other words, how can we feel confident that our findings on informed choice and the impact of the detailed descriptions and separate annuity option hold for people receiving these options in the real world.

First, we are confident in the robustness of our results because we tested the pathway presentations with a large sample. Through the Predictiv platform, we recruited nearly 1,500 individuals from the target population, which is much larger than what is feasible with most other research methods, such as structured interviews or focus groups. This large sample allows us to evaluate the causal impact of the pathway presentation through the method of a Randomised Controlled Trial (RCT), which means we can be confident that observed differences in comprehension are driven by the treatment rather than any other factors. As a result, we can be confident that the relative differences we observe are generalisable beyond the individuals who participated in the experiment.

Secondly, we recruited a targeted sample for our experiment that includes consumers that could receive the investment pathways in practice when deciding how to invest their pension pots. Specifically, this includes individuals on a defined contribution pension between 54 and 70 years old. These sampling techniques increase the external validity of our results. A small caveat here is that due to the restrictive sampling criteria we had to include individuals in our study that had previously received regulated advice. Specifically, 11% of our sample had received advice less than five years ago. However, we did not find that primary comprehension levels differed significantly between those who had previously received advice and those who had never received it. In addition, our main results on the impact of the pathway presentations hold when taking into account whether someone received advice or not. This suggests that including consumers who received advice within the last five years did not change our results about which presentation was most effective.

Third, we feel confident that we have generated reliable data on comprehension and choices by having individuals interact with the material in a way that approximates how they would do so in practice. Specifically, they had the option to review the pathway information on their own terms, taking as much or as little time as they wanted, and they made their decision privately, without the advice or encouragement of another person. There is increasing evidence that results from such simulations closely map to behaviour outside of the experiment, including academic research on voting[ix], credit card repayment decisions[x], and anti-social behaviour such as fare-dodging in public transport[xi] and accepting bribes[xii].

For the reasons stated above, we believe the results from this trial have good external validity. However, there are two main caveats that are worth highlighting.

A first caveat is that individuals in the experiment were more likely to drop out when they were assigned to the integrated splitting and separate annuity presentation

compared to the simple objectives (control) condition. Balance checks show that our sample is balanced on observable characteristics with the exception of the variable that captures whether the participant previously received regulated advice. Specifically, compared to the control condition, the treatment groups have fewer participants that have never received advice or received it longer ago. While additional analysis does not support that this has an adverse impact on our headline findings, the higher dropout rates in the treatments could be seen as a proxy for engagement. If consumers who have not received financial advice (the intended target group for the pathways) do indeed find it more difficult to engage with the pathways, then they may benefit from additional assistance when making decisions about their pensions.

It is important to emphasise that further testing is encouraged and may be necessary depending on how the design of the pathways develops and how they will be implemented in practice. It is possible that new design elements may be introduced, such as sequencing people through the pathway choices rather than presenting all the information at once, which can impact decision quality. Secondly, it could be that the way the pathways are implemented in practice differs in important ways from how we operationalised this in our experiment. For example, if it is reasonable that individuals in practice will spend significantly more time reviewing the pathways or will discuss their choice with another person before making a decision, then choice outcomes could be different. Indeed, our findings on learning show that mere exposure to additional scenarios and pathway information improves comprehension. If these elements fundamentally differ from how the pathways are implemented in practice, then it could be worthwhile running additional experiments to evaluate the impact of these changes.

Finally, a third caveat is that we are using the methodology of an online experiment to evaluate the relative effectiveness of our interventions. In other words, we want to be careful interpreting comprehension in absolute terms and extrapolating this to actual pension decisions ("x% of people making this decision in practice would get this right"). While the simulation aims to stay close to the practical decision environment that people would face, there can be differences that affect comprehension levels in absolute terms. For example, if people are making a real decision about their lifetime savings, they may spend more time reviewing the material than most individuals in our experiment. Equally, it could be that attention levels of the participants in the experiment are lower than in practice. While we are incentivising accurate good decisions, participants are not making a decision about their actual retirement money. In practice, such high stakes could increase attention levels, and thus comprehension. While this would not change our findings that the detailed descriptions were more effective than the simple objectives presentation, it could affect the absolute proportion of people making an informed choice (e.g., shifting it from 50% to 60% or less). Additional experiments that take account of these decision factors, especially experiments that are implemented using actual decisions, can provide more definitive conclusions on whether comprehension is 'sufficient' in absolute terms.

08 / Recommendations

In this project we tested interventions that aimed to increase the proportion of individuals that can make informed decisions about pension investments. Based on the experimental results, we recommend the following.

1. For consumers who are clear that they need an annuity, presenting detailed descriptions and a set of pathway options with a separate annuity option will help consumers make an informed choice about this use case

Particularly on the annuity use case, we find that the detailed descriptions significantly increase the likelihood that people can make an informed decision compared to the low-information baseline. In addition, the separate annuity option appears to have an additional positive effect. These presentations also increase understanding of key terms. For this reason, we recommend that these presentations are considered for consumers who have a clearly identified need for an annuity.

2. Revise or don't take forward the feature of integrated splitting in the design of the investment pathways

In contrast with the results for the annuity scenario, we find that the presentations with the integrated splitting may be hurting comprehension for non-annuity use cases. On this basis, we do not recommend that the FCA takes this feature forward in the future design of the investment pathways, and if drawdown providers do allow splitting when they implement pathways, that they carefully consider the interface they use.

3. Consider further research and evaluation into how the investment pathways can be presented, and further information and support in the wider consumer journey, to help consumers make an informed choice, particularly for non-annuity scenarios

Despite the positive effect of the detailed descriptions, the primary comprehension results show that there is room for further improvement. In addition, our findings suggest that on the non-annuity scenarios the integrated splitting feature and separate annuity option have an adverse effect and that the detailed descriptions have a relatively small effect. For these reasons, we recommend that the FCA and drawdown providers consider additional interventions that could increase comprehension further, particularly on non-annuity use cases. This might include looking at the wider consumer journey and providing further support/Information or other interventions to help consumers make an informed choice.

4. Consider providing additional support for consumers who have specific pension needs

Our results show substantial variation in accuracy across the scenarios, suggesting that some scenarios are harder to answer than others. For example, the use case of Charlie (who is continuing to work and not looking to use his pension pot) is easiest for respondents. On the other end of the spectrum, the use case of Graham (who wants to use a portion of the money immediately and leave the rest for later) appears most difficult. We recommend that the FCA and drawdown providers use this information as a guide for where consumers may need additional support.

5. Consider alternative intervention options besides information provision to help consumers make an informed decision, such as experiential learning

An interesting finding in our data is that we see significant improvements in comprehension as respondents go through more scenarios. This is somewhat surprising, as participants did not receive feedback on whether they were providing correct answers or not. This suggests that additional exposure to the material and/or more scenarios (perhaps in the form of case studies) can help consumers correctly match specific consumer needs to an investment option. Furthermore, we believe that in real life, providing scenarios that align with the pathway decisions may make the pathway decision easier to understand and therefore have a larger impact than we observe in this experiment. We recommend that the FCA and drawdown providers consider this as a possible intervention for further improving the design of the pathways. In addition, the FCA and drawdown providers can also consider combining this with feedback about accuracy to reinforce learning.

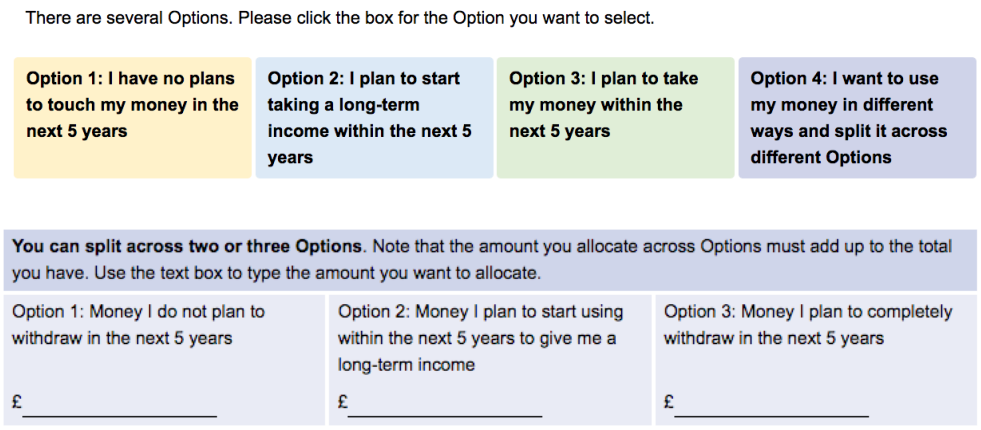
Annex 1 – Experiment materials

Experimental materials

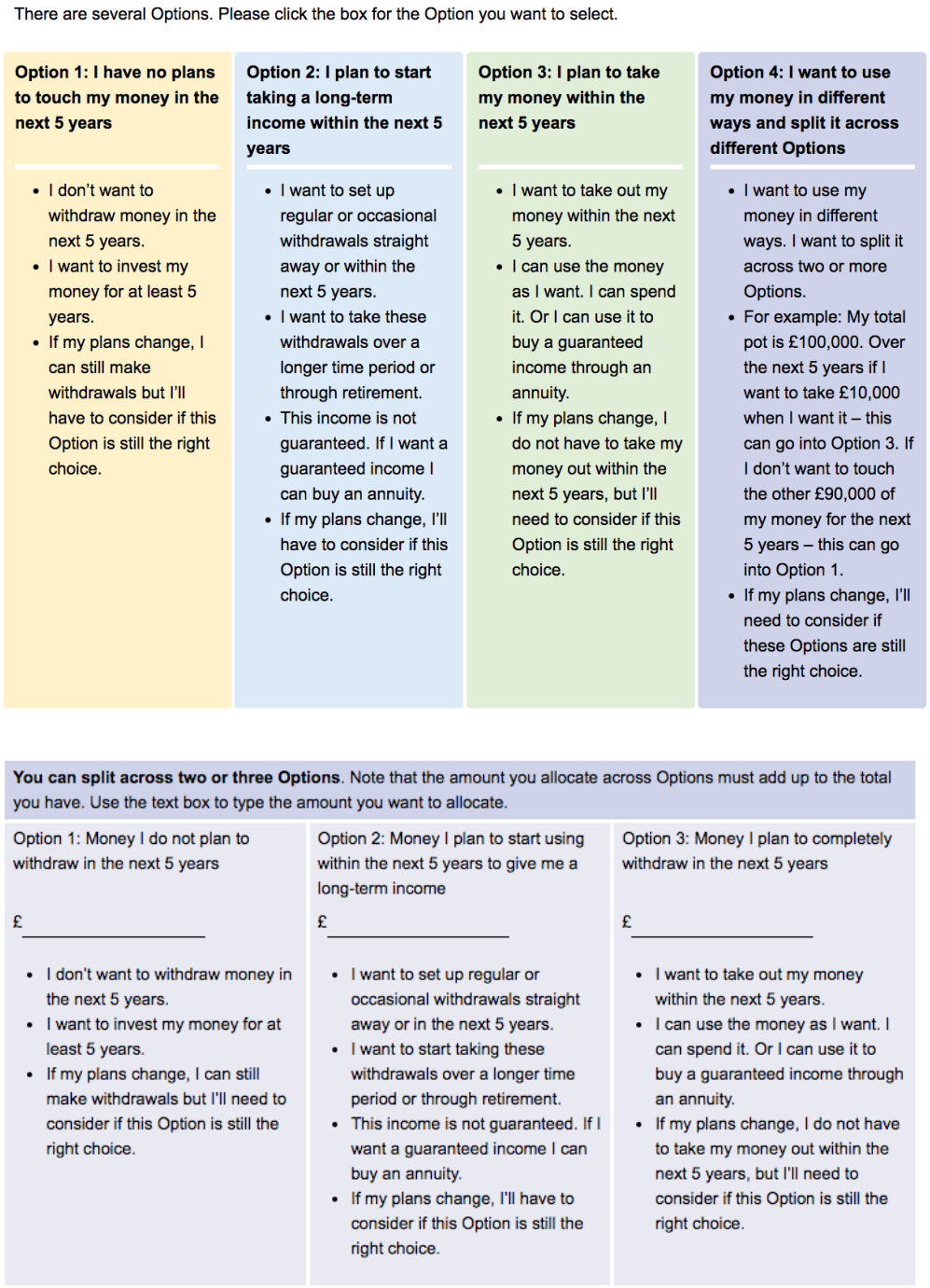
We provide screenshots of each of the four presentations of the investment pathways below. The titles also provide a link to this treatment on the Predictiv platform. After making a choice you can click 'submit' to progress to the next consumer scenarios. Note that the scenarios are presented in random order.

Control: Simple objectives (link).

Note: the splitting interface is only shown when option 4 is clicked.



Treatment 1: Simple objectives + Detailed descriptions + Splitting option separate (link).
Note: the splitting interface is only shown when option 4 is clicked.



There are several Options. Please click the box for the Option you want to select.

Option 1: I have no plans to touch my money in the next 5 years

- I don't want to withdraw money in the next 5 years.
- I want to invest my money for at least 5 years.
- If my plans change, I can still make withdrawals but I'll have to consider if this Option is still the right choice.

Option 2: I plan to start taking a long-term income within the next 5 years

- I want to set up regular or occasional withdrawals straight away or within the next 5 years.
- I want to take these withdrawals over a longer time period or through retirement.
- This income is not guaranteed. If I want a guaranteed income I can buy an annuity.
- If my plans change, I'll have to consider if this Option is still the right choice.

Option 3: I plan to take my money within the next 5 years

- I want to take out my money within the next 5 years.
- I can use the money as I want. I can spend it. Or I can use it to buy a guaranteed income through an annuity.
- If my plans change, I do not have to take my money out within the next 5 years, but I'll need to consider if this Option is still the right choice.

Option 4: I want to use my money in different ways and split it across different Options

- I want to use my money in different ways. I want to split it across two or more Options.
- For example: My total pot is £100,000. Over the next 5 years if I want to take £10,000 when I want it – this can go into Option 3. If I don't want to touch the other £90,000 of my money for the next 5 years – this can go into Option 1.
- If my plans change, I'll need to consider if these Options are still the right choice.

You can split across two or three Options. Note that the amount you allocate across Options must add up to the total you have. Use the text box to type the amount you want to allocate.

Option 1: Money I do not plan to withdraw in the next 5 years

£ _____

- I don't want to withdraw money in the next 5 years.
- I want to invest my money for at least 5 years.
- If my plans change, I can still make withdrawals but I'll need to consider if this Option is still the right choice.

Option 2: Money I plan to start using within the next 5 years to give me a long-term income

£ _____

- I want to set up regular or occasional withdrawals straight away or in the next 5 years.
- I want to start taking these withdrawals over a longer time period or through retirement.
- This income is not guaranteed. If I want a guaranteed income I can buy an annuity.
- If my plans change, I'll have to consider if this Option is still the right choice.

Option 3: Money I plan to completely withdraw in the next 5 years

£ _____

- I want to take out my money within the next 5 years.
- I can use the money as I want. I can spend it. Or I can use it to buy a guaranteed income through an annuity.
- If my plans change, I do not have to take my money out within the next 5 years, but I'll need to consider if this Option is still the right choice.

Treatment 2: Simple objectives + Detailed descriptions + Integrated splitting (link)

There are several Options. You can choose to put all of your money in one of these Options, or you can split your money across two or three Options.

Option 1: I have no plans to touch my money in the next 5 years	**Option 2: I plan to start taking a long-term income within the next 5 years**	**Option 3: I plan to take my money within the next 5 years**
• I don't want to withdraw money in the next 5 years. • I want to invest my money for at least 5 years. • If my plans change, I can still make withdrawals but I'll have to consider if this Option is still the right choice.	• I want to set up regular or occasional withdrawals straight away or within the next 5 years. • I want to take these withdrawals over a longer time period or through retirement. • This income is not guaranteed. If I want a guaranteed income I can buy an annuity. • If my plans change, I'll have to consider if this Option is still the right choice.	• I want to take out my money within the next 5 years. • I can use the money as I want. I can spend it. Or I can use it to buy a guaranteed income through an annuity. • If my plans change, I do not have to take my money out within the next 5 years, but I'll need to consider if this Option is still the right choice.
☐ I want to allocate all of my money to this Option	☐ I want to allocate all of my money to this Option	☐ I want to allocate all of my money to this Option

You can split across two or three Options. Note that the amount you allocate across Options must add up to the total you have. Use the text box to type the amount you want to allocate. Change the amount using the + and – buttons.

I want to allocate + £ – to this Option.	I want to allocate + £ – to this Option.	I want to allocate + £ – to this Option.

For example: My total pot is £100,000. If I plan to take out £10,000 over the next 5 years, then I can put this amount in Option 3. If I don't want to touch the other £90,000 of my money for the next 5 years – this can go into Option 1.

Treatment 3: Simple objectives + Detailed descriptions + Integrated splitting + 4th annuity option (link)

There are several Options. You can choose to put all of your money in one of these Options, or you can split your money across two, three or four Options.

Option 1: I have no plans to touch my money in the next 5 years	**Option 2: I plan to set up a guaranteed income (annuity) within the next 5 years**	**Option 3: I plan to start taking a long-term income within the next 5 years**	**Option 4: I plan to take my money within the next 5 years**
• I don't want to withdraw money in the next 5 years. • I want to invest my money for at least 5 years. • If my plans change, I can still make withdrawals but I'll have to consider if this Option is still the right choice.	• I want to buy an annuity within the next 5 years. • I want a guaranteed income for life or a set period. • Once you buy an annuity you cannot usually change your mind.	• I want to set up regular or occasional withdrawals straight away or within the next 5 years. • I want to take these withdrawals over a longer time period or through retirement. • This income is not guaranteed. If I want a guaranteed income I can buy an annuity. • If my plans change, I'll have to consider if this Option is still the right choice.	• I want to take out all my money within the next 5 years. • If my plans change, I do not have to take all my money out within the next 5 years, but I'll need to consider if this Option is still the right choice.
☐ I want to allocate all of my money to this Option	☐ I want to allocate all of my money to this Option	☐ I want to allocate all of my money to this Option	☐ I want to allocate all of my money to this Option

You can split across two, three or four Options. Note that the amount you allocate across Options must add up to the total you have. Use the text box to type the amount you want to allocate. Change the amount using the + and – buttons.

I want to allocate	I want to allocate	I want to allocate	I want to allocate
 £	 £	 £	 £
 to this Option.	 to this Option.	 to this Option.	 to this Option.

For example: My total pot is £100,000. If I plan to take out £10,000 over the next 5 years, then I can put this amount in Option 4. If I don't want to touch the other £90,000 of my money for the next 5 years – this can go into Option 1.

Screening questions

Only respondents aged between 54 and 70 years old were able to access the experiment. In addition, we took respondents through a maximum of seven screening questions to determine whether they had a defined contribution pension. Finally, we also captured whether respondents had previously received regulated advice. These screening questions are listed below.

Note that some of the question phrasing and answer options vary slightly depending on previous answers given by the respondent. In addition, respondents may have seen a subset of these questions depending on their answers. The full set of possible variations and details on sequencing is available upon request.

Question	Answer options
1. Are you currently receiving income, or have you taken a cash lump sum payment, from any pension scheme you have or have had?	A) Yes B) No C) Don't know
2. Apart from any pension schemes you have from which are you are receiving an income or have taken a cash lump sum payment, do you currently have any of the following?	A) A pension scheme into which contributions are currently being made (either by yourself or on your behalf) B) A pension scheme into which no contributions are currently being made C) Neither of these D) Don't know
3. How many pension schemes do you have from which you haven't yet received any income or taken any payments? Please include any pensions into which contributions are currently being made AND any pension schemes into which no contributions are currently being made (either by yourself or on your behalf)	A) 1 B) 2 C) 3 D) 4 E) 5 F) 6 G) 7 H) 8 I) 9 J) 10 or more K) Don't know, but more than one L) Don't know
4. Was this scheme arranged through an employer (this could be a current or previous one)?	A) Yes, it was arranged by an employer B) No, I set it up myself; it was arranged by me or by an adviser on my behalf C) Don't know
5. Were any of these schemes arranged through a current or previous employer?	A) Yes – all arranged by an employer B) Yes – some arranged by an employer, and some I set up myself (arranged by me or by an adviser on my behalf) C) No – I set them all up myself; they were arranged by me or by an adviser on my behalf D) Don't know
6. Please now think about the pension scheme(s) arranged through an employer into which contributions are currently being made or were being made from which you haven't yet received any income or taken any payments. There are two main ways in which your pension entitlement can be worked out in an employer's pension scheme. Is/Are your pension(s) more like option 1 or option 2? If you	A) Option 1: A 'final salary' or 'salary related' scheme. With this type of scheme you'll get an income when you retire based on how many years you've worked for your employer and the salary you've earned. Many final salary schemes or salary related schemes have been closed to new or all members over recent years. These schemes are generally only available from the public sector or older workplace schemes. B) Option 2: A 'money purchase' or defined contribution scheme. With this scheme you build up a pot of money that

	are not sure which type of scheme you have please choose option 3.	you can then use to provide an income in retirement. Unlike option 1, which promises a specific income, the income you might get from this scheme depends on many factors. C) Option 3: A pension through your employer, but you are not sure what type it is.
7.	Thinking only of the pension or pensions you are receiving an income from, or have taken a cash lump sum from, what type of pension was this? If you are not sure which type of scheme you have please choose option 3.	A) Option 1: A 'final salary' or 'salary related' scheme. With this type of scheme you'll get an income when you retire based on how many years you've worked for your employer and the salary you've earned. Many final salary schemes or salary related schemes have been closed to new or all members over recent years. These schemes are generally only available from the public sector or older workplace schemes. B) Option 2: A 'money purchase' or defined contribution scheme. With this scheme you build up a pot of money that you can then use to provide an income in retirement. Unlike option 1, which promises a specific income, the income you might get from this scheme depends on many factors. C) Option 3: A pension through your employer, but you are not sure what type it is. D) Option 4: A non-workplace pension (not arranged through an employer). A pension you took out yourself (arranged by you or an adviser on your behalf) not through an employer.
8.	Have you ever received – or intend to receive in the future – regulated advice about saving into a pension or retirement planning? By 'pension' we mean a pension arranged through an employer or one you have arranged yourself. Please do not think about State pensions. By 'retirement planning' we mean the choices you need to make when starting to take money from your pension savings to fund your retirement. This could include buying an annuity or entering into income drawdown or taking cash from your pension pot. Before 1 January 2013, payment may instead have taken the form of a commission from the product provider to the adviser. By 'regulated advice' we mean advice that is paid for, or would be paid for if you took out a product, from one of the following advisers. An adviser from a financial advice firm such as an IFA (Independent Financial Adviser) An adviser from a bank or building society An adviser from an insurance company, investment company or pension provider Automated advice available online or as downloadable software. This is personalised advice which usually incurs a charge, where you input your financial information and objectives and this information is used to generate investment and/or pension recommendations suitable for you (automated). It does not include simple online tools and calculators.	A) In the last 12 months B) Not in the last 12 months, but within the last 2 years C) Not in the last 2 years, but within the last 5 years D) Not in the last 5 years, but longer ago E) Never F) Never, but I intend to take regulated advice about saving into a pension or retirement planning in the future

Questions about key terms

Question	Answer options (correct answer underlined)
1. Which one of these statements do you think is correct?	A) You have to allocate all your pension money to one option B) You can split your pension money between only two of the options C) You can split your pension money across all the different options
2. Which one of these statements do you think is correct?	A) Whichever option you select, you cannot change your mind and switch options B) Once you have selected an option, you have to wait at least 5 years before you can switch options C) Unless you set up an annuity, you can change your mind at any point and switch options
3. Which one of these statements do you think is correct?	A) If you want to take an income from a pension, you have to set up an annuity B) Unless you set up an annuity, you can only take ad-hoc or occasional withdrawals from your pension C) If you don't set up an annuity, there is still an option that allows you to take an income from your pension
4. Which one of these statements do you think is correct?	A) Any income you take from a pension is always guaranteed B) To get a guaranteed income you need to set up an annuity C) It is not possible to get a guaranteed income from a pension

Annex 2 – Balance checks and regression results

Balance checks

The table below shows the results from our balance checks. Note that each demographic variable is a numerically coded categorical variable. For the regulated advice variable in particular, lower numbers correspond to having taken advice more recently.

Table A1: Balance checks on demographic characteristics

					p-value comparison					
Question	Control	T1	T2	T3	Control vs. T1	Control vs. T2	Control vs. T3	T1 vs. T2	T1 vs. T3	T2 vs. T3
Gender	0.519	0.491	0.483	0.488	0.430	0.324	0.419	0.837	0.939	0.908
Age range	60.3	60.1	60.3	60.8	0.816	0.966	0.480	0.860	0.371	0.483
Household income	0.657	0.674	0.652	0.704	0.742	0.932	0.398	0.690	0.613	0.368
Location	2.056	2.088	2.185	2.089	0.696	0.125	0.711	0.260	0.987	0.315
Education	2.488	2.450	2.500	2.564	0.721	0.917	0.524	0.652	0.331	0.599
Financial knowledge	6.133	6.271	6.202	6.375	0.409	0.693	0.187	0.690	0.574	0.363
Risk preferences	3.180	3.264	3.378	3.536	0.638	0.283	0.074	0.538	0.173	0.449
Regulated advice	4.124	3.925	3.970	3.856	**0.038**	0.101	**0.011**	0.657	0.539	0.303
Note: bold indicates significance, where the p-value is less than 0.05										

Regression results

The tables below present regression outputs underpinning the results in this report. Our demographic controls include the participant's gender, age, income bracket, location, education level, self-reported financial knowledge, and risk preferences. Note that our dummies for these controls are set such that the baseline category reflects the lowest age, lowest income, lowest education levels, lowest financial knowledge, and lowest risk preferences (i.e., 'unwilling to take risks'). In addition, the baseline is set to 'Male' for gender and 'London' for location.

Table A2: Assessing treatment differences against the control

Variables	Proportion of correct responses to scenario questions
Base: Control	
Treatment 1	0.040* (0.016)
Treatment 2	-0.011 (0.015)
Treatment 3	0.011 (0.018)
Demographic controls	Yes
Constant	0.254** (0.054)
Observations	1,468
R-squared	0.060
Robust standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.1	

Table A3: Treatment differences on comprehension across scenarios (Treatment 1 vs. treatments 2 and 3; treatments 2 vs. treatments 1 and 3).

Variables	Proportion of correct responses to scenario questions	Proportion of correct responses to scenario questions
Base: Treatment 1		
Treatment 2	-0.051** (0.017)	
Treatment 3	-0.030 (0.019)	
Base: Treatment 2		
Treatment 1		0.051** (0.017)
Treatment 3		0.021 (0.019)
Demographic controls	Yes	Yes
Constant	0.265** (0.071)	0.214** (0.071)
Observations	1,040	1,040
R-squared	0.062	0.062
Robust standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.1		

Table A4: Assessing treatment differences against the control on accuracy by scenario

	Proportion of correct responses				
Variables	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Base: Control					
Treatment 1	-0.033 (0.028)	0.016 (0.035)	-0.027 (0.035)	-0.011 (0.029)	0.260** (0.031)
Treatment 2	-0.007 (0.028)	-0.049 (0.035)	-0.116* (0.035)	-0.064* (0.028)	0.183** (0.031)
Treatment 3	-0.119** (0.033)	-0.023 (0.038)	-0.169** (0.038)	-0.102** (0.029)	0.472** (0.034)
Demographic controls	Yes	Yes	Yes	Yes	Yes
Constant	0.682** (0.112)	0.264** (0.110)	0.203+ (0.110)	0.078 (0.081)	0.123 (0.114)
Observations	1,468	1,468	1,468	1,468	1,468
R-squared	0.050	0.032	0.038	0.055	0.126
Robust standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.1					

Table A5: Treatment differences against the control on comprehension of key terms

Variables	Number of correct responses to questions about key terms
Base: Control	
Treatment 1	0.165* (0.073)
Treatment 2	0.093 (0.073)
Treatment 3	0.224** (0.082)
Demographic controls	Yes
Constant	1.823** (0.259)
Observations	1,468
R-squared	0.071
Robust standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.1	

Table A6: The effect of order on scenario comprehension

Variables	Proportion of correct answers
Base: Control	
Treatment 1	0.040* (0.016)
Treatment 2	0.093 (0.073)
Treatment 3	-0.011 (0.015)
Base: Scenario 1	
Scenario 2	-0.324** (0.016)
Scenario 3	-0.310** (0.016)
Scenario 4	-0.584** (0.014)
Scenario 5	-0.398** (0.017)
Base: order (first)	
Order (second)	0.051** (0.016)
Order (third)	0.094** (0.016)
Order (fourth)	0.079** (0.016)
Order (fifth)	0.104** (0.016)
Demographic controls	Yes
Constant	1.823** (0.259)
Observations	1,468
R-squared	0.071
Robust standard errors clustered at the individual level in parentheses; *** p<0.001, ** p<0.01, * p<0.1	

Table A7: Assessing treatment differences against the control on accuracy by scenario

	Proportion of correct answers			
Variables	Pension stage	Has college degree	Financial knowledge	Received advice
Base: Control				
Treatment 1	0.040* (0.016)	0.041* (0.016)	0.040* (0.016)	0.040* (0.016)
Treatment 2	-0.012 (0.015)	-0.010 (0.015)	-0.015 (0.015)	-0.011 (0.015)
Treatment 3	0.011 (0.018)	0.013 (0.018)	0.012 (0.018)	0.011 (0.018)
Base: Accumulation only				
Decumulation only	0.018 (0.017)			
Both	0.009 (0.019)			
Other	0.023 (0.021)			
Base: No degree				
Has degree		0.062** (0.015)		
Base: Below median financial knowledge				
Above median			0.053** (0.013)	
Base: Never received advice				
Received advice				-0.002 (0.014)
Demographic controls	Yes	Yes	Yes	Yes
Constant	0.254** (0.053)	0.326** (0.036)	0.281** (0.052)	0.254** (0.054)
Observations	1,468	1,468	1,461	1,468
R-squared	0.061	0.045	0.062	0.060
Robust standard errors; *** p<0.001, ** p<0.01, * p<0.1				

Table A8: Assessing treatment differences against the control on accuracy by key terms

	Proportion of correct answers		
Variables	Has college degree	Financial knowledge	Received advice
Base: Control			
Treatment 1	0.162* (0.074)	0.167* (0.073)	0.173* (0.074)
Treatment 2	0.092 (0.074)	0.087 (0.073)	0.100 (0.073)
Treatment 3	0.231** (0.082)	0.230** (0.082)	0.234** (0.082)
Base: Accumulation only			
Decumulation only			
Both			
Other			
Base: No degree			
Has degree	0.297** (0.064)		
Base: Below median financial knowledge			
Above median		0.190** (0.059)	
Base: Never received advice			
Received advice			-0.136* (0.061)
Demographic controls	Yes	Yes	Yes
Constant	2.193** (0.151)	1.911** (0.257)	1.829** (0.257)
Observations	1,468	1,461	1,468
R-squared	0.051	0.073	0.075
Robust standard errors; *** p<0.001, ** p<0.01, * p<0.1			

Endnotes

[i] Financial Conduct Authority (2018). Retirement Outcomes Reviews: Proposed changes to our rules and guidance. Consultation Paper. CP18/17. https://www.fca.org.uk/publication/consultation/cp18-17.pdf

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[viii] While we specified this analysis ex ante, we are looking at a larger number of comparisons in the additional analysis. This makes it more likely that we find spurious results. For that reason, these results should be interpreted with more caution.

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[xii] Gneezy, U., Saccardo, S., & van Veldhuizen, R. (Forthcoming). Bribery: Behavioral drivers of distorted decisions. Journal of the European Economic Association.