Supplementary Analyses

Here we report in Section 1 the models of the switching offers that presented more expensive alternative mortgages, in Section 2 we report Stage 2 of the experiment and in Section 3 we present a breakdown of the performance on the multiple choice questions.

1. **“Bad” Offers**

As expected, consumers were unlikely to switch to an objectively worse mortgage. Ninety percent of the bad offers, which we classify as offers that would not save the participant any money factoring in the cashback offers, were given a rating at the midpoint or lower on the scale. Moreover, the number of participants who rated a bad offer higher than midpoint of the scale dropped by a third after reading the advice, from 41.82% to 28.18%, *Z* = 2.03, *p* = .045. In Table A1 we present mixed effects ordered logit models predicting ratings of these worse mortgage offers.

Table A1. Mixed Effects Ordered Logit Models Predicting Willingness to Switch to “Bad” Offers

|  |  |  |  |
| --- | --- | --- | --- |
|  | (1) | (2) | (3) |
|  | Before | After | Before | After | Before | After |
| APR Gain *(Ref: 0.05-0.45)* |  |  |  |  |  |  |
|  0.50-0.95 | -1.36\*\*\*(0.39) | -1.34\*\*\*(0.35) | -1.36\*\*\*(0.39) | -1.40\*\*\*(0.35) | -1.39\*\*(0.40) | -1.40\*\*\*(0.35) |
|  1.00-1.45 | -**1.64\*\*\***(0.49) | **-2.57**\*\*\*(0.80) | -1.65\*\*\*(0.49) | -2.49\*\*(0.80) | -1.63\*\*(0.49) | -2.48\*\*(0.80) |
| Fixed rate *(Ref: Variable)* | -0.24(0.29) | 0.91\*(0.40) | -0.25(0.29) | 0.96\*(0.41) | -0.26(0.29) | 0.97\*(0.41) |
| High Cashback *(Ref: Low)* | **0.63**\*(0.30) | **0.50**(0.42) | 0.62\*(0.30) | 0.54(0.43) | 0.60\*(0.29) | 0.55(0.43) |
| Cashback in € *(Ref: %)* | 0.67†(0.39) | 0.13(0.56) | 0.60†(0.39) | 0.14(0.53) | 0.68\*(0.34) | 0.55(0.43) |
| 22-year term *(Ref: 15 Years)* | 0.08(0.38) | 0.62\*(0.50) | 0.12(0.37) | 0.79(0.55) | 0.20(0.38) | 0.77(0.53) |
| Switching list *(Ref: No list)* |  |  |  |  |  |  |
|  1-4 items listed |  |  | 0.76†(0.43) | 0.83(0.68) | 0.48(0.44) | 0.75(0.67) |
|  >4 items listed |  |  | -0.05(0.49) | -0.65(0.61) | -0.09(0.45) | -0.55(0.58) |
| Friend (*Ref: Own)* |  |  | -0.40(0.59) | -1.11(0.82) | -0.32(0.58) | -1.11(0.82) |
| Confidence rating |  |  |  |  | -0.23(0.15) | 0.19(0.29) |
| MCQs correct |  |  |  |  | -0.19(0.13) | -0.18(0.16) |
|  |  |  |  |  |  |  |
| Order | -0.08†(0.05) | 0.11†(0.06) | -0.03(0.09) | 0.02(0.12) | -0.04(0.09) | 0.03(0.12) |
| Var(Constant) | 1.26(0.49) | 3.49(1.57) | 1.18(0.48) | 3.49(1.57) | 0.93(0.43) | 2.55(1.11) |
| Obs.Participants | 56399 | 57099 | 56399 | 57099 | 56399 | 57099 |

 †*p* < .10, \**p* < .05, \*\**p* < .01; \*\*\**p* < .001; Pairs of coefficients in **bold** indicate a significant (*p* < .05) change from before to after.

1. **Stage 2: Price Comparison Table**

After a short break, the participants then used a price comparison tool for mortgage switching offers, which was designed based on the CCPC website. The main aim of this stage was to determine whether the presentation of mortgage switching options influences consumer choices. Specifically, the purpose was to test whether showing all of the available mortgage options would lead consumers to make different choices compared to when the mortgages were separated by APR type.

*2.1 Research Questions*

1) Does the format in which switching options are presented in a price comparison table influence (i) participants’ tendency to switch and (ii) for those who do switch, their choice of a fixed or variable rate mortgage?

2) Do participants find price comparison tools easier to use depending on their layout?

3) Are there participant characteristics that predict switching?

*2.2 Task Description*

The primary task required the participant to input their own mortgage information into the programme, which would then generate a price comparison table comparing their mortgage to 15 offers that were available in the Irish market in September 2018. The participants were asked for their current monthly repayments, their APR type, the term remaining on their mortgage and the outstanding amount. If they weren’t sure of their outstanding amount, the programme estimated it assuming an APR of 3.2% (the average APR in the current market). Participants who had already repaid their mortgage in full were asked to input the same details from when they had 10 years left to repay. All participants were told that if they did not know this information, or would prefer not to provide it, some standardised details could be input by the experimenter. Just one participant, who had repaid his mortgage in full and couldn’t remember the details from 10 years beforehand, requested this standardised information.

Once presented with the table, the participants’ task was to indicate which mortgage offer they would most like to switch to or whether they would prefer to stick to their own mortgage. They were free to engage with the tool for as long as they wished. After having made a choice, they were asked how easy to use they found the tool to be, ranging from 1 (Very Difficult) to 7 (Very Easy).

*2.3 Experimental Manipulations*

For this stage, there was one experimental manipulation of interest: the table layout.

2.3.1 Table Layout

Participants were randomly assigned to one of the two price comparison tool designs (with 55 participants in each condition). Half of the participants saw the options presented in a ‘Show All’ table (see Figure 5), which listed all 15 offers ordered by APR and contained the information about the name of the bank, mortgage type, APR, monthly repayments and difference in monthly repayments (with different colours for negative, null and positive differences). The other half saw the options presented in a ‘Tabs’ table (see Figure 6), which had 5 tabs corresponding to different mortgage types (i.e. variable, 1 year fixed, 3 years fixed, 5 years fixed and 10 years fixed). Each tab contained a list of 3 offers ordered by APR, with the information about the bank, APR, monthly repayments and the difference in monthly repayments. In both designs, the last row contained the information about the participants’ current mortgage and the last column the buttons to select offers. It should be noted that, due to constraints in the programme, we omitted some of the fixed rate terms that feature on the CCPC tool (2 years, 4 years and 7 years) and only used three different providers, but the APRs were selected to be representative of the market. We also excluded any bank names from the study, in order to isolate the effects of the layout of the options and remove any impact of bank loyalty or familiarity on choices.

*2.4 Results*

Two participants (one from each experimental condition) were excluded from this analysis, because information they inputted into the programme resulted in offers presented that did not make sense (both participants entered impossible outstanding mortgage amounts).

2.4.1 Switching

Overall, 39 participants (36%) opted to switch their mortgage, which far exceeds the 2017 Central Bank average of 6%. Of those who decided to switch, 24 were in the Show-All condition and 15 were in the Tabs condition (as Figure A1 shows), which was marginally significant, χ2 (1, *N* = 108) = 3.25*, p* = .073.

For those participants who decided to switch, 20 chose the cheapest variable rate (which was also the cheapest rate in the table) and 19 chose one of the fixed rates. Of the 19 participants who chose a fixed rate, four chose a rate that was not the cheapest one in its category. Breaking these numbers down by the experimental condition shows some differences – 58% of people switched to a fixed rate in the Show-All condition, while only 33% did so in the Tabs condition. This difference is not statistically significant, χ2 (1, *N* = 39) = 2.31, *p* = .129, but the sample size may be too small for this particular test to detect an effect.

*Figure A1*. Proportion of participants who opted to switch from their current mortgage

Overall, the majority of the switchers chose a mortgage that would save them money. Just four participants decided to switch to a mortgage that would increase their monthly repayments (three of whom chose to switch to a 10 years fixed rate mortgage and 1 chose the cheapest option in the table despite it being more expensive than their own mortgage). The monthly savings ranged from €4.81 to €586.24, with a mean of €84.23 (*SD* = 115.25) and a median of €36.90. These monthly savings would result in total savings of €461.76 to €72,408.96, with a mean of €17,426.95 (*SD* = 18,231.45) and a median of €10,627.20. Of the 69 non-switchers, 45 could have made savings by switching. The potential savings for this group of participants ranged from €2.86 to €85.18 per month, with a mean saving of €21.89 (*SD* = 16.78) and a median saving of €18.95. Taking into account the years remaining to the full repayment of their mortgages, this translates into potential total savings of €103.07 to €22,596.41, with a mean total saving of €5,193.15 (*SD* = 4960.83) and a median total saving of €3,637.23. A Mann-Whitney test comparing non-switchers who could have saved money to those who switched showed that switchers could save significantly more money, *Z* = 3.42, *p* < .001*, r* = 0.39.

2.4.2 Ease of Use

The ease of use of each of the table formats was analysed based on self-report responses to the question of how easy the participants found the table to use. It’s important to note that participants did not compare the tables, rather they reported how easy they found using the table that they saw. Both table designs were judged as quite easy to use (*M* = 5.74, *SD* = 1.22 for the Show-All design; *M* = 6.02, *SD* = 1.25 for the Tabs design) and there was no statistical difference between these ratings, *Z* = -1.47, *p* = .141. There was also no statistically significant difference between the length of time participants spent using each type of table (*M* = 54.16s, *SD* = 25.01 for the Show-All condition; *M* = 47.09s, *SD* = 23.41 for the Tabs condition; *t* = 1.55, *p* = .12, using log10-transformed response times to account for non-normality).

2.4.3 Participant Characteristics

We ran several logistic regression models to determine how various factors influence the participants’ decisions to switch their mortgage, outlined in Table A3 in the Appendix 4. In Model 1 we regressed the decision to switch only on the experimental condition, which showed that participants in the Tabs condition were less likely to switch, (*OR* = .48, *p* = .073), consistent with the results of the previous Chi-Squared test. We then added controls for the features of the participants’ current mortgage (term remaining to maturity and the current mortgage type ). Then we ran other models with the sample of participants who could have made savings by switching (by subtracting the participants’ current monthly repayments from the lowest monthly repayments available in the table), adding variables for the amount of potential savings, length of time spent using the table and some socio-demographic and other control variables (e.g. being a main financial decision-maker in the household and having previously switched the mortgage).

The model with the whole sample shows that participants on a tracker mortgage were marginally less likely to switch, (*OR* = 0.32*, p* = .086), with a tendency for participants on a variable mortgage to be more favourable towards switching (*OR* = 1.66, *p* = .296). In the models with the restricted sample, the participants with the most to save (defined as savings of €42+ per month; *n* = 21) were far more likely to switch than those with little to save (€2 to €12 per month; *n* = 20; *OR* = 6.33, *p* = .025). This variable also accounted for the effect of mortgage type, although the design of the table still seemed to exert an influence. The length of time spent using the table did not have a statistically significant effect on switching and did not change the influence of the table design. When the other control variables for participant characteristics (e.g. gender, age, education and income) were added, the only significant predictor of switching was the potential for large savings.

The analysis provides further tentative evidence that the PCT design influenced participants’ choices: participants in the Show-All condition were more likely to switch, even controlling for potential savings to be made. When demographic variables are controlled for, the size of the effect remains in the same direction but is no longer statistically significant. It is important to note, however, that the small sample size for this analysis limits strong inferences (because just 29 participants out of 80 for the final analysis switched). Furthermore, looking at simple descriptives, the models provide some support for the findings in the previous section: switching was more likely when the term was longer, there was more to be saved, if the participant was younger and if they had higher income.

1. **Stage 3 Multiple Choice Questions**

In the last part of the experiment, the participants were asked a series of questions to assess their general knowledge and understanding of mortgages. The participants were incentivised to try their best – for each question answered correctly they would get an additional entry to the draw for the €100 shopping vouchers. After completing this task, they were also asked to rate their confidence in their answers.

*3.1 Research Questions*

1) How well do mortgage holders understand the relationship between various mortgage features?

2) How confident are mortgage holders in their knowledge of mortgages?

*3.2 Task Description*

Each participant answered 10 questions about mortgages in general. The questions were designed not to require any calculations, but rather to test understanding of different mortgage-related concepts and relationships between the main mortgage features. At the very end of this part of the experiment, participants were asked to rate their confidence in the answers that they gave, on a scale from 1 (Not Confident At All) to 7 (Very Confident).

*3.3 Experimental Manipulation*

All the participants saw the same set of questions and answers. All questions and the relationships and concepts they probed are presented in the Supplementary Materials.

*3.4 Results*

The percentage of incorrect responses to each of the questions are presented in Figure A2. Two questions with the worst performance assessed understanding of the relationship between APR and monthly interest rates and the effects of only repaying the interest on a mortgage, with correct response rates of 15% and 25% respectively. A further three questions (about the relationship between the term and the total cost, APR compounding and how cashback offers are calculated) had correct response rates of less than 70%. We discuss these five problematic questions in more detail here to highlight whether there were systematic mistakes in participants’ reasoning.

* A majority (67%) of participants thought that the monthly interest rate was exactly the same as the APR (rather than less than the APR). This tendency may simply indicate that consumers think of interest rates as a standalone concept, rather than its relationship to different time segments.
* No clear majority emerged on the question about just repaying the interest on a mortgage, although a large minority (40%) estimated that making annual payments of 5% of the mortgage on a mortgage of €200,000 with a 5% APR would lead to the mortgage being repaid in 20-30 years. As such, it seems that some participants may have ignored the interest rate in their calculation. Responses that the mortgage would never be repaid were at chance level.
* While most of the participants were able to predict what happens to the total cost of the mortgage if the amount borrowed is repaid over a longer period of time, some of them (16.5%) stated that the APR cannot be the same for mortgages of different length, perhaps indicating uncertainty about what exactly the APR represents.
* As for the APR compounding question, the two most common mistakes were (1) to think that there are other factors that impact the calculation and (2) to think that the principal is repaid linearly, i.e., that halfway through the process, exactly a half of the principal will be left to repay.
* The most common choice after the correct response to the cashback question was to indicate that cashback offers are calculated as a percentage of the total mortgage rather than the mortgage outstanding, selected by 27% of the sample.

*Figure A2*. Proportion of incorrect responses to the multiple choice questions

Performance was better on the questions that probed the relationships between the total cost and APR, the remaining term and monthly repayments and the total cost and monthly repayments. Understanding of the difference between fixed and variables rates was also quite high, and that the borrower remains liable for debt – although it should be noted that 1 in 10 mortgage holders were not aware that they remain liable for the debt even if they post the keys of their house to the lender.

3.4.2 Confidence

When asked how confident they were in their responses, on average participants gave a score of 5 out of 7 (with 7 indicating being very confident). There did not seem to be a relationship between confidence and performance, ρ = .13, *p* = .17. Comparing men to women, while there were no gender differences in the number of correct answers (*M* = 6.91, *SD* = 1.69 for men and *M* = 6.96, *SD* = 1.48 for women; *Z* = 0.06, *p* = .95), men (*M* = 5.07*, SD* = 1.17) were significantly more confident than women (*M* = 4.31, *SD* = 1.32), *Z* = 3.10, *p* < .001.

Another difference in confidence, though smaller than for gender, was found between the participants who reported having switched their mortgage in the past (*M* = 5.04, *SD* = 1.34) compared to those who had not (*M* = 4.60, *SD* = 1.27), with switchers reporting marginally higher confidence*, Z* = -1.72*, p* = .08. Just as in the case of gender, there was no difference in their performance (*M* = 6.81, *SD* = 1.78 for the switchers and *M* = 6.98*, SD* = 1.53 for the non-switchers), *Z* = 0.17, *p* =.86. Of course, this finding does not indicate whether people who are more confident are more likely to switch or whether switching made these mortgage-holders more confident. The finding from the evaluations stage that confidence was associated with higher willingness to switch ratings may lend tentative support to the former explanation and further reinforces the positive effect that reading the CCPC advice had on confidence.