



Making it easier to borrow responsibly

The effect of online choice architecture on consumer borrowing behaviour

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The Dutch Authority for the Financial Markets

The AFM is committed to promoting fair and transparent financial markets.

As an independent supervisor of conduct across the sector, we contribute to sustainable financial well-being in the Netherlands.

Introduction

Choice architecture impacts on consumer choices

The way choices are presented to consumers influences the decisions they make. All forms of choice architecture guide consumer behaviour, including the online environments in which people apply for credit. Online credit application forms, for instance, often include an amount of credit and a default monthly repayment amount. We know from scientific literature that people are consciously and unconsciously influenced by these types of reference points: if a particular amount of credit is already displayed by default, consumers see this as a guideline, or use it as a starting point for their own requirements.

Although consumer credit can serve a useful role, steering consumer decisions through choice architecture can lead to people choosing a product that is not suitable for their requirements and, ultimately, is not in their best interest. The AFM strives to ensure that credit is provided to consumers in a responsible manner. In addition, one of the policy objectives of the Ministry of Finance in relation to consumer credit is that credit providers may not steer consumers towards higher levels of debt and/or longer repayment periods.¹

Why have we carried out this research?

Appropriately designed choice architecture can promote responsible borrowing among consumers. However, the effect of particular elements in the choice architecture is context-dependent. Practical research is essential in order to find out to what extent elements in the choice architecture can steer consumers in a particular direction. Experiments - also known as A/B tests - are an effective and reliable method of doing this. The AFM will not prescribe how providers of consumer credit should design their choice architecture based on this specific research. However, the AFM does expect credit providers to conduct research in their own specific operational context in order to assess the design of their choice architecture very carefully.

Purpose of the research

Working in partnership with the credit provider Freo, the AFM conducted research into adjustments to Freo's online credit environment. This research shows the impact of these adjustments on peoples' decisions regarding how much they chose to borrow and the repayment period of those loans. Using this concrete example, the AFM shows how credit providers can take responsibility for their own choice architecture. The research also contributes to the policy objective of the Ministry of Finance regarding consumer credit, as mentioned earlier. Finally, the research is consistent with the AFM's ambition of taking a more critical approach to the practical

¹ See letter to parliament: *Results of the consumer credit market research conducted by the Ministry of Finance (11 September 2018)*. <https://www.rijksoverheid.nl/documenten/kamerstukken/2018/09/11/kamerbrief-uitkomsten-onderzoek-consumptiefkredietmarkt>

effects of interventions, so that it becomes possible to take account of peoples' real-life behaviours.

Partnership between the AFM and Freo

The AFM conducts research into the effect of choice architecture in order to learn lessons for its supervisory activities. One requirement for this is sound research that is carried out in practice - not in a laboratory. The AFM works with financial-services companies in order to do this research. In the past, for example, the AFM has conducted research with mortgage lenders and telecom providers.^{2,3} The AFM determines which conclusions and recommendations are derived from research independently of the parties which it is working with.

Our appeal to the sector

The research carried out by the AFM and Freo shows that changes in the choice architecture can sometimes lead to unexpected behavioural changes. It also underlines how important it is that the interests of consumers are adequately taken into account throughout all phases of arranging consumer credit.

Our appeal to credit providers

The AFM calls on credit providers to take a good look at their online choice architecture. First of all, the AFM encourages them to carefully consider the design of their choice architecture, taking into account how people actually behave in practice. It is important to focus on those elements that play a key role in the choice architecture, such as online application forms, rather than the information about terms and conditions. This should preferably be done based on sound research, such as a field experiment.⁴ In addition, the AFM expects credit providers to take the interests of customers into account adequately throughout the various phases of taking out consumer credit: the online application form, the creditworthiness test, and the acceptance and processing stages. For example, providers must ensure that the affordability of a loan is tested on the basis of the repayment percentages actually requested if they exceed the 2% test burden specified in the code of conduct of the Netherlands Association of Finance Companies (VFN). Only then is it safe to assume that people will be able to continue paying their monthly instalments.

Starting points for research in the relevant choice architecture

The AFM will not prescribe how providers of consumer credit should design their choice architecture based on the research conducted with Freo. The most appropriate design for choice architecture will, after all, depend on the specific context and is therefore the responsibility of the credit provider. However, the AFM does make suggestions relating to design choices within the

² See the Dutch report: *Experimenting: Learning to Activate Together. Experiments involving ING and Florius* by the AFM (February 2018). <https://www.afm.nl/~profmedia/files/rapporten/2018/experimenteren-samen-leren-activeren.pdf>

³ See: *Pre-filling income and expenditures has large and unwanted effects on telephone credit applications: a field experiment (March 2018)*. <https://www.afm.nl/en/professionals/onderwerpen/consumentengedrag-artikelen/telephone-credit-experiment>

⁴ See the Dutch report: *How do I conduct a reliable behavioural experiment?* by the AFM (May 2017). <https://www.afm.nl/~profmedia/files/brochures/2017/betrouwbaar-gedragsexperiment.pdf>

choice architecture that credit providers can consider and take into account within their own particular context:

- Set the default loan amounts to the minimum to prevent consumers from borrowing more than they need;
- Offer consumers the option of actively choosing a monthly instalment (which always includes a substantial repayment component), so that they are encouraged to keep the repayment period of their loan as short as possible. Modify the creditworthiness test accordingly, so that customers are tested on the basis of the actual monthly charges that they request;
- Make sure that consumers are actively shown the total cost of the loan during the online application process.

In addition to the suggestions for design choices that have been derived from the research with Freo, the AFM encourages credit providers to further find out more about the purpose of the loan and whether this is appropriate to the amount borrowed, in order to encourage people to borrow only what they actually need rather than a multiple of €5,000. This could be done by, for example, asking the customer about the purpose of the loan and making (mandatory) recommendations regarding the maximum repayment period on that basis.

These suggestions are explained in the results and conclusions of the experiments.

Our appeal to policymakers

This research represents a substantial contribution to the AFM's ambition of taking a more critical approach to the effects of interventions in practice. For example, the AFM previously investigated the effectiveness of the credit warning.^{5,6} The AFM also urges policymakers and other regulators to consider the effectiveness and design of choice architecture as a policy and supervision instrument and the importance of robust research into changes to this choice architecture.

Experimentation in practice

To assess how the design of online choice architecture influences the choices that people actually make, Freo modified its credit application form in three different experiments.

Experiment 1: Amount of credit

During the first experiment, some visitors to the website were presented with a form in which the loan amount of €5,000 appeared on screen (the default), while for others this was €9,000, and for another group this field was empty ('active choice'). During this experiment, 3,675 people

⁵ See the report: '*Caution! Borrowing money costs money*'. by the AFM (December 2016) https://www.afm.nl/~/_profmedia/files/rapporten/2016/caution-borrowing-money.pdf

⁶ See the report: '*Disclosure: Why it shouldn't be the default*' by the Australian Securities and Investments Commission of ASIC and the AFM (October 2019). <https://www.afm.nl/en/professionals/nieuws/2019/okt/onderzoek-verplichte-informatie-afm-asic>

submitted a credit application (see Figure 1 for examples of the application form used in this experiment⁷).

Results

The results show that there was a small difference in the amount of credit requested between the three groups. Although the average amount of credit requested remained roughly the same across all three situations, the distribution of those amounts changed. With a default amount of €9,000, more people applied for credit of €9,000 (4.5%) than when they were shown a default amount of €5,000 (0.4%) or were required to make an active choice (0.7%). With a default amount of €5,000, this effect was not evident. Also, fewer people choose €10,000 (6.8%) with a default amount of €9,000 than in the other groups (10.0% and 9.9%). The results show that when a default amount of €9,000 is shown, people tend to adjust their request towards this amount, provided that the default amount is close to their actual preference. In this context, it is also striking that many people opt for a round number (70% of loan applications were a multiple of €5,000).

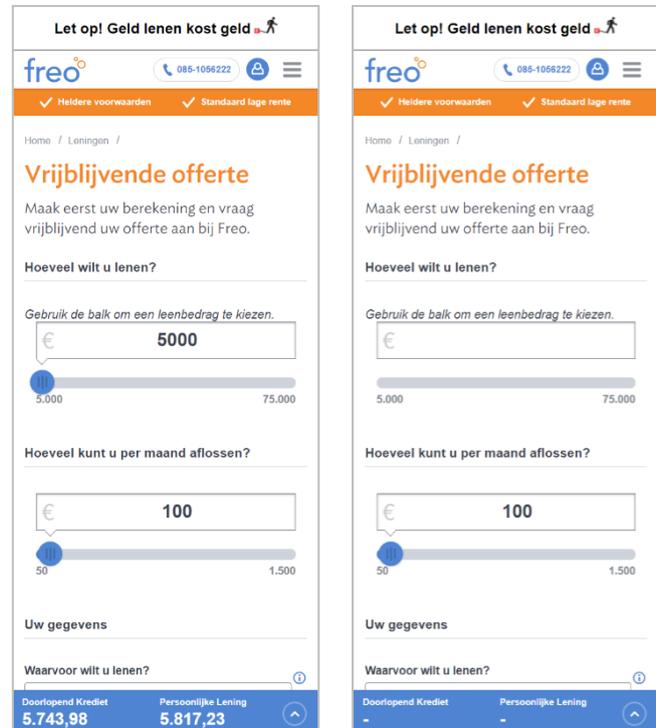


Figure 1: The choice architecture with and without a default amount of credit, in mobile view.



⁷ The application forms are shown in the mobile view in this report. Around 64% of applications were made using a mobile device.

Illustration: what effect do changes in the choice architecture have?

Suppose someone wants to borrow €10,000 with a monthly repayment of 2% and an interest rate of 6.5%. He or she will spend €11,694 on the entire loan, including both interest and repayments. The cost of the loan is therefore €1,694. However, if this person borrows the default amount of €9,000 at the same interest rate - and also repays 2% each month - he or she will spend a total of €10,524 on the entire loan. The cost of the loan thus amounts to €1,524. The design of the choice architecture can help people to borrow no more than they need to, without restricting their freedom of choice. In practice, for some credit providers a higher loan may go hand in hand with a lower interest rate, so the difference in the cost between a loan of €9,000 and €10,000 may not be the same for every credit provider. This is an argument for credit providers to ensure that the choice architecture is consistent with the interest payable.

Experiment 2: Repayment amount⁸

In the second experiment, the default loan amount was kept constant (€5,000), but the monthly repayment amount was varied. The (absolute) amount shown as default was 2%, 3% or 4% of the loan amount, or the field was left empty (active choice). During this experiment, 6,162 people submitted a credit application (see Figure 2 for examples of the application form used in this experiment).

Results

As far as monthly repayments are concerned, it appears that the difference between showing and not showing a default amount are greater than with the loan amount. People who are shown a default amount of 4% enter a higher average repayment amount (2.6%) than people who are shown a default amount of 2% (2.5%). Similarly, people who are shown a default amount of 4% also enter a higher average repayment amount (2.7%) than people who are shown a default amount of 2%.

The figure displays two side-by-side screenshots of the Freo mobile application's loan application form. Both screens show a slider for the loan amount set at €5,000 and a slider for the monthly repayment amount. The left screen shows a default monthly repayment of €100, while the right screen shows a default of €500. The bottom of the screen displays the total cost of the loan: €5,743.98 for the left form and €5,817.23 for the right form. The text 'Vrijblijvende offerte' and 'Maak eerst uw berekening en vraag vrijblijvend uw offerte aan bij Freo.' is visible on both screens.

Figure 2: The choice architecture with and without default for repayment instalments, in mobile view.

⁸In this report, the term 'repayment amount' includes both the monthly repayments on a loan and the interest payments.

In addition, it appears that this affects the distribution of requested repayment instalments: when a default amount is shown, more people apply for that level of repayment instalments than when no default amount is shown. A large number of people (an average of 19.2%) opt for the default amounts of (respectively) 2% (27.6%), 3% (17.7%) or 4% (12.4%) of the total

amount of the loan. As the default amount rises, however, fewer people choose to this default option. Finally, the results of this experiment show that the default repayment instalment has a stronger effect on people living on lower incomes, people living on benefits and single people.



Illustration: what effect do changes in the choice architecture have?

Someone who wants to borrow € 8,000 at an interest rate of 6.5%, for example, and who opts for a monthly repayment amount of 2% pays €160 per month over a period of 59 months. He or she will spend €1,355 on loan interest, plus the amount borrowed. However, if that person opts for 3% repayments, he or she will pay €240 per month for 37 months. The cost of the loan is then €847. This is a difference of €508 and 22 months. The design of the choice architecture can help people to borrow for no longer than they need to, without restricting their freedom of choice.

Experiment 3: Active choice regarding repayment period and total costs

In the third experiment, the focus was on the lower slider on the application form. One group of visitors to the website was asked to choose, as is customary with many consumer credit providers, the monthly repayment amount (€50 - €1,500 for a loan of €5,000). A second group was asked to choose the number of months over which they wished to repay the loan (6 months - 120 months with a loan of € 5,000). A final group was asked to choose the total cost of the loan (€5,093 - €6,757 with a loan amount of €5,000). We were thus able to test whether shifting the focus to a different element of the credit application led to different behaviour on the part of the consumer. During this experiment, 4,077 people submitted a credit application (see Figure 3 for examples of the application form used in this experiment).

Hoeveel kunt u per maand aflossen?

Gebruik de balk om een aflosbedrag te kiezen

50 1500 €

In hoeveel maanden wilt u uw lening aflossen?

Gebruik de balk om een aflostermijn te kiezen

6 120

Hoeveel wilt u maximaal uitgeven aan uw lening?

Gebruik de balk om de totale prijs van de lening te kiezen

5093 6757 €

Figure 3: The choice architecture in which people could choose on the basis of monthly instalment, repayment period, or total cost, in mobile view.

Results

When people were asked to choose a repayment period for the loan - rather than a monthly instalment - 10% fewer people end up applying for credit. Those who did apply for credit wanted an average of seven months longer to pay this back. This resulted in higher overall costs for those loans.

When people were asked to choose based on the total cost of the loan (loan plus interest payments) - rather than the monthly instalment - 32% fewer people end up applying for credit. Those who did apply for credit wanted an average of twelve months less to repay their loan. This reduced the cost of those loans considerably.

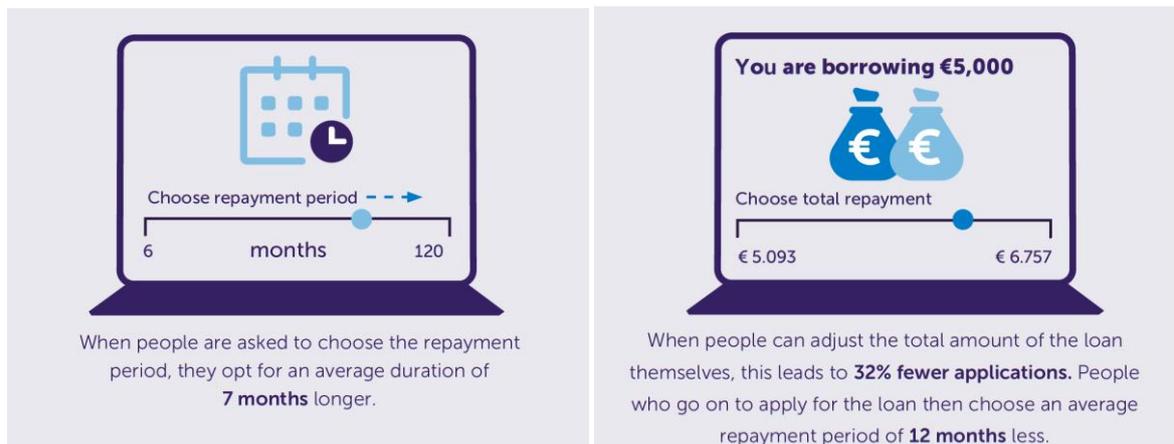


Illustration: what effect do changes in the choice architecture have?

For a loan of €8,000, the average repayment period chosen was 57 months (option to choose monthly instalment amount), with a monthly repayment of €164 and a total amount of €9,315. Repayment in 64 months (option to choose repayment period), with a monthly repayment of €149, leads to a total amount of €9,479 (interest of 6.5%). This is a difference of €164 compared with 57 months. Repayment in 45 months (option to choose total cost of loan), with a monthly repayment of €201, leads to a total amount of €9,035. This is a saving of €280 compared with 57 months. The design of the choice architecture can help people to borrow for no longer than they need to, without restricting their freedom of choice.

Conclusions

Default settings influence consumers' choices

Our research shows that default options can influence the choices that consumers make. This is particularly true with respect to the level of monthly repayment instalments, and to a lesser extent with respect to the total amount borrowed. This difference can be explained by the fact that people probably have an idea of how much they want to borrow in advance, but not about the amount they wish to (or are able to) repay each month. People who are required to make an active choice about repayment instalments or are shown a default amount of 4% are more likely to opt for higher repayment instalments than people who are shown a default amount of 2%. In

such cases, it is also important to take the actual monthly costs into account in the creditworthiness test if these exceed the 2% test burden specified in the code of conduct of the VFN (Netherlands Association of Finance Companies). Finally, in practice people often choose a round number for the total amount borrowed, even though it is unlikely that they need exactly that amount.

Default options affect some people more than others

A second important conclusion from the experiment is that default options affect some people - such as people with lower incomes, people living on benefits and single people - more than others. Designing the choice architecture carefully allows credit providers to help these people make a decision that is appropriate for them.

Active choice of a repayment period leads to longer credit repayment periods

The research also shows that when people are required to choose the repayment period of the loan - rather than the monthly repayment amount - the repayment period requested is an average of seven months longer. This finding is somewhat counterintuitive. An AFM questionnaire survey showed that people opted for a shorter repayment period - and thus higher monthly repayment instalments - when they were asked to choose the repayment period of the loan rather than the monthly instalments.⁹ This result underlines the importance of real-life experiments because it shows that people's intentions are not always accurately reflected in their actions.

Active choice of total cost leads to fewer credit applications and shorter repayment periods

The research also shows that when people are required to choose the total cost of the loan - rather than the monthly repayment amount - the repayment period they request is an average of twelve months shorter. There are two possible explanations for this. On the one hand, the focus on the total cost may make people decide to borrow less and thus pay less in costs. On the other hand, it is possible that people who were planning to apply for a loan with a longer repayment period decide not to apply for credit after all. If people were asked to make a choice regarding the total cost of the loan, this reduced the number of credit applications. One explanation for this decrease is that asking about total costs makes people pause and reflect, and ultimately they may decide not to borrow the money (from this credit provider). Another possible explanation is that people do not understand (adequately) what they are choosing and therefore decide to discontinue the application process. We cannot tell which explanation is the most plausible on the basis of this study.

⁹ See the report: *Consumer behaviour in the consumer credit market*. (2016). <https://www.afm.nl/nl-nieuws/2016/okt/kbc-keuzeomgeving-consumptief-krediet>

Finally: research in the application phase

The research results presented in this report describe the behaviour of consumers during the online application process. These cannot necessarily be extrapolated to the acceptance phase. Whether the credit provider approves the application, and whether people actually go on to take out the loan on the terms and conditions requested, will depend on the creditworthiness of the customer and the acceptance criteria applied by that credit provider. For example, if the consumer is contacted in person between the time of the application and the final offer, the characteristics of the loan can still be modified. In this study, we see that for this particular credit provider, some research effects disappear in the group of consumers who actually go on to take out credit. However, this does not detract from the insights that this research has yielded into the nature of financial decisions made within an online choice architecture.

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