Consumer behaviour: understanding, guiding and measuring

The behavioural insights that are most relevant to financial firms

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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 market conduct authority, we contribute to a sustainable financial system and prosperity in the Netherlands.

Table of contents

Introduction

The Dutch Authority for the Financial Markets (AFM) supervises financial markets that offer products related to savings, investment, insurance, loans and pensions. As a conduct supervisor, we want to ensure that people are able to make sensible financial decisions. To achieve this goal, we interpret laws and regulations and contribute to policy. We use well-founded assumptions about people and their behaviour. We ensure that these behavioural insights are accurate by staying abreast of the latest behavioural science insights and by conducting research.

The AFM considers it important that financial firms also use behavioural insights to promote sensible financial decisions among consumers and to contribute to the financial resilience of their (potential) customers. This report accordingly lists the behavioural insights that we believe are most relevant to financial firms at this time. We also discuss useful techniques to get started with the use of behavioural insights. We focus on three themes:

1. Understanding behaviour: how do people really make financial decisions? And what human tendencies influence these decisions?
2. Guiding behaviour: how can behavioural insights be applied to influence behaviour? And how can it be made easier for people to make sensible financial decisions?
3. Measuring behaviour: how do you know if the behavioural insights applied lead to sensible financial decisions? And can you test this reliably?

In this report, we rely primarily on behavioural science literature with special attention to the psychological perspective. References to the articles used are given in footnotes.

1. Understanding behaviour: 'As it is'

This section describes the use of decision strategies and considers the most relevant human tendencies, using examples from academic literature and practice.

When examining human behaviour, researchers often take a theoretical notion of a rational decision-maker as their starting point. Actual human behaviour – which is usually not perfectly rational – is then contrasted with this ideal image. This comparison can unintentionally (and unfairly) lead to the conclusion that people are dumb. In this paper we choose to explain human behaviour 'as it is', without contrasting it with a theoretical ideal of rationality. From a positive point of view, with attention for the pitfalls.

1.1 Making decisions: heuristics and biases

Every day, we make decisions and assess situations: whether we can trust the person at the front door, which route to take to work, how to respond to a question. If we were to carefully consider, assess and analyse all possible outcomes of these decisions, we would not get anything done. After all, our mental capacity is limited.[1]

When making decisions, we can make use of a wide range of decision strategies, also called heuristics.[2] Most heuristics aim to simplify a complex problem. They are mental short-cuts that help us make quick judgements and decisions without having to spend a lot of time investigating and analysing all the available information. Heuristics play an important role in decision-making and problem solving.

Take for example choosing an insurance policy. This is a difficult task for most of us. The total range of available options is often confusing, the different options are sometimes not comparable and the choice is clouded in uncertainty. Because these characteristics make choosing an insurance policy so difficult, we use heuristics – often unconsciously.

Suppose you are looking for household contents insurance and you can opt for a lower deductible. Unconsciously, you use a heuristic: you estimate the risk based on the cognitive availability of different scenarios.[3] You can easily imagine dropping a glass of wine on the sofa, or knocking over an expensive vase. You estimate the risk of this type of damage to your property as high, so you choose a lower deductible. Using this decision strategy – or heuristic – has saved you a lot of time and effort in making this complicated choice.

[1] Hogarth, 1987; Simon, 1956; Simon, 1990
[2] Gigerenzer & Gaissmaier, 2011; Gigerenzer & Goldstein, 1996; Kahneman, 2011; Payne et al., 1993; Tversky & Kahneman, 1974; Shah & Oppenheimer, 2008
[3] Folkes, 1988; Keller et al., 2006; Lichtenstein et al., 1978; Pachur et al., 2012; Tversky & Kahneman, 1973

Other common heuristics include choosing the best-known option, considering a limited number of options, avoiding ambiguity, simplifying the effects of compound interest, or avoiding having to choose altogether by leaving things as they are (status quo).

Using heuristics is efficient, but it can also lead to undesirable outcomes. Heuristics can lead us to make hasty, sometimes unwise decisions about more complicated issues. These are called 'biases'.

Take the example of household contents insurance with the lower deductible. Years after taking out the insurance, you realize that knocking over a glass or a vase rarely resulted in damage. What was much more common was damage to your expensive electronics, such as your phone or laptop. But it was precisely for this type of damage that an exclusion applied and you were not covered. The heuristics you applied – estimating risks based on your imaginative powers – may have been efficient, but in this case led to a poor outcome.

Exhibiting biases is perfectly normal. You could think of this as the price we pay for the efficiency of the heuristics we use. Biases are not limited to certain demographic groups. Even highly educated people and experts can exhibit biases.[4] Although we all exhibit biases, there is considerable variation between people in the number of biases we exhibit; even within similar demographic groups and people with the same skills.[5]

A popular way of looking at the workings of the human brain is that of Nobel Prize-winning behavioural economist Daniel Kahneman. He described that our brain actually has two 'operating systems', which he calls System 1 and System 2.[6] Although this theory is not all-encompassing and sometimes difficult to fit into other theories, it is a simple way of showing that our brain helps us to keep life 'liveable' by switching on the autopilot in many situations (System 1) instead of taking the wheel ourselves (System 2).

System 1 is fast, automatic and requires little effort. It is associative and often emotionally charged, and difficult to control or adjust. System 1 is like an autopilot that filters out things from the environment that are not relevant at that time. This makes decision-making easier and this system is thus highly efficient. By far the most assessments and decisions are made using System 1.

System 2 is slow, serial, strenuous and controlled. Contrary to System 1, System 2 ensures that we have enough attention to perceive and process impressions from the environment. In addition, this system is more flexible, allowing for nuance and precision.

[4] Koehler et al., 2002; Olsen, 1997; Pope & Schweitzer, 2011
[5] Stango & Zinman, 2020
[6] Kahneman, 2011

1.2 Human tendencies

Making well-considered decisions (as with System 2) places high demands on our mental capacity. This source of mental capacity is not infinite: our attention, calculation power, time, imagination and empathy, patience, motivation and self-control are limited. Therefore, our brain simplifies many situations for us (as with System 1). This approach is efficient and effective in many situations, but it can also lead to unwise financial decisions.

The good thing is that human behaviour is – to some extent – universal and predictable. We can say that there are 'human tendencies'. In this section, we summarise the extensive behavioural science literature into four general human tendencies that play a role in financial decisions. If we recognise, know and understand these tendencies, we can make it easier for people to make sensible financial decisions.

1.2.1 We are reluctant to act

We often do not take action, even when this is necessary or would be beneficial. This is called 'inertia'. This may be due to various causes. We may be unmotivated to make a certain decision, or we may consider it to be unimportant. But inertia sometimes also occurs when making important financial decisions, because taking action requires us to make a lot of mental effort.

We put off making decisions because they are complex. The mental effort and the chance of inertia increases as the number of options increases, especially if these options are difficult to compare.[7] Also, when we have to make a lot of decisions in quick succession, many of us give up after a while.[8] This was shown, for example, in a study of elections in California. On a ballot paper, some voters had to fill in as many as 19 different election choices. The lower a choice was on the list, the more likely it was that someone did not cast a vote on it.[9]

Besides complexity, there are other reasons why we do not take action.[10] We remain inert when we have little faith in a good outcome, or when no attractive options are available. When we are unsure what to choose, we often consciously or unconsciously trust that the current situation is good enough.

The fact that inertia also plays a role in important financial judgements and decisions is especially apparent in the case of pensions. We generally take little action to prepare for retirement. Preparing for retirement is a complex matter, partly because the consequences of our decisions are uncertain and only become apparent in the distant future.[11] In addition, many of us have poor

[7] Chernev et al., 2015; Diehl & Poynor, 2010; Frank & Lamiraud, 2009; Greifeneder et al., 2010; Haynes, 2009; Iyengar & Lepper, 2000; Scheibehenne et al., 2010; Shah & Wolford, 2009
[8] Levav et al., 2010
[9] Augenblick & Nicholson, 2016
[10] Krijnen et al., 2016; Van Putten et al., 2016;
[11] Shafir, 1994; Shafir & Tversky, 1992; Tversky & Shafir, 1992

knowledge of basic financial concepts,[12] or little confidence in our own abilities.[13] This increases the threshold for taking action.[14]

Although the structure of the Dutch pension system ensures that the main risks are covered for most of us,[15] there are also Dutch people for whom inertia can lead to major problems. Consider the self-employed (in Dutch: 'ZZP'er'): in the Netherlands, they have to take action themselves to accrue a pension. Many of them do not save at all, do not save enough or start saving too late.[16] This pattern is similar to research from other countries, where people are more responsible for their own pension accrual. Inertia then plays a major role: we take little action, start saving late, and deviate too little or too late from the default arrangement.[17]

1.2.2 We have a narrow focus

When making financial decisions, we do not consider the effect on our overall prosperity. Instead, we have a more narrow focus. We assess the consequences of our decisions in relation to a reference point. This is called 'reference dependence'. [18] Which reference point we use depends on the situation. Sometimes we assess outcomes relative to an expectation or a goal. In other cases, we assess outcomes relative to the current situation (the status quo).

For example, if we are at a roulette table, we are probably not calculating the effect of our next bet on the total balance of our bank account. The amount of money we entered the casino with is a logical reference point. We then assess our gains and losses relative to that amount.

When making decisions, we have a strong preference to avoid losses relative to a reference point. We experience losses more negatively than we experience gains positively. Roughly speaking, we experience losses as twice as painful as equivalent gains.[19] This is called 'loss aversion'.[20] For example, selling a house or a stock at a loss (relative to the purchase price) is very unpleasant.

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[12] Boisclair et al., 2017; Klapper et al., 2015; Lusardi & Mitchell, 2011; Lusardi & Mitchell, 2014; Lusardi & Mitchell, 2017

[13] Van der Schors & Warnaar, 2015

[14] Hadar et al., 2013; Hadar & Sood, 2014; Krijnen et al., 2018

[15] About 85% of the Dutch population automatically accrue a compulsory pension through their employer. For this group of people, inertia during the accrual phase usually does not lead to major problems. A lack of preparation may result in their retirement income being lower (or higher) than expected, but the design of our system ensures that the biggest risks for this group are covered.

[16] Beusch, 2020; Beusch & Van Soest, 2020; Goudswaard & Caminada, 2017; Mastrogiacomo, 2016; Zwinkels et al., 2017

[17] Benartzi & Thaler, 2007; Beshears et al., 2009; Cronqvist et al., 2018; Madrian & Shea, 2001

[18] Kahneman & Tversky, 1979; Kőszegi & Rabin, 2006; O'Donoghue & Sprenger, 2016

[19] Brown et al., 2021; Tversky & Kahneman, 1992

[20] Benartzi & Thaler, 1995; Kahneman & Tversky, 1979; Novemsky & Kahneman, 2005; Tversky & Kahneman, 1991;

Reference dependence and loss aversion play a role not only in investments,[21] but also in damage and insurance.[22] We may experience unexpected damage as a painful loss, while barely noticing the expected monthly premium of an insurance policy.[23] This causes us to take out insurance even when we could easily pay the potential losses out of pocket.

Moreover, the value of things – and thus the value of money – is not experienced equally in different situations. The value depends on several factors, such as where the money comes from (earned yourself or received from someone, a tax refund or holiday pay) and the intended use (groceries or a new television).[24] The 'label' we attach to money or how we classify a sum of money affects the way we deal with it. This is called 'mental accounting'.

The effects of mental accounting also become apparent when the timing of a purchase and the actual payment for the purchase are disconnected. This happens, for example, when using a credit card. The actual payment gets postponed for a few weeks, separating it from the purchase. The settlement comes at a later stage, mixed in with other purchases, and is automatically debited from our bank account. So in our mental accounting system, we register the pleasure of the purchase, but pay little attention to the negative feelings surrounding the payment. This decoupling mechanism becomes stronger the less we are aware of the outgoing money at the time of purchase.[25]

Mental accounting can also affect debt repayment. We repay a loan for a trip, for example, more quickly than we repay a loan for products that we will use for a long time, such as a car or a television.[26] Mental accounting can contribute to financial problems, for example when we are reluctant to use our savings – on which we receive little interest – to pay off an expensive debt.[27]

1.2.3 We focus on the present

In almost all financial decisions we make trade-offs between outcomes at different times. We attach more value to outcomes in the present than to outcomes in the future. This may cause us to prefer a smaller short-term gain over a larger longer-term gain. Moreover, our valuations change over time. We perceive the difference between €10 today and €10 tomorrow as greater than the difference between €10 in 30 days and €10 in 31 days. This is called 'present bias'.[28] It can cause us to make decisions today that do not reflect our preferences of yesterday or tomorrow. Preferences are thus 'time-inconsistent'. Sometimes, the present bias leads us to give

[21] Benartzi & Thaler, 1995; Odean, 2002; Weber & Camerer, 1998
[22] Barbaris, 2013
[23] Kőszegi & Rabin, 2007; Sydnor, 2010
[24] Kahneman & Tversky, 1984; Prelec & Loewenstein, 1998; Thaler, 1985; Thaler, 1999
[25] Thaler, 1999
[26] Quispe-Torreblanca et al., 2019
[27] Olafsson & Gathergood, 2020; Sussman & O'Brien, 2016;
[28] Frederick, et al, 2002; O'Donoghue & Rabin, 2015; Ericson & Laibson, 2019

in to our temptations and not always carry out our good intentions, even if this leads to regret in the future.

So the tendency to focus on the present affects our financial decisions in two ways. First, we sometimes spend more money than our 'future self' would like.[29] As a result, we may borrow money, even if this leads to problematic debts in the long term. For the same reason, it can be difficult to build up a buffer. Time and again, we are tempted to spend our income immediately, for example on furnishing our home, even though we know it would be better to put money aside.

A second way our decisions are influenced is by putting off tasks we find difficult or tedious. For example, we often put off repaying debts, even when we have low-yield savings available.[30] The previously mentioned tendency to procrastinate preparing for retirement can also be a consequence of present bias.[31] We may be aware of the importance of a good pension, but we are discouraged by the difficulty of logging on to the pension fund's website, for instance. Procrastination due to present bias could also explain why few of us switch insurers or change our coverage, even when this can save a lot of money in the long run. We pay more attention to short-term effort than to (larger) long-term financial benefits.

1.2.4 We cut corners when estimating the future

Many financial decisions require us to make an assessment about the future. To come to a decision in a world of uncertainty, we use efficient decision strategies. For example, we often make predictions based on a small number of observations, believing that these observations are representative of real patterns or trends. This is also called over-extrapolation or 'the law of small numbers'.[32] For instance, we base the expected return on an investment on the recent performance of a fund or company.[33]

In addition, we expect our current feelings, attitudes and preferences to remain unchanged in the future and we misjudge the effect of changes that may occur. In other words, we project our current preferences onto future situations.[34] This is called 'projection bias'. For example, we underestimate how much medical care we will need later in life because we take our current health as our starting point.

The fact that it is actually difficult to assess the future becomes clear when taking out a mortgage. In such a situation, we need to predict what future interest rates will be (in combination with

[29] Joireman et al., 2010; Laibson et al., 2007; Skiba & Tobacman, 2008; Meier & Sprenger, 2007; Meier & Sprenger, 2010; Ottaviani & Vandone, 2011
[30] Barboza, 2018; Kuchler & Pagel, 2021; Gathergood & Weber, 2014
[31] O'Donoghue & Rabin, 1999; O'Donoghue & Rabin, 2001;
[32] Rabin, 2002
[33] Greenwood & Schleifer, 2014
[34] Loewenstein et al., 2003

fixed interest-rate periods), as well as inflation, house prices and our own income and expenses. There is limited information available to make these predictions, so we are likely to extrapolate based on recent information. For example, based on current conditions, we would expect house prices to always rise and interest rates to always be low.

Subsequently, we assess what we would want to do if a possible event occurs. *'If my monthly expenses go up due to a higher interest rate, am I willing to adjust my spending habits?'* In answering these types of questions, many of us will assume that our current preferences remain relatively constant.

Finally, we often use the availability heuristic when assessing risks. We assess the consequences and likelihood of events based on the ease with which they come to mind. This is called the 'availability heuristic'.[35] This heuristic can lead to a distorted perception of risk, and plays an important role when taking out insurance.[36] For example, we overestimate the likelihood of negative events that come to mind more easily because they are vivid (e.g., a car accident) or because we have recently experienced them (e.g., a pandemic). On the other hand, we give less weight to less vivid risks (e.g. a prolapse) – which therefore occur less readily in our minds. As a result, we insure ourselves against risks with a low probability that are top of mind, and not against risks with a high probability that are not top of mind.

When we make an assessment of our own abilities and knowledge, our confidence is often greater than it should be.[37] This is called 'overconfidence'. This tendency manifests itself in several ways. For example, by looking back on an unpredictable event and thinking it was easy to predict (hindsight bias, or the 'I knew it all along' effect), [38] by attributing successes to our own abilities and failures to bad luck (self-attribution bias)[39] and by being overconfident in our ability to resist future temptation.[40]

Overconfidence affects, among other things, the estimation of our own abilities and our ability to foresee and control external events. This becomes clear when we invest. People who are overconfident are more likely to participate in the stock market and tend to trade more frequently.[41]

[35] Folkes, 1988; Keller et al., 2006; Lichtenstein et al., 1978; Pachur et al., 2012; Tversky & Kahneman, 1973
[36] See also 1.1 'Making choices: heuristics and biases'
[37] Fischhoff et al., 1977; Lichtenstein & Fischhoff, 1977; Pallier et al., 2002
[38] Christensen-Szalanski & Wilham, 1991; Guilbault et al., 2011; Hoffrage et al., 2000; Roese & Vohs, 2012
[39] Barber & Odean, 2002; Feather & Simon, 1971; Hoffmann & Post, 2014
[40] DellaVigna & Malmendier, 2006; Heidhues & Kőszegi, 2010
[41] Barber & Odean, 2001; Biais et al, 2005; Glaser & Weber, 2007; Grinblatt & Keloharju, 2009; Statman et al, 2006; Xia et al, 2014

2. Guiding behaviour: Keep it simple

2.1 Applying behavioural insights

In Section 1, we saw that we have different tendencies which sometimes make it difficult to make sensible financial decisions. Behavioural insights teach us that preferences are shaped by our environment: the judgements and decisions we make are influenced by those around us, depend on the moment and our state of mind, and are guided by the way a choice is presented. Therefore, one of the key lessons is to make it as simple as possible for people to make sensible financial decisions.

Financial firms can apply this lesson to the benefit of consumers: remove barriers as much as possible so that it is easy to make sensible financial decisions. On the other hand, add friction so that it is more difficult to make unwise financial decisions. You can go about this in various ways. For example in the development of new products, the use of information and the design of the choice environment,. This last aspect is relatively new and is explained further below.

The choice environment

In recent years it has become apparent that the design of the choice environment – the way in which choice are presented – has an effect on how we consider our options and the decisions that we ultimately make.[42] The design of the choice environment is called choice architecture. When a choice environment is designed, the choice architect does not necessarily intend to guide behaviour in a particular direction. If a choice architect adjusts the design of the choice environment with the intention of guiding people's behaviour in a particular direction, this is called 'nudging'. [43] Nudging includes "any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding options or significantly changing their economic incentives."[44] To qualify as nudging, the intervention (a means of influencing behaviour) must be easy and 'cheap' (in terms of money and mental capacity) to avoid by people exposed to the nudge. With nudging, you give people a push in a certain direction, without limiting their choices. If people have a strong preference to do something else, they can still do so. This idea – guiding behaviour while retaining freedom of choice – is called libertarian paternalism.[45]

[42] Johnson et al., 2012; Münscher et al., 2016; Szaszi et al., 2018; Thaler & Sunstein, 2008; Thaler et al., 2013
[43] Nudging is a term that was introduced to behavioural economics in 2008 by Richard Thaler and Cass Sunstein in their book *Nudge: Improving Decisions About Health, Wealth, and Happiness*. See also Benartzi et al., 2017; Beshears & Kosowsky, 2020; Hummel & Maedche, 2019; Ly et al., 2013; Sunstein, 2014;
[44] Thaler & Sunstein, 2008, p.6
[45] Sunstein & Thaler, 2003; Thaler & Sunstein, 2003

2.2 Promising techniques

In this section, we explain six promising techniques that financial firms can use to guide people's behaviour. These techniques are based on behavioural insights and involve a closer look at human behaviour, focusing on ways in which the environment in which we make decisions affects our behaviour. By responding to this smartly, financial firms can promote sensible financial decisions among consumers.

2.2.1 Present smart default options

When we make decisions, we often take the path of least resistance.[46] For example, we often end up with the default option: a pre-selected or pre-filled option in the choice environment. The default option is also the option we end up with when we do not make an active choice. Take donor registrations as an example: in many countries, residents are automatically registered as an organ donor, unless they indicate a different preference. It is not only our inertia that plays a role in this. Another reason we often choose the default option is that we may take it as implicit advice.[47] Because many of us end up with the default option, it is particularly important that this option leads to a good outcome.

The importance of good default options can clearly be seen in the options available for pensions.[48] In Sweden for instance, after the introduction of a new pension system, the relatively risky default option proved to be very popular. Remarkably, this was mainly the case among scheme members who were normally risk-averse.[49] Other research showed that about 85% of Danish pension scheme members are passive, with the size of their pensions heavily influenced by the default option.[50]

In the Netherlands the default option plays a role in the choice between a fixed and a variable payment within contribution pension schemes. If most scheme members stick with the default option, it is important to carefully determine which option is most suitable for the member base.

2.2.2 Making numbers work for you

When we make decisions, we use information from the context. We may use numbers as a reference point or a benchmark, or we may be inert and leave a pre-filled number.[51] The numbers

[46] See 1.2.1 ('We are reluctant to act') and 1.2.3 ('We focus on the present')
[47] Brown et al., 2012; Dinner et al., 2011; Jachimowicz et al., 2019; Krijnen et al., 2017; McKenzie et al., 2006
[48] Beshears et al., 2009; Carroll et al., 2009; Choi et al., 2002; Choi et al., 2003; Jachimowicz et al., 2019; Madrian & Shea, 2001;
[49] Böhnke et al., 2019
[50] Chetty et al., 2014
[51] See also 1.2.1 ('We are reluctant to act') and 1.2.2 ('We have a narrow focus')

shown in a choice environment and how they are presented can therefore heavily influence our decisions.

Sometimes, when making decisions, we use (irrelevant) information that we were confronted with earlier in our decision-making process. We use this information as a starting point in our judgments and decisions. This is called 'anchoring'.[52] We find such a numeric anchor on an online credit application form. There is typically a scale on which you can indicate how much you want to borrow using a slider. Before you use the slider, it is already showing a certain amount. We can use that amount as an anchor on which to base the desired amount. The size of the scale used and the size of the steps you can take on the scale can also influence our behaviour.[53] Another example of how anchors influence our behaviour is naming a minimum required repayment on a credit card. This can serve as a low reference point, causing some of us to repay less.[54]

The effect of numbers on our behaviour is evident from an AFM study in collaboration with Telfort.[55] Whenever someone takes out a phone credit of €250 or more, a creditworthiness test is mandatory to prevent excessive borrowing. When asking people about their income and expenses, many providers used a pre-filled amount as an answer in the choice environment. Pre-filling the amounts was intended to help people: the process was made as simple as possible. However, the research showed that many people left this pre-filled amount as it was, or only adjusted it by 5% or less. These people may have used the pre-filled amount as an anchor or implicit advice. It could also be that they followed the path of least resistance or feared rejection if they filled in their actual amounts. Due to the use of pre-filled amounts, the creditworthiness test did not give accurate results and increased the risk of excessive borrowing. So in this case, the use of a pre-filled amount did not lead to a good outcome for consumers.

In another study of the influence of anchors, the AFM collaborated with credit provider Freo.[56] The field experiments focused, among other things, on the effect of pre-filled amounts in the online lending environment on the level of monthly repayments. In an online application form, people saw an (absolute) monthly repayment amount of 2%, 3% or 4% of the loan amount, or the field was left blank (active choice). The research showed that when a pre-filled amount was shown, more people applied for that specific repayment amount than when no pre-filled amount was shown. A large group of people chose to leave the pre-filled amounts as they were. As the pre-filled amount increased, fewer people chose to leave this amount unchanged. In this case, using the default option led people to choose a higher repayment amount, which shortened the term of their loan and ultimately reduced how much they would have to repay.

[52] Epley & Gilovich, 2006; Furnham & Boo, 2011; Jung, et al., 2016; Strack & Mussweiler, 1997; Tversky & Kahneman, 1974
[53] AFM, 2019
[54] Adams et al., 2018; Stewart, 2009; Navarro-Martinez et al., 2019; Keys & Wang, 2019
[55] AFM, 2018
[56] AFM, 2019

2.2.3 Design the choice set with care

The number of options we are presented with influences our behaviour.[57] As the number of options increases, the chances increase that there will be an option that exactly matches our preferences. But a large number of options can also create a heavy cognitive burden, especially when the options are difficult to compare. This is called 'choice overload'.[58] An excess of options makes us fall back on heuristics more quickly, or in some cases on making no choice at all. For example, when choosing an insurance policy we may experience stress caused by choice overload.

Comparison websites – for insurances or other financial products, for instance – collect as many options as possible in one place. We expect websites like this to help us make a choice, but this is not always the case. The chances of choice overload are high and we are influenced by the order in which options are presented. It helps us if the options are ordered, for example by price or by the rating others have given the product in question.[59] Our stress caused by choice overload can be reduced if we are shown fewer options first and then the remaining options only appear when we click through.[60]

Our decisions are affected by the composition of the choice set as well as its size. An example of this is that we tend to choose the option we consider to be a compromise.[61] This is called the 'compromise effect'.[62] People are naturally inclined to select the middle option from the choices presented to them.[63]

2.2.4 Making what is important stand out

Some elements in the choice environment attract more attention than others, for example because they are in a prominent place, have a striking layout (bold, large font, etc.) or are easier to understand.[64] This can cause us to give greater consideration to the information or option in question, even if it is not the most relevant.[65]

Other elements are sometimes made less salient or are even hidden altogether, so that most of us will overlook them.[66] This occurs, for instance, when the risks or the costs of an investment product are stated in small print at the bottom of a page.

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[57] See also 1.2.1 'We are reluctant to act'
[58] Chernev et al., 2015; Diehl & Poynor, 2010; Frank & Lamiraud, 2009; Greifeneder et al., 2010; Haynes, 2009; Iyengar & Lepper, 2000; Scheibehenne et al., 2010; Shah & Wolford, 2009
[59] Bar-Hillel, 2015; Carlson et al., 2006; Dellaert et al., 2019; Russo et al., 2006
[60] Dellaert et al., 2019; Dorn et al., 2015; Levav et al., 2010; Levav et al., 2012; Mogilner et al., 2008
[61] Sheng et al., 2005; Simonson, 1989; Wernerfelt, 1995
[62] See also 1.2.2 'We have a narrow focus'
[63] Peters & Zijlstra, 2019
[64] See also 1.2.2 'We have a narrow focus'
[65] Bordalo et al, 2012; Bordalo et al, 2013; Hirshleifer & Teoh, 2003;
[66] Gabaix & Laibson, 2006

When we pay little attention to a choice – for example, because we are busy with other things or because we do not find the subject interesting – the influence of distinctive elements becomes greater.[67] We then pay particular attention to information that we can easily absorb, instead of making a conscious assessment based on all the information. When the most important aspects stand out, it becomes easier for us to make sensible financial decisions.

We base our decisions not only on the content of the information available to us, but also on how the various options are described. For example, we are guided by word choice and associations. It is quite possible that if we are presented with the same choice twice, but the options are presented in different ways each time, we will choose a different option each time.[68] The way options are presented relative to each other is called framing.[69]

There are many examples of the effect of framing on financial decisions. When choosing between insurances, we react differently to a deductible than to a no-claim discount, even if the two are in fact equivalent.[70] In preparing for retirement, it makes a difference whether our savings are represented as a total amount or as a monthly benefit payment,[71] and whether the focus is on investment or consumption.[72] When determining the amount of a periodic deposit in a savings account, we are influenced by whether the deposit is shown as a monthly or an annual amount.[73]

These insights can be used to our advantage by shifting attention to the long-term consequences of decisions. The tendency to overvalue the present goes hand in hand with our short-sightedness; we sometimes lose sight of what our decisions mean for us in the (distant) future. If these consequences are made clear or concrete, it becomes easier to make decisions that are more in line with our own long-term interests.[74]

2.2.5 Using social norms

We are social beings and are therefore susceptible to what others do and think. Someone can thus be convinced directly by another person, for example to make a purchase or investment. In addition, certain positive qualities of people (e.g., a salesperson) can make us think that they have other positive qualities as well. For example, we assume that an adviser who is nice also gives good advice. This is called the 'halo effect'.[75]

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[67] Ramos et al., 2020
[68] Levin et al., 1998
[69] Hardisty et al., 2009; Levin & Gaeth, 1988; Tversky & Kahneman, 1981
[70] Hayen et al., 2019; Johnson et al., 1993; Remmerswaal et al., 2019
[71] Goldstein et al., 2016
[72] Bockweg et al., 2018; Brown et al., 2008
[73] Hershfield et al., 2020
[74] Dang et al., 2020; Ersner-Hershfield, 2009; Hershfield et al., 2011; Magen et al., 2008
[75] Nisbett & Wilson, 1977

The beliefs of others also influence us indirectly, such as through social norms. A social norm is what you think the majority does, or what that majority thinks you should do.[76] We look at people around us to determine what is the right thing to do in a given situation. This can be done by looking at other people's behaviour or making assumptions about what others think you should do in a given situation. In an intervention, this can be used by describing the desired behaviour that most others exhibit. For example: *'90% of Dutch people repay their loans as agreed'.* It is of course important that this statement is actually true.

2.2.6 Helping to keep good intentions

We have many good intentions, but often fail to keep them.[77] Consider for example the good intention to save more, to sit down for a comparison of insurance policies, or to finally pay off your debt. An easy way to slightly increase the likelihood of achieving our goals is to use implementation intentions. This is formulating out loud or in writing a concrete 'if-then' plan in the form of: *'When situation x occurs, I will perform behaviour y'.* By linking the goal (y) to a specific event (x), we increase the likelihood that we will actually exhibit the desired behaviour.[78]

Starting to save and continuing to do so could be made easier in several ways. For example, we can start saving more and save more consistently if part of our salary is automatically designated as savings. We then make clever use of our own inertia and are supported in the sensible application of mental accounting. In addition, sending simple reminders (for example, a text message) can help us stick to our savings goal.[79]

When we commit to a savings goal in advance and do not have access to the money until the goal or a certain date is reached, we tend to save more.[80] So we are influenced by the moment a choice is presented to us. The same choice can lead to a different decision at different times.

The 'Save More Tomorrow' programme is a successful intervention in the context of pensions that deals with automatic saving and the timing of choice. In this programme, people agree with their employer that in the event of a future salary increase, they will automatically contribute a percentage of the additional salary to their pension savings each month.[81] By making the agreement before the extra money is actually available, present bias and loss aversion are circumvented. We find it easier to make sensible financial decisions now for the future than for the present. Once an agreement has been made, we are not easily tempted to deviate from it.

[76] Cialdini, 2007; Cialdini & Trost, 1998
; Raymond et al., 1993
[77] See also 1.2.1 ('We are reluctant to act') and 1.2.3 ('We focus on the present')
[78] Gollwitzer, 1999; Gollwitzer et al., 1997; Gollwitzer & Sheeran, 2006
[79] Karlan et al., 2016
[80] Ashraf et al., 2006; Ashraf et al., 2010; Bryan et al., 2010; Gugerty, 2007
[81] Thaler & Benartzi, 2004

In the Netherlands, this example is less relevant for the large group of people who automatically save enough for their retirement. But a similar mechanism could also be used to help build a buffer or save for your children's education.

3. Measuring behaviour: Reliable experimentation

Section 2 listed six promising techniques that financial firms can use to promote sensible financial decisions among consumers. However, it is often difficult to predict the exact effect of applying these techniques. After all, we know that the judgements and decisions we make are influenced by all kinds of factors that are different in every situation. It is therefore very important to test whether removing or raising barriers has the desired effect. This section outlines what this testing entails.

3.1 If you want to know if something works, test it

The purpose of testing is to find out what effect an intervention has. An intervention can be an adjustment in a letter, a completely new website on which people can gain insight into their pension or a reduction in the number of products offered.

It is important to test – in advance – whether the intervention will achieve the intended result. In some cases, an intervention will achieve exactly the opposite of what was intended. A well-known example of an intervention that achieved the opposite effect is an intervention involving fines at daycare centres. The daycare centres in question tried to reduce the number of parents picking up their children late by imposing a fine. The fines turned out not to have the desired effect. After the introduction of the fine, even more parents were late. Parents seemed to see the fine as a way of paying for the extra time they were leaving their child in daycare.[82]

Or consider the example of pre-filled amounts in the income and expense test in the telecom sector. There, providers thought they were helping people enter correct amounts by pre-filling an amount in the creditworthiness test. However, research showed that in reality many people wrongly left the pre-filled amount unchanged. By testing the effect of the intervention before the amount was pre-filled for all applicants, it was possible to prevent large-scale excessive borrowing.

3.2 If you are interested in behaviour, measure it

Behavioural insights show how people make decisions, and can point towards effective ways to adjust choice behaviour – where necessary. The word ‘behaviour’ is extremely important here. We are interested in what people do; knowledge, attitudes, beliefs and intentions play a role, but are not necessarily accompanied by (changes in) behaviour. This is shown in the following examples:

[82] Gneezy & Rustichini, 2000

- Even investors with a great deal of knowledge and experience can run a great deal of risk, for example because they trade very actively and do not diversify their investments;[83]
- Financial education can have an effect on people's financial knowledge and attitudes, but it has little impact on the decisions people make;[84]
- Providing information can ensure that people are aware of the product conditions of a loan or their own pension situation. But this often does not lead to more sensible financial decisions being made;[85]
- The AFM's research revealed that the warning 'Attention! Borrowing money costs money' had no immediate effect on the borrowing decisions made, despite people expecting this to have an impact.[86]

Measuring knowledge, attitudes, beliefs or intentions is therefore of limited value if you are actually interested in behaviour.

3.3 If you want to establish causal relationships, do experiments

If you want to know what people really do, and want to be able to make statements about cause and effect, then you will be well-advised to study behaviour. Preferably by means of behavioural experiments (also called RCTs or A/B tests). However, behavioural experiments also have disadvantages: they are not always easy to carry out and sometimes provide limited insight into people's ways of thinking and feeling.

There are two types of behavioural experiments: field experiments and lab experiments. With a field experiment you measure people's behaviour in the real world. For example, on a credit provider's website you can measure the amount of credit people apply for when the default amount is set at €25,000 instead of €5,000. Field experiments provide the most reliable evidence because they measure actual behaviour. It is therefore advisable to use a field experiment to test the effect of an intervention on people's behaviour. Based on the results, it can then be determined whether it is actually worthwhile to deploy the intervention.

With lab experiments, you measure people's behaviour in a more artificial, controlled, and sometimes hypothetical setting. For example, in a survey you can ask people to imagine they are applying for a loan and you present them with a mock application form in which the standard amount is €25,000 instead of €5,000. The intention you measure here will not always translate directly into what people would actually do. However, the advantage of lab experiments is that they are faster and cheaper than field experiments and you can collect more data more easily. Moreover, as a researcher you have more control over the setting and can make more precise

[83] Chen et al., 2007; Graham et al., 2009;
[84] Amagir et al., 2017; Fernandes et al., 2014; Kaiser et al., 2020; Willis, 2011
[85] AFM, 2019; Beshears et al., 2015; Mastrobuoni, 2011; Seira et al., 2017; Weil et al., 2005
[86] AFM, 2016

adjustments. This makes lab experiments very suitable if you want to investigate the effect of small changes.

Good research requires a thorough approach. The AFM offers some advice on how to get started in its brochure '*How do I conduct a reliable behavioural experiment? Better insight into consumer behaviour in 7 steps*'.[87]

[87] AFM, 2017

The Dutch Authority for the Financial Markets
T 020 797 2000 | F 020 797 3800
PO Box 11723 | 1001 GS Amsterdam
www.afm.nl