

# Observing online investment platforms

An exploratory study into guiding investor behaviour

February 2023

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# Summary

The design of the choice environment – the context in which people are presented with choices – influences how investors consider options and which choices they ultimately make. To gain insight in market practices regarding the choice architecture of online investment platforms, the AFM has observed several of those platforms. In this report, the AFM shares the most relevant insights of the observations. Where possible, we enriched our observations with insights from academic literature to enable the reader to better interpret them. We noticed various elements that might influence investor behaviour. For example, the use of defaults for depositing money into the trading account. Some platforms offer an instant bank transfer as the preset way of depositing money, which encourages investors to trade with money they really have. Whereas other platforms offer a credit card payment as default option, which encourages investors to trade with borrowed money. Another example is the way in which the choice set is structured. Some platforms do not show all investment categories initially. By limiting the displayed categories, platforms avoid drawing investors' attention to riskier instruments they cannot trade in (yet) or which may not be appropriate for them.

We encourage investment firms to use their online investment platforms to promote sensible investment decisions. With this report we hope to fuel the policy debate on guiding investor behaviour in the online choice environment. In addition, it could function as a conversation starter between national competent authorities and investment firms about the decisions firms make regarding the design of their online investment platforms.

# Background

The number of Dutch households that invest (self-reported) increased by 11% year-on-year to 1.6 million in 2020 and by 12% year-on-year to 1.9 million in 2021.<sup>1</sup> Among other things, low interest rates on savings accounts made it attractive for people to start investing. Thanks to technological developments, barriers to purchase investment services have been reduced and convenience has increased. But while circumstances have changed, most of the regulations to protect investors in non-advised services stem from more than 15 years ago, raising the question whether investors are still adequately protected.<sup>2</sup>

To gain better insight in whether investors are adequately protected, the AFM carried out a survey among retail investors in non-advised services in 2021 as a first step. This survey was completed by 850 investors in non-advised services and contained questions on a wide range of topics, including investment experience, goals, portfolio composition and trading behaviour. One of the main findings of this study is that 32% of the respondents report so-called suboptimal investment behaviour. This means they incur more risk than necessary or are likely to achieve lower returns than possible. In this study, suboptimal behaviour is defined as little diversification across regions, types of assets and/or sectors, excessive trading and/or investing a large part of the portfolio in risky assets.<sup>3</sup>

Approximately 12% of investors in non-advised services report suboptimal investment behaviour and are likely to need the invested money in the short or long run. Either because they currently have less than €5,000 in savings or because they need the capital to make ends meet when they retire, to repay mortgages or to pay for (possible) future healthcare expenditures.<sup>4</sup>

A second step in examining whether investors in non-advised services are still adequately protected is gaining insight in the possible causes of this reported suboptimal behaviour of investors. Suboptimal behaviour can have different root causes. For instance, it may stem from human tendencies of investors (for example, overconfidence) or could be caused by the choice environment they are presented with by investment firms. The choice environment can guide the behaviour of investors in non-advised services. It can have a positive or a negative impact on the choices investors make. The choice environment can promote sensible investment decisions, but it can also exacerbate human tendencies which may lead to unwise decisions.<sup>5</sup> A well-designed choice environment can, for example, encourage investors to buy products that suit their investment goals, not trade more than they need to and to sufficiently diversify their investments.

To gain insight into how the online choice environment guides investor behaviour, the AFM has performed an exploratory study on the choice architecture of online investment platforms. Observations from this study are presented in this report.

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<sup>1</sup> AFM [Consumer monitor](#) (2021)

<sup>2</sup> AFM [Trend monitor](#) (2022)

<sup>3</sup> AFM [Trend monitor](#) (2022)

<sup>4</sup> AFM [Trend monitor](#) (2022)

<sup>5</sup> AFM [Principles for the use of consumer behavioural insights](#) (2021); AFM [Consumer Behaviour: understanding, guiding and measuring](#) (2021)

# 1 Method

Our study consisted of two phases. In the first phase of the study, we held exploratory conversations with six investment firms (varying in residency, holding different types of licenses, offering different types of investment services and with different underlying philosophies<sup>6</sup>). The goal of these conversations was to gain insight in how these firms develop the choice environment of their online investment platforms. We discussed what parts of the organisation are involved in making decisions about the design of the online investment platform, how this leads to the actual design of the platform and what kind of consumer research is being performed. We also discussed to what extent investments firms are aware of the most relevant behavioural insights and whether they use these insights to encourage investors to make sensible decisions. A demonstration of the online investment platform was also part of these conversations.

In this report we only describe the insights gained from the second phase of the study.

In the second phase of the study, we opened nine different investment accounts. We performed structured observations of these online investment platforms. We did not make any transactions. Therefore, our study does not include observations on certain elements that could affect (future) investment behaviour, such as costs and feedback on investor performance.

We used academic literature (from the field of behavioural science) to develop a standardised observation form. The observation form contained various topics related to factors by which retail investors may be influenced in their decision-making: design of the choice environment, flow, banners, choice set, defaults, costs, (historical) returns, information, push notifications and messages, social proof, social interaction, rewards, and scarcity. Each topic was thoroughly observed and recorded in the observation form in a precise and objective manner. Whether investment firms are compliant with the applicable laws and regulations was outside the scope of this research.

Where possible, we enriched the observations in this report with insights from academic literature to be able to better interpret them and get an idea of the possible ways in which retail investors are being influenced in their decision-making.

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<sup>6</sup> In this study we define the philosophy underlying the investment services as the investment firm's assumptions about how their clients should manage their assets.

## 2 Observations

The design of the choice environment – the context in which people are presented with choices – influences how people consider options and which choices they ultimately make.<sup>7</sup> Therefore, the design of the choice environment – also known as choice architecture – must be designed carefully.

Below we describe the observations of this study. Where possible, they were enriched with insights from academic literature. Not all the topics we reviewed during our observations are included in this report. Either because – to our best understanding – they lacked relevance, or simply because we did not encounter them. For the included topics, we do not provide an exhaustive list of observations but selected the most relevant or striking examples.

### 2.1 Default options

When people make decisions, they often take the path of least resistance. People often do not act, even when this is necessary or would be beneficial. This is called inertia. This may be due to various causes, like being unmotivated to make a certain decision or considering it to be unimportant. Acting requires a lot of mental effort which can cause inertia to occur when making important decisions as well. As a result, people often end up choosing the default option (a pre-selected or pre-filled option in the choice environment). This is not only due to people's inertia. Choosing the default option may also be caused by people interpreting it as implicit advice. Because many people end up choosing the default option, it is particularly important that this option leads to an acceptable outcome.<sup>8</sup>

#### 2.1.1 Depositing money

To be able to perform a trade, investors need to deposit money into their trading account. Some of the online investment platforms observed in this study have a preset way of depositing money. One platform has set instant transfer from investors' bank account (with iDeal) as the default option for depositing money. This encourages investors to trade with money they really have. By contrast, another platform has set a €500 credit card payment as the default option for depositing money. This encourages investors to trade with borrowed money.

#### 2.1.2 Placing an order

Many of the online investment platforms observed in this study preset the order type. All those platforms have set a limit order as the default order type. With this order type, investors submit the number of shares they want to buy (or sell) and the maximum price (or minimum profit) at which they are willing to carry out the trade. The main advantage of limit orders is that the maximum price of the trade is fixed. However, if investors wish to trade with a very low limit order, it can take a very long time, or the trade might not be executed at all. Other order types (market, stoploss, stop limit) are known to be more advanced. Setting a limit order as the default order type protects investors by ensuring they do not pay more or sell for less than they anticipated.

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<sup>7</sup> Johnson et al. (2012); Münscher et al. (2016); Szaszi et al. (2018); Thaler & Sunstein (2008); Thaler et al. (2013)

<sup>8</sup> Brown et al. (2012); Dinner et al. (2011); Jachimowicz et al. (2019); Krijnen et al. (2017); McKenzie et al. (2006)

Another way in which orders are typified is by the duration of the order. There are several different order duration types that determine for how long the order is in the market before it is cancelled, such as a day order or GTC (good 'til cancelled) order. A day order is cancelled if it is not executed before the close of markets on the day it was placed. Investors can also leave the time period open when placing an order; this is called a GTC order and has no preset expiration date.

Most of the online investment platforms observed in this study preset the order duration type. On some platforms the default order type is a day order; on other platforms the default option is GTC. Investors may use GTC orders to limit time spent on management of their portfolio. However, placing a GTC order may expose investors to risks because such orders can be executed at a disadvantageous time due to temporary high volatility in the market. With a sell order, once the order triggers, the next price at which the trade will be executed can be much lower and result in bigger losses than anticipated.

On most platforms observed in this study, investors enter the transaction amount themselves in a blank field (active choice). However, one online investment platform pre-filled the transaction amount. If an investor wants to place an order on this platform, e.g. to buy a share, the order amount in euros is pre-filled. This pre-filled amount is related to the available funds in the account. Using a percentage of available funds in the account as the default transaction amount could affect the portfolio diversification – either positively or negatively depending on the context. We did not encounter any pre-filled transaction amounts related to other characteristics such as the price of a share.

## 2.2 Choice set

The choice set involves aspects like the (number of) instruments investors can see, how different options are ranked or presented and how cognitively challenging or time-consuming it is to make a choice. Academic literature provides strong evidence that the way the choice set is structured influences decisions.<sup>9</sup> In this report we define the choice set as all elements in the choice environment related to the display of instruments.

### 2.2.1 Structure and sorting

Within the observed investment platforms, choice sets are structured in different ways. Most investment platforms use a menu bar to navigate to different type of instruments, such as shares, trackers (ETFs), bonds, mutual funds, leveraged products, warrants, options and futures. The way in which these categories are sorted differs. For example, alphabetically or based on riskiness, from least to most risky. Some investment platforms also include top winners and losers and popular instruments in their menu bar.

Some platforms do not show all investment categories initially. For example, investors must pass an appropriateness test before they get to unlock risky instruments. By limiting the displayed categories, platforms avoid drawing investors' attention to riskier instruments they cannot trade in (yet) or which may not be appropriate for them. Other investment firms even offer multiple investment services on different investment platforms, e.g. one platform for direct investments and one for trading different types of derivatives. The information and choices available on these platforms differ. One investment firm offers different platforms for the same investment service: one for new investors and one for more experienced investors. This approach makes it more likely for investors to find instruments that suit their goals or experience.

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<sup>9</sup> AFM (2021). Consumer Behaviour: understanding, guiding and measuring.

## 2.2.2 Search bars

All observed investment platforms offer a search bar, where investors can search for specific instruments. When searching for an instrument, some investment platforms show both the direct investment (shares or bonds of the firm the investor searched for) and the available derivatives on this specific financial instrument. Some platforms use subheadings to show which financial instruments are direct investments and which are derivatives. On some platforms, search results are filtered in such a way that investors initially only get to see direct investments and must take action to get to see derivative instruments as well. This may help to prevent investors from buying risky instruments without realising it.

## 2.2.3 After initial decision

On some platforms, after landing on a page about a specific financial instrument, it is easy to navigate to other (types of) financial instruments of the same underlying company. For instance, because the page about a specific financial instrument also provides access to information on derivatives. Due to this design, moving from a non-complex to a complex instrument is very easy. Even though the investor initially selected a direct investment, it is still possible to switch to a riskier investment in just one click.

## 2.3 Information

It is often assumed that information enables people to make sensible financial decisions. In practice, however, this is often not the case.<sup>10</sup> Research shows that many people do not read information.<sup>11</sup> For example because they do not notice the information amongst other pieces of information, or the moment they receive it is not convenient. If people do read the information, it might be difficult to understand or to relate it to their personal situation. To translate information into action requires sufficient motivation, which is often lacking.<sup>12</sup>

When providing information, it is important to have a proper understanding of the recipient and what information they need (and do not need). There is an endless variety of products that investors can buy, making it impossible to consider all the available options in their decision. Hence, investors focus on the most prominent information, making it even more important what information is made salient to them.<sup>13</sup> If this information is not relevant to the decision they are about to make, this may lead to problems. When people get too much information, it may be too difficult to find and access the most relevant information.<sup>14</sup>

### 2.3.1 Information on financial instruments

On their online investment platforms, investment firms provide investors with information, such as general information about investing (instruments or investment strategies) and information about investment services and market developments. We observed differences in the amount of information provided about financial instruments. Information about (historical) returns will be discussed in the next paragraph.

Some platforms observed in this study provide a limited amount of price information about the financial instrument, e.g. only displaying information on the highest and lowest historical price. Others provide detailed price-related information, such as betas and P/E ratios and other information, such as ESG ratings and analysts' forecasts. While some investment firms disclose little to no general company information about the

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<sup>10</sup> ICA (2017); Kathri (2017)

<sup>11</sup> Ben-Shahar & Schneider (2017); Loewenstein, Sunstein & Golman (2014)

<sup>12</sup> AFM [Discussion paper disclosures](#) (2021)

<sup>13</sup> FCA (2013)

<sup>14</sup> AFM [Discussion paper disclosures](#) (2021)



underlying company, others provide detailed information on e.g. the number of employees, the sector, revenues, and a financial summary. This detailed information is often available by scrolling down or using a drop-down menu. A downside of this significant amount of information can be that the most relevant information may be too difficult to find and access.

Some platforms provide information on the intended target market for individual instruments. They provide information on the type of investor for whom the instrument may be suitable, such as information about investment horizon, risk appetite and investment goals. This information can assist investors in assessing whether a specific financial instrument suits their individual preferences and situation. However, it may be difficult for investors to relate this information to their personal situation.

### **2.3.2 Information on economic news**

The online investment platforms observed in this study have different ways of sharing general economic news and trends with investors. Multiple platforms show a calendar with economic news and upcoming announcements, for example on changes in interest rates. Some platforms show information on market trends, such as a timeline with recent tweets from news agencies like Thomson Reuters and Bloomberg. The location where economic news and market trends are presented differ between platforms. This information may be provided on the homepage, the page with information about a specific instrument, or emails sent by the investment firm. One investment firm only offers news on market trends to funded account holders.

Several investment firms also interpret the economic news and other developments and share these interpretations with their investors by sharing expert opinions. This may help investors understand the information and relate it to their personal situation. The downside of this is that investors may apply this interpretation to their portfolio without giving it any further thought, which may lead to disadvantageous results.

### **2.3.3 Educational information**

Besides information on specific instruments or companies or general economic news, all online investment platforms observed in this study to some extent offer educational information on investing. They present this educational information in different ways, e.g. in written text, videos, or livestreams.

The accessibility and presentation of educational information differ between the online investment platforms observed in this study. The way in which investment firms frame their educational content may influence how investors interact with it. On some platforms this information can be accessed via a button or tab on the homepage labelled “Academy” or “Knowledge Centre”, which makes the information accessible and the nature of the information clear. On other platforms, however, investors need to search more actively and navigate through the platform before getting to the educational pages.

Many online investment platforms observed in this study offer videos with information on placing your first order, order types and investing in specific financial instruments. Other investment firms use written text to explain how the platform, specific financial instruments and investment strategies work. We found material on a wide variety of topics, from information about the platform itself, to investment channels, product specifications, trading versus investing, risks, and a glossary. Some platforms that mainly serve experienced investors also offer very basic educational information. As a result, not all educational information seems to fit the level of knowledge and experience of the investor, or more generally speaking, the needs of the recipient.

Some investment firms offer demo accounts. On these accounts investors receive an amount of fake money to trade in various instruments without having passed the relevant appropriateness tests. The use of demo accounts offers people the opportunity to get an introduction into investing and is often meant to increase

knowledge and experience. However, trading with fake money is very different from trading with your own actual money, so the actual educational value is debatable.

## 2.4 (Historical) returns

When people make decisions, they use information from the environment in which they make the decision. People may use numbers as a reference point or a benchmark. A reference point is something that is used to judge or understand something else. When making decisions, people sometimes use (irrelevant) information that they encountered earlier on in the decision-making process. They use this information as a reference point. This is called ‘anchoring’.<sup>15</sup> Therefore, numbers shown in a choice environment and how they are presented can influence decisions. An example of reference numbers in the investment context are (historical) returns. Past performance seems to be one of the most decisive factors for individual investors when selecting a financial instrument.<sup>16</sup>

Historical returns are associated with past performance of an individual financial instrument or index such as the AEX. Analysing historical returns, by means of fundamental analysis and/or technical analysis, can provide investors context on the current situation. Knowing how a financial instrument’s price or index behaved under certain conditions in the past can provide insights into how it might react in the future. However, those analyses do not provide investors with a crystal ball. In general, good past returns tend to trigger excessive optimism about future performance, while bad past returns tend to trigger excessive pessimism across financial markets, which many market participants then act upon. When selecting where to invest in, investors highly favour assets that displayed good recent performance.<sup>17</sup>

### 2.4.1 Presentation

On some platforms observed in this study, historical returns, such as price information of leading indices and popular instruments, are prominently displayed on the homepage. Changes in trading prices are shown real-time, with the use of flashing red and green frames. This may attract the attention of investors and instigate a short-term investment focus and the urge to trade. Moreover, on some platforms the largest price changes are shown as “winners and losers”.

Most investment firms observed in this study prominently display historical returns in a graph on their financial instruments pages. After landing on a page about a specific financial instrument, the historical returns graph is often prominently shown, at times covering at least half of the visible part of the page. In most cases, the current price is also displayed close to the graph, with real-time price changes shown in red (negative returns) and green (positive returns). This may lead investors to think that historical returns are the most relevant source of information on which to base investment decisions.

Some investment firms observed in this study include additional information on historical returns in the graph, such as the current price of the instrument and/or daily highs and lows. Or they enable investors to expand the graph by adding indicators such as Chaikin volatility, Ichimoku or parabolic SAR. The investment firms that offer more possibilities to edit the graph typically offer more complex products.

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<sup>15</sup> Epley & Gilovich (2006); Furnham & Boo (2011); Jung, et al. (2016); Strack & Mussweiler (1997); Tversky & Kahneman (1974)

<sup>16</sup> Wilcox, (2003); Barber & Odean (2013)

<sup>17</sup> Lakonishok et al. (1994); De Bondt (1993)

## 2.4.2 Timeframes

All online investment platforms observed in this study provide investors with information on historical returns, although the preset timeframe differs. Depicted default timeframes range from one hour to “max.” or “since inception”. The information on historical returns is most relevant when the preset timeframe aligns with the expected holding period. For instance, if an investment firm offers investment services to experienced day traders, it makes sense to preset a short-term timeframe. The preset time frames observed in this study do not always align with the expected holding period of the investors that the investment firms serve. However, on most of the observed investment platforms investors have the possibility to change the preset timeframe of historical returns graphs to their own personal preference.

## 2.5 Design

Understanding the basic principles of human cognition and emotion and their implications is useful for design. People instinctively make quick judgments about what is good or bad, safe, or dangerous. Instinct can have a powerful influence on how people react to something. An otherwise well-designed product – such as an investment platform – can fail if it provokes a negative instinctive reaction in the user. The opposite is also true: a positive instinctive response can lead to great success. If a user perceives the visual appearance of a product as aesthetically pleasing, they will be more patient when interacting with the product. More patience increases the chances of achieving the designer's goal.<sup>18</sup>

The design of the online investment platforms observed in this study varies greatly. Some of the platforms have a very clean and stylish interface and use subtle colours that may foster a general positive feeling among investors. Other platforms, however, are crowded with information and a wide variety of colours which may overwhelm some investors. Retail banks that offer investment services mostly use their brand colours and design within their online investment platforms, which makes the look and feel familiar and the transition from banking to investing smooth.

The homepages of the observed investment platforms generally display a plethora of information, such as latest news, indices, winners and losers, etc. They often have a lot of flashing green and red numbers to indicate current winners and losers, which are updated real-time (every second). This probably attracts the attention of investors and may instigate a short-term investment focus and the urge to trade.

## 2.6 Flow

Making well-considered decisions places high demands on people's mental capacity. The source of this mental capacity is not infinite: attention, calculation power, time, imagination and empathy, patience, motivation and self-control are limited. The mind therefore simplifies many situations. This is the reason why people are guided by the way in which a choice is presented. The easier the choice architecture makes it for people to perform a certain task or make a specific choice, the more likely it is that people do it.<sup>19</sup>

The steps that need to be taken to place an order are mostly limited and intuitive. Some investment platforms offer a guided tour to familiarise investors with the platform. On all investment platforms, investors do not

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<sup>18</sup> Norman (2004)

<sup>19</sup> AFM [Consumer Behaviour: understanding, guiding and measuring](#) (2021)

seem to be rushed into placing orders. However, the number of steps that need to be taken to be able to place an order differs across platforms. From the homepage, investors need to actively open the page from which they can place an order. After filling in all the necessary information, investors need to confirm their input before the order is placed. On some platforms investors must confirm their trade via SMS.

## 2.7 Emails and (push) notifications

Investment firms send emails and (push) notifications to their investors to inform and engage them. All investment firms send emails, although the frequency and content vary. Some firms send investors (push) notifications as well. In this study we define push notifications as clickable notifications that pop up on the homepage of the investment platform, a mobile phone or other devices the investors installed a trading app on. We observed both push notifications initiated by the investment firm, as well as pre-defined notifications initiated by the investors (such as price alerts). Investors can turn push notifications on and off themselves.

All firms send account-related emails, such as confirmation emails, emails containing client agreements, and emails with tips to protect the account or on privacy in general. Furthermore, most investment firms provide information by email on how to place a first order. In some cases, investors get emails with investment opportunities and winners and losers. Or emails that contain specific price information on financial instruments, such as *“Price warning – Twitter reaches xxx”*. Some investment firms send emails on general economic news such as inflation, interest rate changes or upcoming tax changes. In addition, some firms send emails with (educational) information on specific financial instruments, such as *“Learn the basics of stock investing”*, *“Start with investing in ETFs today”*, *“The difference between stocks and CFDs”* or *“Let us introduce Bitcoin options to you”*. Push notifications mostly contain information on specific instruments or general economic news updates.

While some investment firms only send investors essential emails (e.g. concerning account-related matters), others tend to flood investors with emails and push notifications about a wide variety of topics. This may encourage investors to log onto the platform and perform activities which they might otherwise not have done.

## 2.8 Social interaction

As people are social beings, they tend to be influenced by what others do and think. Therefore, someone can be directly persuaded by someone else. The beliefs of others also influence people indirectly, for example through social norms. A social norm is what you think other people do, or what other people think you should do.<sup>20</sup> People look at others around them to find out what is the right thing to do in a particular situation. For example by looking at other people’s behaviour or making assumptions about what others think you should do.

Investment decisions can be influenced by peers, such as colleagues, neighbours and family. Academic literature is inconclusive as to which peers are the most influential; the degree of influence depends on the context. Different mechanisms play a role, such as word of mouth, observational learning (learning more easily by talking to peers) and the ‘keeping up with the Joneses’ effect (investing to belong to the group). When making financial decisions, consumers often look to others to see what the best course of action is. When it comes to people choosing to invest, it appears that the number of investors entering the market is high during

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<sup>20</sup> Cialdini (2007); Cialdini & Trost (1998); Raymond et al. (1993)

times of high market sentiment.<sup>21</sup> In addition, a higher (lower) community participation rate is associated with a higher (lower) likelihood of people from that community starting to invest.<sup>22</sup>

Most online investment platforms observed in this study do not use social interaction to engage investors. For instance, it is often not possible to use the platform to reach out to other investors or to learn about what others are doing. However, there are exceptions. On some investment platforms, the word 'popular' is used when referring to an overview of specific instruments or indices. On one of the observed platforms, the percentage of investors buying and selling is displayed when selecting a specific instrument. On another platform, a timeline with messages from other investors is displayed which investors can like, share and respond to. On this platform, each investor has a profile page with a picture and some information about the portfolio and past performance. Investors can add personal information, such as information on their educational background or investment strategy, to their profile page. In addition, it is possible to copy someone else's portfolio<sup>23</sup> and the number of copiers is shown. This gives investors an idea of what others are doing and may influence the decisions they make themselves.

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<sup>21</sup> Knupfer & Kaustia (2012)

<sup>22</sup> Brown et al., (2008); Hong et al. (2004)

<sup>23</sup> Copy trading enables individuals in the financial markets to automatically copy positions opened and managed by other selected individuals.

# 3 Concluding remarks

When online investment platforms are designed, investment firms do not necessarily intend to guide the behaviour of their clients in a particular direction. However, firms should be aware that the way in which choices are presented to investors in the choice environment does influence investor behaviour. A well-designed choice environment can promote sensible investment decisions, such as investing in financial instruments that suit the investor's investment goals (e.g. not too risky) and sufficiently diversifying the portfolio.

We do not prescribe what sensible investments decisions are. That depends on the context, which includes, for example, the investment services being offered, the philosophy underlying the investment services and the characteristics of the client base. We therefore encourage investment firms to develop an online investment platform that aligns with both their investment services and their client base. For example, if the investment firm offers investment services aimed at long-term asset accumulation, it should consider using a preset timeframe for the displayed historical returns that aligns with this philosophy. Or if the investment firm serves inexperienced investors, it should consider visually limiting the product set.

It is good to keep in mind that there is no single (good) way to design the online choice environment. In this report we described several elements in the online choice environment that may guide investor behaviour. Not all topics we reviewed during our observations are included in this report. And we did not provide an exhaustive list of observations concerning the topics covered by our study but selected the most relevant or striking examples. In conclusion, this report does not sum up every topic that is relevant to the design of online investment platforms. We therefore encourage investment firms – when further developing their online investment platform – to consider not only the examples mentioned in this report but all elements in the choice environment as possibly influencing investor behaviour.

Moreover, it is difficult to predict the (exact) effect of specific elements in the online choice environment on investor behaviour. After all, the decisions investors make are influenced by all kinds of factors that are different in every situation. Therefore, it is very important that investment firms test whether specific elements in their online choice environment have the desired effect – preferably by means of behavioural experiments.

## Limitations and further steps

With this study, the AFM has gained insights into market practices regarding the choice architecture of online investment platforms. However, there are still unanswered questions regarding guidance in the online choice environment. For example, in this study we did not execute any investment transactions on the observed platforms. Consequently, our study does not include observations on certain elements that could affect (future) investment behaviour, such as costs and feedback on investor performance.

Moreover, we have not conducted behavioural experiments to investigate to what extent specific elements of the online platforms affect investor behaviour. The effect of specific elements of the choice environment on investor behaviour will probably vary considerably between platforms. We therefore encourage investment firms to perform behavioural experiments themselves.

With this report we hope to fuel the policy debate on the guidance of investors in the online choice environment. This report could also function as a conversation starter between national competent authorities and investment firms about the decisions firms make regarding the design of their online investment platforms. The topics described in this report raise questions about why investors seem to be guided in a certain way. These questions can be answered by investment firms. These conversations will

hopefully lead to awareness about the influence of online choice architecture and eventually to platforms that are well aligned with the offered investment services and client base.

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