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HELPING CONSUMERS UNDERSTAND INVESTMENT RISK

Experimental research into the benefits of standardising risk disclosure

Report from ABI Research Department and Decision Technology Limited

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EXECUTIVE SUMMARY

When consumers decide to invest their savings they must weigh up two main factors: the return that they want and the risk they are willing to incur. Finance theory teaches us that these are interrelated, as higher returns are typically associated with greater risk. The trade off between the two will also depend on the time horizon of the investment. When people are investing for the long term, for example when taking out a pension, opting for a product where the money is protected, but therefore offers low returns, may potentially represent a greater risk to people's retirement aspirations.

However, people find it difficult to assess risk, in part because their understanding of risk tends to be relative, rather than absolute: the choice of how much risk people are happy to accept depends on the context and how the risk is presented. A stark example of this is the work of Tversky and Kahneman (1981), which shows that it is possible to reverse people's risk preferences depending on whether two identical choices are presented in terms of the number of people who will survive or the number who will die. It is against this background that consumers need to decide how much risk to take when investing their savings.

One thing is clear – in order to make good investment choices, people need to be able to assess effectively the relative risks of the different options available. This research investigates whether there is a way of presenting the risks associated with different investment funds that will help people make this assessment. In particular we investigate whether using a pictorial presentation of risk, in the form of a synthetic risk reward indicator, helps people make better investment choices. We do this using an experimental approach, which allows us to assess the impact of different designs after controlling for differences in the sample of people seeing the different designs.

The findings show that:

- Introducing a pictorial presentation of investment risk is more effective than a purely text based description. Pictorial presentations can improve people's ability to pick the right fund by over 20% relative to a purely text based version.
- Standardising the disclosure of investment risk helps. People who see the same presentation of risk for all the investment funds are on average 16% more likely to pick the right fund than those who see a different presentation of risk for each of the funds.
- The form of standardisation also matters. The top three pictorial designs are roughly twice as effective as the three worst designs.
- The most effective pictorial design is a horizon thermometer. There are two thermometers that do particularly well, one of which is the thermometer design proposed by CESR in its consultation of risk disclosure for the Key Information Document for UCITS.
- Although consumers often comment that they would prefer to see more charts, introducing charts can reduce their ability to understand the information. Using bar charts, instead of a table, to present relative investment performance and

the probability of losing money, reduces people's ability to answer questions by between 50-75%.

- Although the fan chart design is associated with a higher number of participants in the top group for the suitability task, overall it does not lead to an improvement in performance.

This research shows that standardising the disclosure of risk for investment funds would be beneficial to consumers. The analysis underpins the ABI's position on standardising risk disclosure. Of course how to present risk is only part of the issue – standardisation also means that there has to be a consistent calculation methodology. This is why the ABI and IMA jointly commissioned Professor Andrew Clare to undertake work on what principles should guide any standardisation, see Clare (2010) and have also assessed the impact of CESR's specific proposals in practice, see Driver and Patterson (2010).

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1.0 INTRODUCTION

People find it difficult to assess risk, in part because their understanding of risk tends to be relative, rather than absolute: the choice of how much risk people are happy to accept depends on the context and how the risk is presented. A stark example of this is the work of Tversky and Kahneman (1981), which shows that it is possible to reverse people's risk preferences depending on whether two identical choices are presented in terms of the number of people who will survive or the number who will die.[1] It is against this background that consumers need to decide how much risk to take when investing their savings.

When consumers decide to invest their savings they must weigh up two main factors: the return that they want and the risk they are willing to incur. Finance theory teaches us that these are interrelated, as higher returns are typically associated with greater risk. The trade off between the two will also depend on the time horizon of the investment. When people are investing for the long term, for example when taking out a pension, opting for a product where the money invested is protected, but therefore offers low returns, may potentially represent a greater risk to people's retirement aspirations, see for example Niels (2010).

One thing is clear – in order to make good investment choices, people need to be able to assess effectively the relative risks of the different options available. This research assesses whether there is a way of presenting the risks associated with different investment funds that will help people make this assessment. In particular we investigate whether using a pictorial presentation of risk, in the form of a synthetic risk indicator, helps people make better investment choices.

1.1 The policy context

In the summer of 2004 the Treasury Select Committee reported on 'restoring confidence in long-term savings'. Amongst recommendations it made to industry and regulator was to:

> "develop a simple system of signalling the inherent risk level of a savings product", which would both "inform the consumer and ensure that the product provider had thought seriously about the risk inherent in the product"

However, since then FSA research into alternative disclosure documents, as well as its wider research on financial capability, suggested that customers would accrue limited benefits (compared to high industry costs) from further refinement of point of sale literature, FSA (2006). Although not specifically focused on risk disclosure, which was

[1] See Appendix 1 for a brief summary of some of the key findings from the psychology and behavioural economics literature on people's approach to risk.

simply one element of disclosure, this work identified that consumers' ability to understand and act on detailed financial information remains almost universally low. The FSA therefore decided not to pursue a standardised risk disclosure methodology at that time.

The caveat is important. Unless there is real benefit from change, with the benefits to consumers outweighing the costs to industry (and therefore its customers), changing the disclosure regime does not make sense. Therefore, as part of this work we have concentrated on establishing the extent to which changing risk disclosure will benefit consumers in their decision making. The use of an experimental methodology, combined with our decision to test a wide range of disclosure options, makes this research particularly suited to establishing whether a standardised synthetic risk reward indicator would help consumers.

Since the FSA work, the European Commission through Committee of European Securities Regulators (CESR) has been consulting on changes, including the introduction of a synthetic risk reward indicator, to the Key Information Document (KID) for UCITS, CESR (2009). [2] This research has been used to inform and influence the results from this consultation, for example by including CESR's suggested pictorial risk reward indicator in the second phase of the experiment.

[2] UCITS are undertakings for collective investments in transferable securities. UCITS are a type of collective investment (or fund) that allows financial institutions to operate freely throughout the EU on the basis of an authorisation from a single member state.

2.0 METHODOLOGY

Our aim in conducting this research is to investigate the effectiveness of different ways of presenting investment risk to consumers, and to see if consumers respond better to a standardised design. In particular, we are interested in whether changes to disclosure design influence people's decision-making abilities. In other words, the aim is to assess which designs are effective, rather than simply which designs people like. As such, this research represents an important step forward from previous work on this issue, which has concentrated on whether or not consumers liked particular disclosure designs, see for example IFF Research Ltd (2007) research for the FSA's Consumer Panel.

This is not to say that people's reactions to the design are not important – an effective design will combine both improved decision-making capability and customer engagement. Without the latter, consumers will not pick up the document, but without the former it may not matter if they have picked it up or not.

Although experimental methodologies have not been widely used to test alternative disclosure documents within financial services, there are some examples. See, for example, Beshears *et al* (2009), which compares two different disclosure documents for the purchase of mutual funds to assess whether the new disclosure regime in the US is having an impact. Another example is de Meza *et al* (2007), which looks at whether disclosure of value for money and commission details can influence buying behaviour.

2.1 Choice of experimental approach

In order to assess the effectiveness of the disclosure in helping people make decisions, we use an experimental based approach, rather than focus groups or similar qualitative techniques that are often used to assess disclosures. This is because an experimental approach can help to pin down exactly which factors have triggered observed changes in people's answers. It allows us to test people on their ability to comprehend and use different forms of information.

The key question, therefore, is how should we set up our experiment in order to maximise its effectiveness?

2.1.1 Experimental environment

One obvious question is how to conduct the experiment. Should it make use of real live situations, be conducted through face-to-face interviews, or should it be internet-based? An important factor determining the choice of strategy is exactly what you are trying to test and, in particular, how many different permutations you want to explore. Real live situations and face-to-face interviews can work well when there are only one or two different options being explored. Real live situations also move people away

from hypothetical choices, which can be seen as valuable, see for example, Duflo et al (2005). However, while helpful in some situations, it is not always practical, or desirable to use either real life or face-to-face techniques.

In this case we want to test a lot of different options for disclosure, so we use an internet-based approach because we feel it is the most useful. This is because it allows easy access to a large number of participants from different backgrounds and geographic areas. It gives us the ability to control for different sample characteristics when assessing the outcomes and, in particular, to assess whether different disclosures can help certain types of participant improve their making decisions.

For the part of the experiment where we are interested in the impact of different disclosure designs on investment choices, we frame the experiment in terms of a set of hypothetical examples, rather than asking consumers to choose on their own behalf. The use of hypothetical examples is an effective way to assess whether different methods of disclosing investment risk will improve people's ability to choose the right funds. Asking people to make hypothetical choices, based on information about different types of investor, helps because it circumvents the need to assess whether they have made a suitable investment choice for themselves. Assessing the suitability of their choice for each individual participant would be extremely complex, as it would involve assessing of their financial health and commitments, as well as risk appetite. They might also be reluctant to provide some of the necessary information, particularly given the time needed to undertake a full suitability check. ABI research shows that a fact find takes roughly 70 minutes, as part of the financial advice process, see Malcolm et al (2010). Our approach also has the advantage that the range of potential investors is strictly controlled through the use of the hypothetical examples, rather than being randomly determined by the sample. This will reduce the level of noise associated with the experiment, making it easier to extract clear insights.

2.1.2 The experimental design

Our research was conducted in two phases. In Phase I we tested a total of 29 experimental options (sometimes referred to as conditions) where each condition corresponded to a different disclosure design. In Phase II a further 23 conditions were tested. In order to be able to see differences between the respondents' performance across different disclosure designs, we needed roughly 100 subjects per condition. To recruit this many people inexpensively we used an on-line survey. The respondents were offered by email the opportunity to participate in our survey in return for 'i-points', something they could then use to buy products over the internet.

Phase I took place in February 2008 and involved 2772 participants. The emphasis of Phase I was on assessing the impact of a wide variety of different potential risk disclosure designs. To keep things simple therefore, each participant in Phase I only saw one type of disclosure design, which was randomly allocated to them. The relative effectiveness of the different designs was then assessed by comparing the results for

the different groups of participants who saw a particular design, after adjusting for any potential differences between the participants in the different groups.

Phase II took place in February 2009, with 2036 participants taking part. Phase II allowed us to refine our understanding of what makes the leading disclosure designs from Phase I effective and to incorporate CESR's newly developed proposal for disclosure design within the testing. We also changed the experimental design, so that some participants saw more than one disclosure design, which allowed us to test the effectiveness of standardising risk disclosure.

How many designs should each participant see?

To test the impact of the disclosure designs we had a choice between testing just one design on each respondent (referred to as a between-subjects experimental design), or testing all the designs on every respondent (referred to as a within-subjects experimental design). This is a well-documented issue, see for example Howitt and Cramer (2007), and both approaches have their merits. In a within-subjects design, since each person will be tested on all the disclosure designs we could directly see the impact of changing the design. However, this approach has some problems. Firstly the order in which the designs are presented may have an impact upon the respondents' performance, and secondly the implied increase in test length may change the results in ways that are difficult to anticipate and control for. The alternative approach of a between-subjects design does not suffer from either of these problems, but does require a larger number of subjects in order to reach conclusions that would be reached with fewer subjects in a within-subjects design.

We chose a between-subjects design so that our conclusions would be robust. By collecting and analysing the data in the way that we did, we are able to treat all disclosure designs equally and to make clear and confident statements about which are the best.

In order to use the between-subjects strategy effectively, however, we have to control for the differences in the participants seeing the different disclosure designs. Otherwise, differences in the observed effectiveness of a particular design might simply reflect differences in the characteristics of the participants who saw it, rather than any real difference in the effectiveness of the design itself. For that reason, as part of the experiment we collected a lot of demographic information from participants such as gender, wealth, age and education.

However, it is not just demographic characteristics that will drive outcomes. There is a significant body of work from the psychology literature that suggests that factors such as risk attitudes and personality will have a big impact on outcomes (see, for example Barsky et al (1997) and Nicholson et al (2005). We therefore also collected this type of information from participants, together with their level of financial literacy.

Details of the sample characteristics for both phases of the research can be found in Appendix A2. The samples are relatively representative of the population as a whole on most characteristics, but do have a slight bias towards slightly higher levels of

education and wealth than would be true for the population as a whole. Given that the aim of this research is to investigate the effectiveness of disclosure designs for investment funds, which are typically more likely to be suitable for those with higher levels of wealth, if anything this is likely to be beneficial.

2.2 Survey design

The main aim of our research is to assess the relative effectiveness of different disclosure designs. Assessing effectiveness therefore forms the heart of the questionnaire design used in our experiment. In particular, we concentrate on five main aspects of the disclosure designs:

- usability;
- ability of participants to rank different funds according to risk and return;
- ability of participants to assess the suitability of funds when making decisions;
- how useful participants found the designs; and
- the design's impact on the fund image.

As discussed earlier, however, in order to do this we also need to capture information on individual participants, as this will allow us to control for the characteristics of the people participating in the experiment when we judge which disclosure designs are the most effective.

Although there are some key differences in the experimental design, which are described below, overall the survey designs used in Phases I and II are very similar. An overview of the tasks undertaken in each survey is given below. The full survey design for both of the phases is available on request.

2.2.1 Demographics and financial position

In each survey we first collect demographic details such as age, gender, and educational qualifications. However, it is also important to know the extent of respondents' exposure to the financial services industry, as familiarity with similar decisions may influence how easy they find the questions. We therefore also ask about their finances, for example, how many credit cards the respondents hold, the number and value of savings and investment products individuals hold, whether they have a pension and when they last made a major change to their finances. Together these questions form the basis of the demographic characteristics that we use in our analysis.[3]

[3] See Appendix A2 for more details.

2.2.2 Single disclosure tasks

The core tasks that provide the key results from our experiment can be split into two parts, those that involve looking at only one disclosure document, and those that involve the use of multiple disclosure documents. For the single disclosure task, participants are shown only one disclosure document, which in each case is for the same medium high-risk 100% equity fund.[4] The design of the experiment is such that respondents had to look at the disclosure document for a minimum of 15 seconds, and can go back to the document at any point while they are answering questions about it.

The main task for this part of the experiment is to see if they can answer three simple multiple-choice questions, where they are required to find a specific piece of financial information from the document. The questions are on the chance of beating cash, the chance of losing capital and the likely range of future values. These questions help to provide an indication of the usability of the disclosure document.

In Phase I of the experiment, participants, are also asked 16 fund image statements to help assess how changes to disclosure shift perceptions of the medium high-risk 100% equity fund. There is no right or wrong fund image, but it helps to understand how the changes might influence consumers' interaction with financial products.

In Phase II of the experiment, the fund image task is shifted to the end of the multiple disclosure section, with participants answering the question about a fund selected at random out of the five funds used in the experiment. This allows us to assess whether changes in fund image are consistent with differences in the relative characteristics of the individual funds. This is the only difference in the flow of the experiment between Phase I and Phase II.

2.2.3 Multiple disclosure tasks

The multiple disclosure tasks contain the most important elements of our experiment. Once the respondents have completed the single disclosure task for the medium high-risk 100% equity fund, they are then shown disclosure documents for four additional funds: a fixed rate bond, a capital guarantee fund, a mixed fund (based on 50% equity and 50% cash) and a high risk emerging market equity fund.[5] Again respondents need to have each disclosure document on screen for at least 15 seconds and can refer back to them if necessary.

In almost all cases the disclosure design used to show the funds to the participants is the design used for the original fund from the single disclosure task. In some cases in Phase II, however, participants are shown five different disclosure designs, to allow us to assess the impact of standardisation.

[4] See Section 2.3 below for a description of the disclosure documents and Section 2.4 for a description of the underlying funds.

[5] See Appendix A3 for a fuller description of the funds.

The first multiple disclosure task is to rank the funds by return and by risk at two different time horizons. This is helpful because it shows how easy consumers find different forms of disclosure as a way of differentiating between funds. However, it does not provide any indication of the extent to which consumers are able to use the disclosure documents when making decisions.

The next task therefore gives respondents information about five fictional investors and asks them to rank the funds in terms of their suitability for these investors. As this is the key task within the experiment, participants are told that they will receive extra i-points as a reward if they get this task right. The results from this task are then judged against the answers to the question provided by 16 professional financial advisors, which provides a sense check for this task.

Once respondents have used the disclosure designs to answer questions, their subjective impressions of the disclosure designs are gathered using 16 design image statements.

Finally, in Phase II of the experiment, respondents also complete the fund image statement task that is at the end of the single disclosure tasks in Phase I. They do this for a randomly selected fund, which allows us to assess whether fund image varies with fund characteristics and whether these trade-offs are influenced by disclosure design.

2.2.4 Attitudes to risk, personality and financial literacy

In the final part of the experiment, we ask questions to determine the risk appetite and the personality of the respondents. There is also a small financial quiz, to determine respondents' levels of financial literacy.[6]

2.3 The disclosure design

To assess the impact of the different design features we are interested in we embed them within a standard disclosure document that captures many of the features consumers need when making decisions. This document is adapted from existing disclosure documents and focuses on the issues that we want the participants to concentrate on. Producing a disclosure document specifically for the experiment, rather than using an existing disclosure document that would need to cover a wider range of issues, helps to simplify the problems participants face. For example, it excludes information on the charges associated with the fund.

[6] See Appendix A2 for more details.

To ensure that the results from the experiment could be translated into something that is useful outside the experimental environment we use a baseline document to assess the impact of changes in the design. In almost all cases the variants to this basic design contain only one single change, making it simple to assess the impact of the change. For simplicity, and because we are primarily interested in whether pictorial designs can help consumers interpret information, our baseline is a text-based disclosure design.

2.3.1 The disclosure designs being tested

Each disclosure document participants saw is split into four sections:

- Section 1: Describes the overall risk of the fund;
- Section 2: How the fund compares to a deposit account;
- Section 3: The risk of losing the capital;
- Section 4: The likely return and range of returns after 10 years.

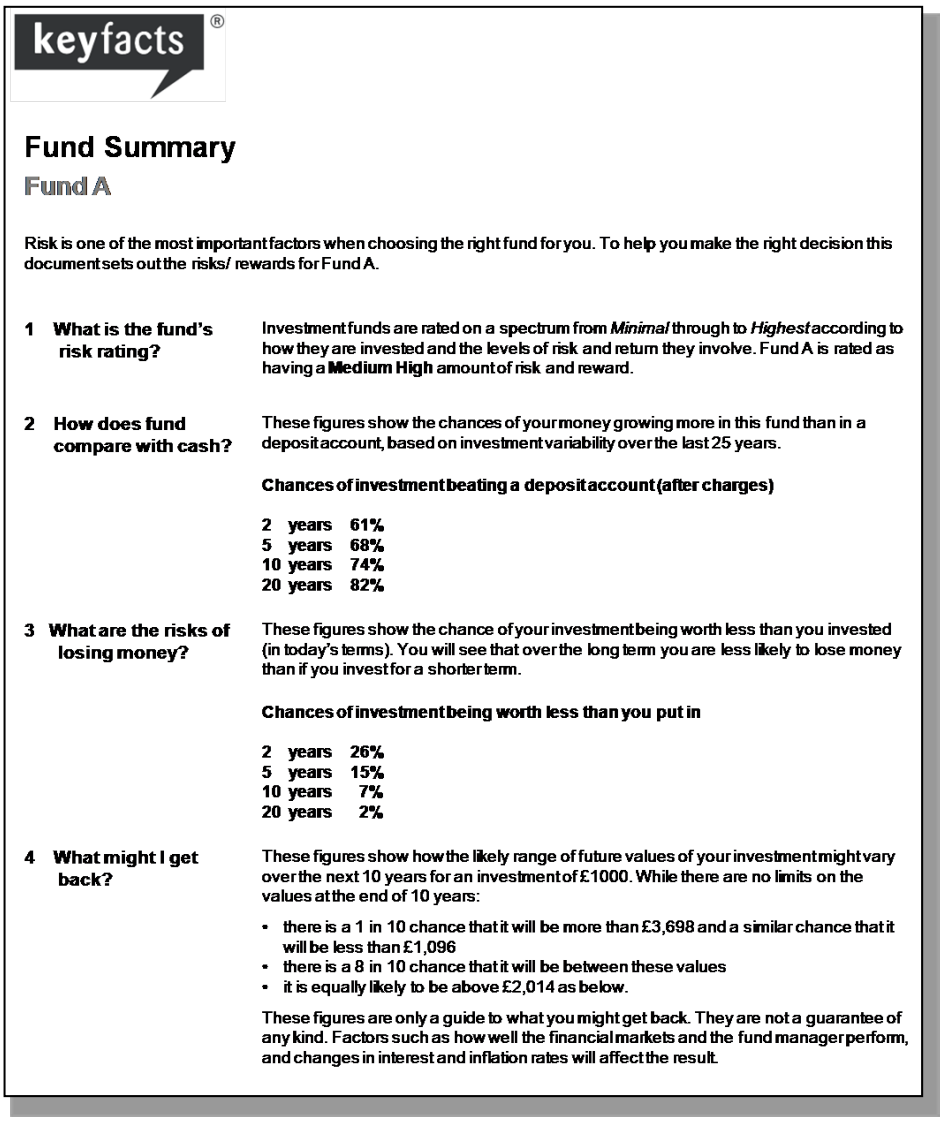
These are the main features that consumers will need to assess when making decisions about the relative risks and rewards associated with different funds as part of a decision on suitability. While features such as charges will also have an impact on suitability, they are less relevant for problem we are trying to assess, namely whether introducing a pictorial representation of risk and reward can help consumers with their decision making. The baseline (text) version of the disclosure document is shown in Figure 1.

In Phase I of the experiment, 29 different versions of the overall disclosure document are tested. Phase II of the experiment assesses 7 additional pictorial designs showing the risk of the fund, together with how these designs perform in combination with additional features assessed in Phase I of the experiment. Phase II also assesses the impact on participants of seeing the five funds presented using different disclosure designs. In total, therefore, 23 different conditions (or options) are assessed in Phase II.[7]

There are five main features of the baseline document shown in Figure 1 that are changed in the experiment in order to assess the impact of different features of the design.

[7] For a full list of the different designs used see Appendix A3.

Figure 1 Baseline disclosure document



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Fund Summary

Fund A

Risk is one of the most important factors when choosing the right fund for you. To help you make the right decision this document sets out the risks/ rewards for Fund A.

1 What is the fund's risk rating?

Investment funds are rated on a spectrum from *Minimal* through to *Highest* according to how they are invested and the levels of risk and return they involve. Fund A is rated as having a **Medium High** amount of risk and reward.

2 How does fund compare with cash?

These figures show the chances of your money growing more in this fund than in a deposit account, based on investment variability over the last 25 years.

Chances of investment beating a deposit account (after charges)

2 years	61%
5 years	68%
10 years	74%
20 years	82%

3 What are the risks of losing money?

These figures show the chance of your investment being worth less than you invested (in today's terms). You will see that over the long term you are less likely to lose money than if you invest for a shorter term.

Chances of investment being worth less than you put in

2 years	26%
5 years	15%
10 years	7%
20 years	2%

4 What might I get back?

These figures show how the likely range of future values of your investment might vary over the next 10 years for an investment of £1000. While there are no limits on the values at the end of 10 years:

- there is a 1 in 10 chance that it will be more than £3,698 and a similar chance that it will be less than £1,096
- there is a 8 in 10 chance that it will be between these values
- it is equally likely to be above £2,014 as below.

These figures are only a guide to what you might get back. They are not a guarantee of any kind. Factors such as how well the financial markets and the fund manager perform, and changes in interest and inflation rates will affect the result.

Note: The text-based baseline disclosure document used in Phases I and II of the experiment.
Source: ABI Research and Decision Technology Limited

Fund name

The first feature of the disclosure document that is changed as part of the experiment is the fund name. Most participants see a version of the disclosure design that uses Fund A, Fund B, Fund C, Fund D and Fund E as the names for the five funds used in the experiment. However, in Phase I of the research, for two groups of the participants we use two alternative naming conventions. For the first of these we use the actual name of the fund. For the second of these we mix the fund names up, so that the name of the fund and the details of the fund do not match. This group of participants therefore see contradictory names.

A lot of research has found that the names used to describe things within an experiment can have a big impact on the experimental outcomes. This is why we feel

that it is helpful to use neutral names (such as Fund A, etc) for the majority of the experimental results, as it allows us to better assess the options we are interested in. However, in practice any disclosure document will include the fund name. This is why we include the alternative naming conventions for two of the options tested, to assess whether the introduction of either names that reflect the nature of the fund, or names that are misrepresentative, could have an undue impact, overturning the results that we think we are observing with the more neutral names. For that reason the name changes are introduced in conjunction with the pyramid pictorial design for the risk indicator, so that the pyramid design is assessed with the neutral names, the actual names of the fund and misrepresentative names.[8]

Overall risk rating

Section 1 of the disclosure document shown to participants contains a description of the overall risk of the fund. The main aim of this research is to assess whether a pictorial design depicting risk would be more effective at helping consumers than a text-based disclosure of risk, and to understand which aspects of the design improve performance. Therefore the majority of the options we test in the experiment involve replacing the last sentence in section 1 of the document with “This fund is rated as shown” and adding a pictorial risk reward indicator.

Chances of investment beating a deposit account

Section 2 of the disclosure document contains a table on the likelihood that your investment will beat a deposit account at horizons of 2, 5, 10 and 20 years. Feedback on disclosure documents used throughout the financial services industry often highlights that people would like to see more use of charts, as a way of depicting information. Therefore in some of the disclosure documents tested, the information contained in the table in section 2 of the document is replaced by a simple bar chart.

Chances of investment being worth less than you put in

Section 3 of the disclosure document contains a table on the likelihood that your investment will be worth less than you put in at horizons of 2, 5, 10 and 20 years. For the same reasons that the table in section 2 of the document is sometimes replaced by a chart, in some of the disclosure documents tested the information contained in the table in section 3 is replaced by a simple bar chart.

Two versions of this bar chart are used. For one the scale is the likelihood of the investment being worth more than you put into it, and for the second the scale is the likelihood of the investment being worth less than you put into it. These two options essentially provide the same information, but the presentation could have a different impact on people’s ability to absorb the information.

[8] See Section 2.3.2 and Appendix A3 for a description of the pyramid design.

Range of likely values

The final section of the disclosure document contains a description of the range of likely values that the fund might experience over the next 10 years. Within this section, for some of the disclosure designs tested, we include a fan chart, similar to the fan chart used in the Bank of England's inflation report. Unlike all the other changes made to the disclosure document within the experiment, however, the fan chart is used to supplement the text rather than to replace it.

In Phase I of the experiment we also test the impact of combining the fan chart with bar charts rather than tables in sections 2 and 3 of the document. This accounted for two possible testing options (or conditions), because there are two possible ways of showing the bar chart used in section 3 of the document. In Phase II of the experiment we assess the impact of using both a pictorial risk indicator and a fan chart within the same document.

2.3.2 Pictorial risk indicators used in Phase I

Five main types of pictorial indicator are used in Phase I:

- A pyramid, with different layers showing both risk and reward increasing as you move up the pyramid and an arrow indicating the level of risk for the specific fund. A version of this risk indicator was developed by Nationwide and had been used in practice, for example by the Prudential. A pyramid risk indicator had also done well in earlier research by IFF Research Ltd (2007) for the FSA Consumer Panel that looked at which designs consumer liked (rather than whether they were effective in changing outcomes).
- A man carrying a box on his back. As the fund becomes riskier (and the box fills up), the man steadily becomes more horizontal. This form of risk disclosure has been used in the Netherlands as part of mandated disclosure documents for pensions.
- A horizontal thermometer, with six different risk categories shown and described in words. The colours on the thermometer range from blue (for low risk) to red (for high risk). An arrow is used to show the risk category that corresponds to the fund being explained. This design is based on similar principles to the pyramid design, but is designed to be horizontal to avoid any implication that either being higher up, or alternatively in the largest category, would be preferable.
- A design adapted from the energy efficiency charts that consumers see when they buy white goods, or a house.
- A series of grid designs that aim to capture the possible options underpinning John McFall's suggestion that the industry should use a traffic light based design. Each grid shows four pieces of information: likely return, volatility, risk to initial investment and chance of beating cash. How this information is presented is varied over three possible dimensions:

- Time horizon. The grids either show a single 5-year time horizon, or four separate time horizons on the same grid (for 2, 5, 10 and 20 years).
- Labelling used to describe outcomes. The grids either use words to describe the outcomes associated with the four different categories, or instead use a numeric scale, with the numeric scale explained at the bottom of the grid.
- Colour scheme. The grids use four different colour schemes. The first is a version with no colour. The second uses different shades of blue to differentiate between for example a low outcome or a high outcome. The final two colour schemes are based around a traffic light design of green, amber and red. One scheme is based on the logic that red should show high outcomes, regardless of whether a high outcome is a good or bad thing. So for example a high return, or high chance of beating cash would be depicted in red, as would high volatility. The second of the traffic light colour schemes is based on the notion that red should show danger. Therefore high volatility would be shown in red, but a high chance of beating cash would be shown in green.

Overall 16 possible grid designs are tested in Phase I of the experiment, which covers all the possible combinations across these three dimensions.

An example of the disclosure used for all 29 options considered in Phase I of the experiment can be found in Appendix A3.1.

2.3.3 Risk disclosure designs used in Phase II

Phase II of the experiment is designed to explore three questions that arose in Phase I of the experiment:

- What makes a successful thermometer design? The thermometer design proved to be the most effective pictorial risk indicator tested in Phase I. Phase II therefore explores what aspects of the design made it effective. It also includes the thermometer proposed by CESR as part of its consultation on the Key Information Document (KID) for UCITS.
- Does including a fan chart help explain risk? Some of the results from Phase I of the research suggest that including a fan chart might help consumers in their decision-making. We therefore wanted to explore whether combining a fan chart with a pictorial representation of risk would help consumers.
- How important is the standardisation of risk disclosure? All the results from Phase I of the experiment are based on each participant only seeing one type of disclosure design. This allows us to assess which designs are effective, but does not allow us to assess whether standardisation itself is important. Therefore in Phase II we explore how well consumers cope when they see more than one type of disclosure document. We do this for two different extremes: one where they see five radically different documents and one where they see five different versions based around the thermometer design.

Most of the disclosure designs tested in Phase II are therefore variants of the designs used in Phase I. Appendix A3.2 lists the different options tested and shows the disclosure designs that are used in Phase II of the experiment.

2.4 Different funds shown to participants

As part of both stages of the experiment, participants see disclosure documents based on five hypothetical funds that are deliberately chosen to capture the range of different funds available to consumers; certain key fund characteristics, such as capital guarantees; and to match the hypothetical examples that participants are asked to work through.

Table 1 lists the funds used, together with their risk levels and the names used (both congruent and contradictory) in Phase I of the experiment. The medium high-risk 100% equity fund is used for the single disclosure task discussed in Section 2.2.2.

The data used to underpin the disclosure documents for the five different funds is created based on historical experience and the details of this can be found in Appendix A3.3.

Table 1 Fund details

Fund name	Risk/reward level	Congruent Name	Contradictory Name
Fixed Rate Bond	Minimal	Fixed Interest Deposit	Asian Emerging Market Opportunities
Capital Guarantee	Low	Active Protector	Aggressive Managed
Mixed Fund	Medium	Cautious Managed	Fixed Interest Deposit
100% Equities	Medium High	Aggressive Managed	Active Protector
High Risk	High	Asian Emerging Market Opportunities	Cautious Managed

Note: Two of the options tested in Phase I of the research include showing participants alternatives to the Fund A, Fund B naming conventions seen by most of the participants. These naming options are given in the final two columns of this table.

Source: ABI Research and Decision Technology Limited

2.5 The hypothetical examples

The most important task in the experiment is the one that ranks funds in terms of their suitability for different investors. This is because it allows us to assess how effective the different designs are in helping decision-making. To assess which designs are most effective we therefore use five hypothetical examples of investors and ask participants to rank the funds from most, to least suitable. The examples are deliberately chosen to give as wide a range as possible and are:

- Investor 1: 19-year old graduate (Associated fund: Fixed Rate Bond)
- Investor 2: Mid-twenties professional (Associated fund: Capital Guarantee)

- Investor 3: Early fifties, looking to enhance pension (Associated fund: Mixed)
- Investor 4: Early thirties with young children (Associated fund: 100% equity)
- Investor 5: Late forties, financially secure (Associated fund: High risk)

Details of the vignettes that participants are given to explain the background of each of the investors are given in Appendix A3.4.

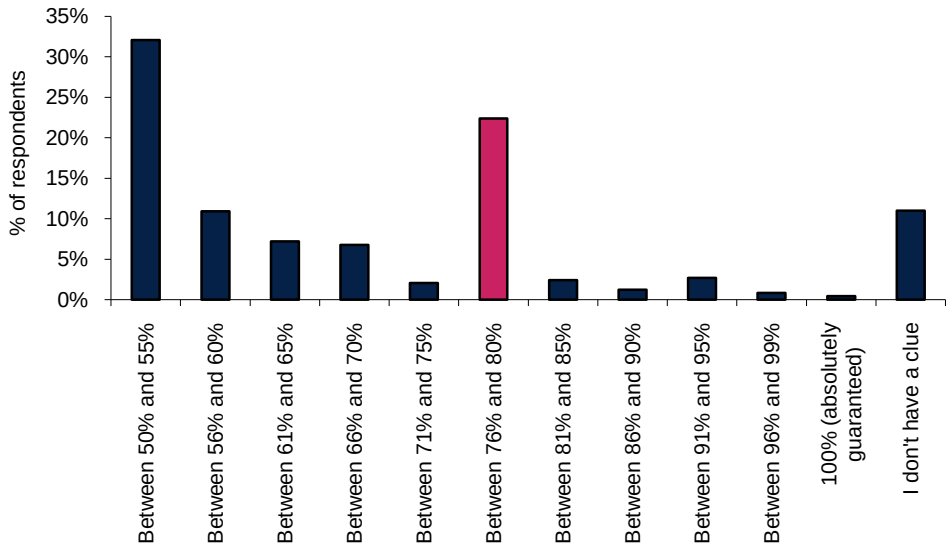
The most suitable fund is given in brackets in the list above. This assessment is tested against the judgment of 16 financial advisors. Their scores for the different funds are used to underpin our assessment of how good participants are at assessing the relative suitability of the different funds for the hypothetical investors. Again details of this, together with the relative rankings of the different funds that are used to assess if participants answered the suitability question correctly, can be found in Appendix A3.4.

3.0 HOW DESIGN CAN IMPROVE USABILITY

The first key task that we set participants allows us to judge some basic aspects of the usability of the disclosure design. In particular, we ask participants to extract three pieces of specific information from a single disclosure document that they have just been shown. The questions are in the form of a multiple choice, and participants have the option of going back to the disclosure document if they want to.[9]

The performance of the consumers on these simple comprehension, or usability tasks, tasks is surprisingly bad. This is particularly true in Phase I, when overall only 22% of respondents correctly answered the question on the chance of beating cash. For the question about the chance of losing capital, only 25% of participants respond correctly, and on the range of future values 30% get the right answer overall.

Figure 2 What is the chance of the investment beating a deposit account (after charges), after 10 years?



Note: Responses from Phase I of the experiment. The red bar shows the percentage of respondents answering the question correctly.

Source: ABI Research and Decision Technology Limited

Figure 2 shows the distribution of answers from Phase I for the first of these tasks, on the chance of beating cash after 10 years. There is a spike (shown in pink) around the correct answer. Overall, however, the responses are very skewed, with the majority of answers concentrated on the left-side of the figure, with participants picking outcomes that underestimate the likelihood of the investment beating cash and indicating that the results are not entirely random. This is despite the fact that respondents are asked to answer the question based on the information they have been given. Given the timing of Phase I of the survey, which took place in February 2008 towards the start of

[9] See Section 2.2 and Appendix A4 for more details.

the financial crisis, this might indicate a degree of scepticism in the likelihood of financial markets doing well.

3.1 Impact of replacing tables with charts

One of the things that consumers often request, when viewing product literature, is that there should be more charts instead of text and tables. In the context of our experiment, we can directly test the impact of doing this, because some of the disclosure options we test involve replacing tables with charts.

Effectively six options for introducing charts are explored in Phase I of our research:

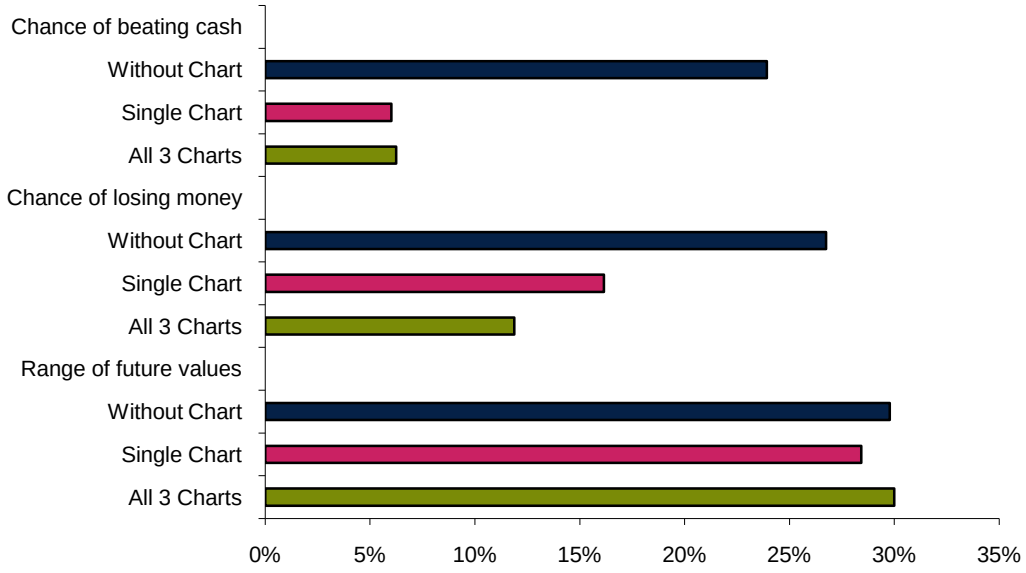
- in section 2 of the disclosure document replacing the table on the chance of beating cash with a bar chart;
- in section 3 of the disclosure document replacing the table on the chance of losing money with a bar chart framed around the likelihood of the investment being worth more than you put in;
- in section 3 of the disclosure document replacing the table on the chance of losing money with a bar chart framed around the chances of losing money;
- in section 4 of the disclosure document on the range of likely values introducing a fan chart;
- adding the fan chart to section 4 and replacing the tables in sections 2 and 3 with bar charts (with the bar chart in section 3 showing the likelihood of losing money); and
- adding the fan chart to section 4 and replacing the tables in sections 2 and 3 with bar charts (with the bar chart in section 3 showing the chance of the investment being worth more than you put in).

See Section 2.3 for an overview of the different disclosure options examined and Appendix A3 for a complete description of the different disclosure designs used.

Figure 3 looks at the impact of three different types of disclosure (without any chart, with a single chart, and with three charts) on respondents' ability to answer the three usability questions. As can be seen from the results, in general respondents do significantly better when they see text and tables, at least as part of sections two and three. Replacing a table with a bar chart reduces the likelihood that respondents will correctly answer the question on the chance of beating cash by 75%. Similarly replacing a table with a bar chart can reduce the likelihood that respondents will correctly answer the question on the likelihood of losing money by up to 55%. It is clear that the use of bar charts severely impairs the ability of the consumer to find the correct answer for those questions that rely upon the use of the bar chart.

In the case of the fan chart, which was provided as a supplement to the text, the results show that the inclusion of a fan chart does not impair the performance of the consumers on these simple tasks. However, it also does not help them.

Figure 3 Impact of replacing text and tables with charts

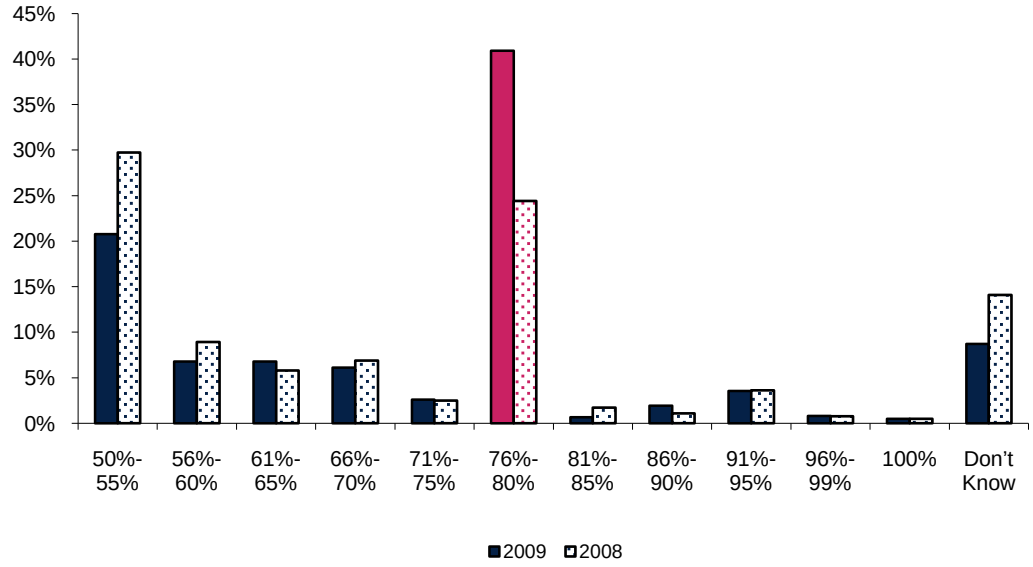


Note: Percentage of respondents identifying the right answer. Based on Phase I of the experiment.
Source: ABI Research and Decision Technology Limited

3.2 How much difference does a year make?

In Phase II we see an improvement in the respondents' performance on the usability tasks. Figure 4 illustrates this improvement for the chance of beating cash question, where 41% of respondents are now able to give a correct answer compared to 24% in Phase I. We also see an improvement for the chance of losing capital question (11% to 14%), and the range of future values (28% to 40%). The improvement in performance on the usability tasks ties in with the improvement in the consumers' financial literacy between the two periods, see Section 6 and Appendix A2.3.

Figure 4 Impact of timing on the usability questions



Note: What is the chance of the investment beating a deposit account (after charges), after 10 years? Results for the two time period for comparable conditions. Percentage of respondents answering correctly is shown in pink.

Source: ABI Research and Decision Technology Limited

4.0 IMPACT OF DESIGN ON CONSUMERS' ABILITY TO DISTINGUISH BETWEEN FUNDS

A good disclosure design will clearly help consumers to distinguish between the likely risks and returns associated with different funds. One of the aims of this research is to investigate whether introducing a pictorial indicator of risk and return, or using graphical devices such as fan charts, will help consumers with this task. In particular, will it allow consumers to be able to rank the funds they are shown from most to least risky, or from the fund that is likely to have the highest to the lowest return. The ranking tasks we set participants could be completed using just the overall risk rating in almost every case, so a successful headline picture should make this task easier and improve the results.

To test this, in both phases of the experiment, the respondents are therefore asked to rank the funds according to their risk and return characteristics. Specifically they are asked to:

- Rank the funds from the lowest to the highest likely return after 5 years;
- Rank the funds from the lowest to the highest chance of the fund being worth less than the original amount invested after 2 years.

For each of these questions we evaluate the respondents' performance by assessing the correlation between their answers and the correct answer. A correlation of one implies that they answered the question perfectly, while a correlation of minus one would imply that they had completely reversed the correct rankings. A correlation of zero implies there is no discernable relationship between their answer and the correct rankings.[10]

Overall, the results suggest that design can have a big impact on outcomes. Again bar charts do very badly. However, including a fan chart is the most successful way to help consumers rank returns, at least in Phase I. There is an improvement in performance for both ranking tasks between Phase I and Phase II and this can partly be accounted for by the improvement in financial literacy. The performance of the thermometer design improves the most, becoming the most successful design in Phase II, with the original thermometer design doing particularly well.

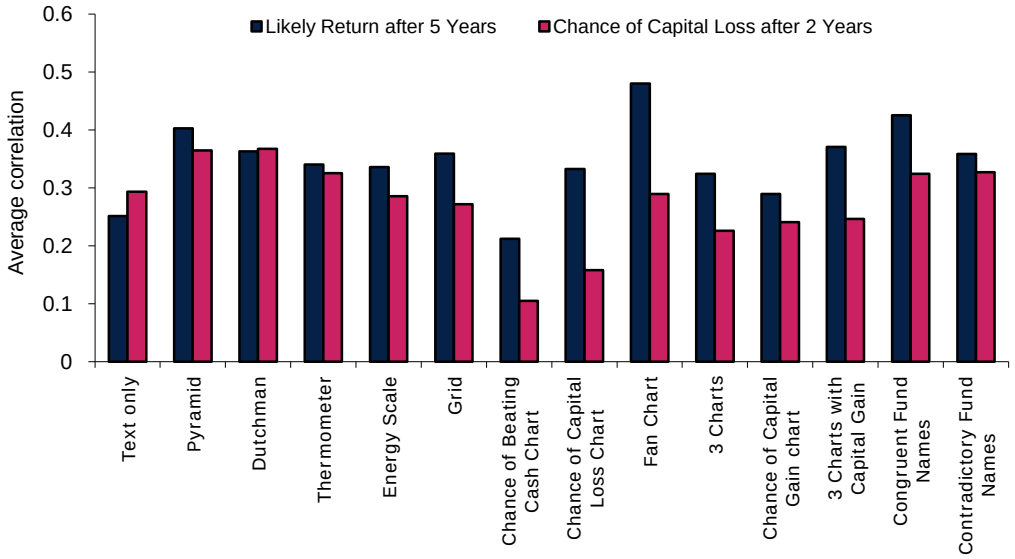
4.1 Ranking test results from Phase I

In Phase I of the experiment 11% of respondents are able to rank the funds correctly according to the risk that the fund will be worth less than the investment after two years, and 19% are able to rank the returns correctly. The average correlations for the two ranking tasks from Phase I, split by design type, can be seen in Figure 5.

[10] See Section 2.2.3 for more details of how this task is implemented in practice.

As Figure 5 shows, the future value fan chart is most successful at helping respondents rank the likely returns. Congruent fund names, where the fund disclosure contains a fund name aligned to the actual fund also helps.[11] Of the pictorial risk and return indicators, the pyramid design is most effective at helping respondents rank the likely returns of the different funds. As with the single disclosure task, giving respondents the chance of beating cash bar chart (rather than a table) makes the task significantly more difficult for them.

Figure 5 Impact of design on people's ability to rank funds by risk and return



Note: Average correlation in the answers for the risk and return ranking task, split by design type, for Phase I.
Source: ABI Research and Decision Technology Limited

Participants clearly find assessing the relative risks associated with the different funds a harder task than assessing the likely returns. Only the text based disclosure document and the Dutchman pictorial design have higher correlations for the risk-ranking task than the return-ranking task. The chance of beating cash chart is again the least successful option for helping consumers rank the likely risks associated with the different funds, given by the chance of capital loss after two years. The Dutchman pictorial design is the most successful design option for the risk-ranking task, closely followed by the pyramid design.

4.2 How does the ranking task performance change over time?

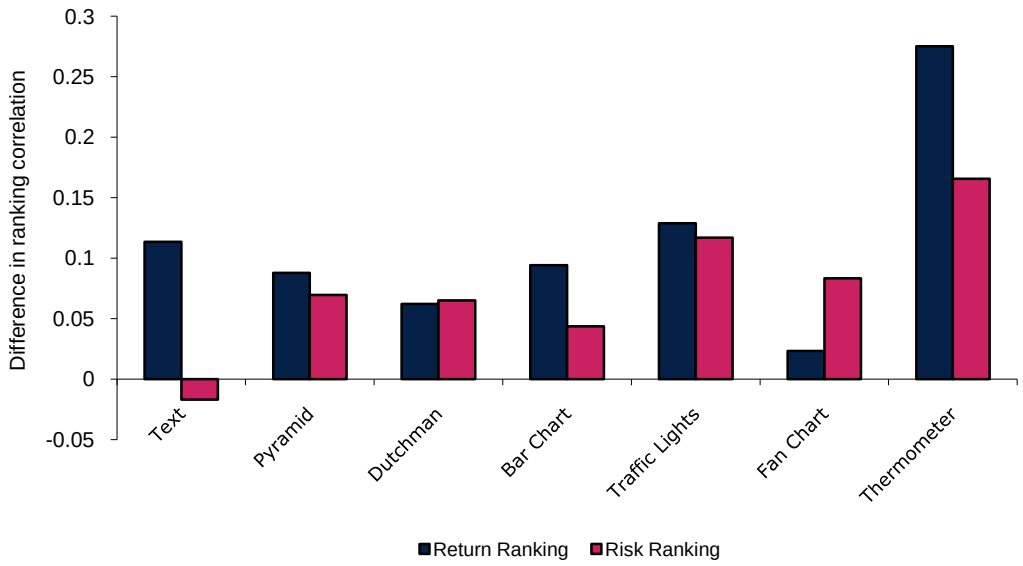
As with the usability task, the results show that in almost all cases the performance of the participants in Phase II of the experiment is better on average than the performance of participants in Phase I. Figure 6 shows the difference in performance

[11] See Section 2.4 for a description of the fund names used during the experiment.

for the two ranking tasks, split by disclosure design. Only in the case of the risk-ranking task using a text-based disclosure design is the average performance in Phase II worse than the performance in Phase I. The improvement in performance is particularly marked for the thermometer-based design.

This improvement in performance cannot be attributed to a learning-by-doing effect, as the participants in the two phases are both different. Instead the improvement largely seems to have been driven by an increase in financial literacy over time. This is explored in more detail in Section 6.

Figure 6 Difference in ranking task performance between Phases I and II



Note: Difference in the average correlation for the two ranking tasks between Phase I and II, split by disclosure design type. A positive ranking indicates that performance improved in Phase II.

Source: ABI Research and Decision Technology Limited

4.3 Performance of different thermometer designs in ranking risk and return

In Phase II we introduce a variety of different thermometer-based designs to evaluate whether different design features can improve the results further.[12] The different features we explore include:

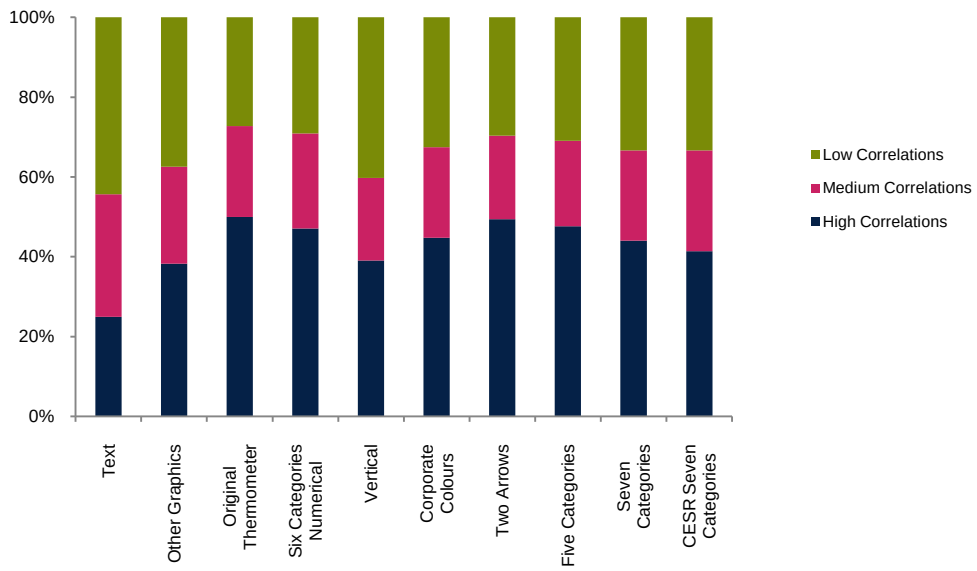
- varying the number of points on the scale;
- using numbers rather than words to describe the scale;
- indicating risk and return separately;
- the colour scheme associated with the thermometer; and
- whether the thermometer is vertical or horizontal.

[12] We explore which features make the thermometer successful, because of the success of the original thermometer-based design in the suitability task (see Section 5 below). These designs are shown in Appendix A3.2.

We then assess the impact of the different features both for the suitability task and also for the risk and return ranking tasks.

For the risk and return ranking tasks we make this assessment by examining the impact of the design features on participants' ability both to get the right answer, and also to avoid the wrong answer. To do this we divide the participants in Phase II into three groups, depending on how closely their answers are correlated with the right answer: a high correlation group, medium correlation group and low correlation group. The different designs are then assessed depending on the different percentages of participants they have in the three groups. A successful design will be associated with a high percentage of participants in the high correlation group and a low percentage of participants in the low correlation group. Figure 7 shows how the different thermometer design features influence these results for the fund ranking tasks. For comparison it also includes the average performance of participants who see either the text based disclosure, or graphics other than a thermometer. The original thermometer has the most 'high' correlations and the smallest number of 'low' correlations.

Figure 7 Impact of different thermometer designs on the ranking tasks



Note: High Medium and Low correlation splits of performance on risk and return ranking tasks from Phase II of the experiment.

Source: ABI Research and Decision Technology Limited

5.0 ASSESSING THE SUITABILITY OF INVESTMENT CHOICES

The most important task in the experiment is the suitability task. In this task participants are asked to rank the five funds in order of suitability for five different hypothetical investors. This allows us to assess whether differences in the way investment risks are presented to consumers, and in particular the design used to illustrate the level of risk, can influence consumers' ability to make the right choices. We deliberately ask participants to make choices for hypothetical investors, rather than for themselves, because it makes it easier to disentangle the impact of design and investors' personal characteristics. [13]

We use three different methods to assess how well the different designs perform:

- The first method assesses which of the designs lead to statistically significant improvements in performance relative to a text-based design, where performance is judged by the correlation between the participants' answers and the "truth".
- The second method simply looks at whether participants are able to pick out the most appropriate fund for the different hypothetical investors, rather than whether they can rank the funds in terms of suitability.
- The final method looks at the correlation between the answers respondents give and the "truth", dividing participants into one of three groups (a high, medium and low correlation group). The best designs are then the ones with the highest percentage of high correlation answers and the lowest percentage of low correlation participants.

Overall the results show that it is possible to improve participants' ability to answer the questions correctly by changing the disclosure design that they see. The results from Phase I show that a thermometer-based pictorial design is the most successful at helping participants answer correctly. This is confirmed by the results from Phase II of the experiment. Phase II also shows the benefits of standardisation – participants who only see a single disclosure design for all five funds do significantly better that those who see five different designs.

5.1 Can disclosure designs improve participants' ability to assess suitability?

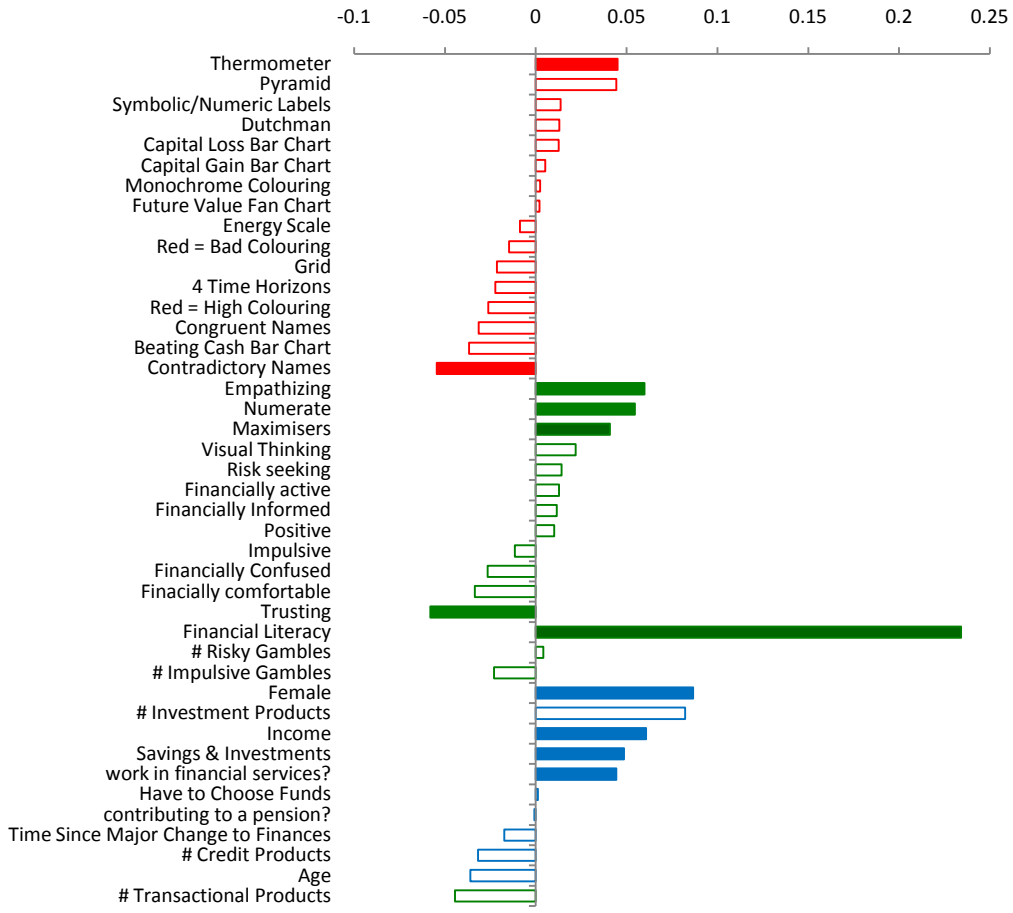
This is the most important question in the entire experiment. In order to assess it, we provided participants with five different vignettes representing potential investors. We then asked them to rank the five funds they had been shown from the most to least suitable. Their answers are assessed relative to the "truth", or in other words the

[13] The importance placed on this task means that participants are eligible for an additional reward if they answer correctly. Section 2 and Appendix A3 contain details of the task and how this part of the experiment is set up. Appendix A4 contains more detailed results than the overview presented in this section.

answers provided by 16 financial advisors.[14] A correct answer will have a correlation of one, with all the funds ranked in the identical order to the results given by the financial advisors.

The ability of participants to answer correctly will not simply be a product of the disclosure designs that they see. It will also reflect their own personal characteristics such as age, exposure to financial services and personality. Therefore, in order to assess the real impact of disclosure design on investment outcomes it is important to control for these different influences.[15] The results of this analysis from Phase I of the experiment are shown in Figure 8.

Figure 8 What influences the outcome of the investment decision task?



Note: The results show the coefficients in a regression looking at the ability of different disclosure designs to improve the ability of consumers to identify the most suitable funds, relative to a text-based design. A positive number indicates that the named factor improves the ability of consumers to answer effectively. A solid bar shows the results are statistically significant at the 10% level and the remaining bars indicate the sign of the coefficient, but the results cannot be considered statistically different from zero, or no impact. Technically, the regression results are based upon the dependent and non-binary independent variables being standardised, and so the regression coefficient for a variable represents the number of standard deviations the suitability changes by when the variable changes by one standard deviation. Results from Phase I.
Source: ABI Research and Decision Technology Limited

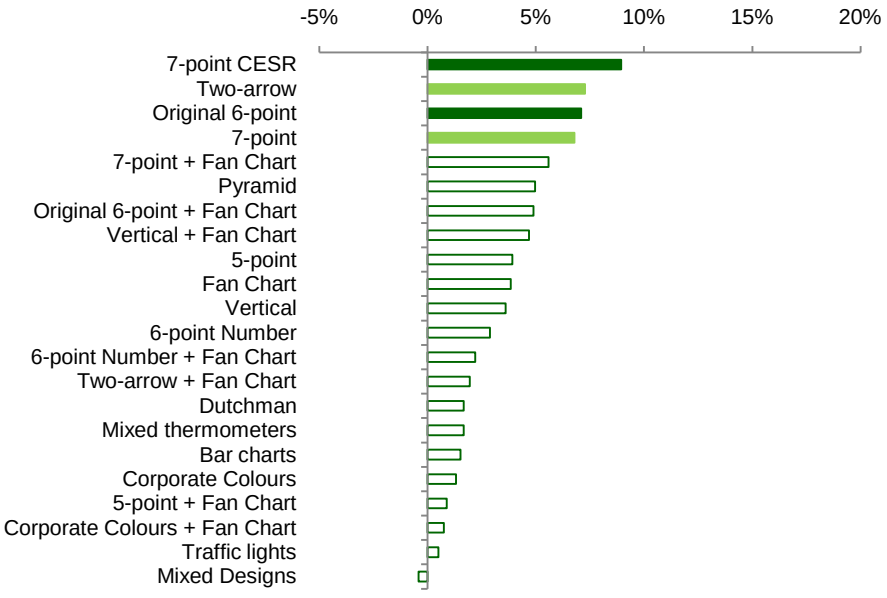
[14] See Appendix A3.4 for details.

[15] The way that this is done uses regression analysis.

The solid bars in Figure 8 show those factors that have a statistically significant impact on participants' ability to allocate investment funds to people and a positive bar indicates that the relevant factor improved participants' success rate. Of the features of the disclosure designs that we are interested in two stand out as important. The use of the original thermometer helps consumers to have a better understanding of which funds will be suitable. In contrast, using contradictory names (rather than Fund A, B, C, etc or actual fund names) reduces the chance of participants answering correctly.

In addition to the design features, various demographic characteristics have statistically significant impact. Female participants, those on high incomes or with high levels of savings and those who work in the financial services industry are all more likely to get these questions right. Personality traits also have an impact. Those who are good at empathizing, those who are numerate and those who are maximisers (enjoying shopping around, for example) are all more likely to do well. Those who are trusting tend to do less well. However, the most important factor underpinning participants' success is their degree of financial literacy. Financial literacy is much more important than some of the features encouraged as part of financial capability initiatives (such as shopping around). We therefore explore the impact of financial literacy further in Section 6.

Figure 9 The impact of design on the suitability task



Note: Improvement in the correlation score relative to text. Results from Phase II. The impact of demographic features and personality traits are omitted, but are included in the regression. The dark shaded bars indicate the designs that are significantly different from text at the 5% level and the light shaded bars those that are significantly different at the 10% level. The results shown by a bar that is not shaded are for those factors that do not lead to a statistically significant change.

Source: ABI Research and Decision Technology Limited

The results from Phase II of the experiment in terms of which demographic and personality factors influence the outcomes are very similar to the Phase I results. Therefore in Figure 9 we omit these factors and simply concentrate on the impact of the different designs.

The success of the original thermometer design in Phase I meant that as part of Phase II we explore what features of the thermometer design yield the best results. We also explore the impact of including a fan chart with a pictorial indicator of risk, because of the success of the fan chart in delivering the right answers (see Section 5.1.2). As can be seen in Figure 9, the original thermometer design again leads to a statistically significant improvement in participants' ability to rank the funds in terms of suitability. However, it is CESR's thermometer design that yields the most successful outcomes for the suitability task. To help place the impact of these two disclosure designs in context, moving from the text-based disclosure to one that uses the original thermometer design as a pictorial indicator of risk and reward is equivalent to raising participants' financial literacy levels by 21.8%. Using the CESR thermometer rather than text has an equivalent impact to raising financial literacy by 27.5%.

Although CESR's design does well, when compared on a like-for-like basis to the original thermometer used in Phase I of testing, some of the underlying features are less successful. For example the use of a numeric scale rather than words, or a seven-point scale instead of a six-point scale, both yield results that are not as strong as the results for the original thermometer. The two arrow design and the seven point scale based on the original ABI thermometer also do well, but these results are only significant at the 10% level. Therefore we concentrate on analysing the impact of the original thermometer and CESR's thermometer in our overall assessment in Section 9.

Finally, the inclusion of a fan chart to supplement the pictorial risk reward indicators does not appear to improve participants' ability to make good choices on suitability.

5.1.1 Which disclosure designs allow participants to get the right answer?

Being able to rank the funds in terms of suitability is actually a more difficult task than most people would need to do. Instead, in most cases, it is simply sufficient that people are able to pick the best fund. Therefore we also look at whether participants are able to pick the most suitable fund.

Table 2 Percentage of first choices matching the advisors' choices

	Vignette				
	1	2	3	4	5
Advisors' 1st choice	29%	21%	18%	49%	23%
Advisors' 1st & 2nd choice	48%	46%	52%	63%	46%
Advisors' 1st, 2nd or 3rd choice	67%	67%	70%	77%	63%

Note: Percentage of participants' first choice matching the advisors' top choices for the different vignettes. Results from Phase I.

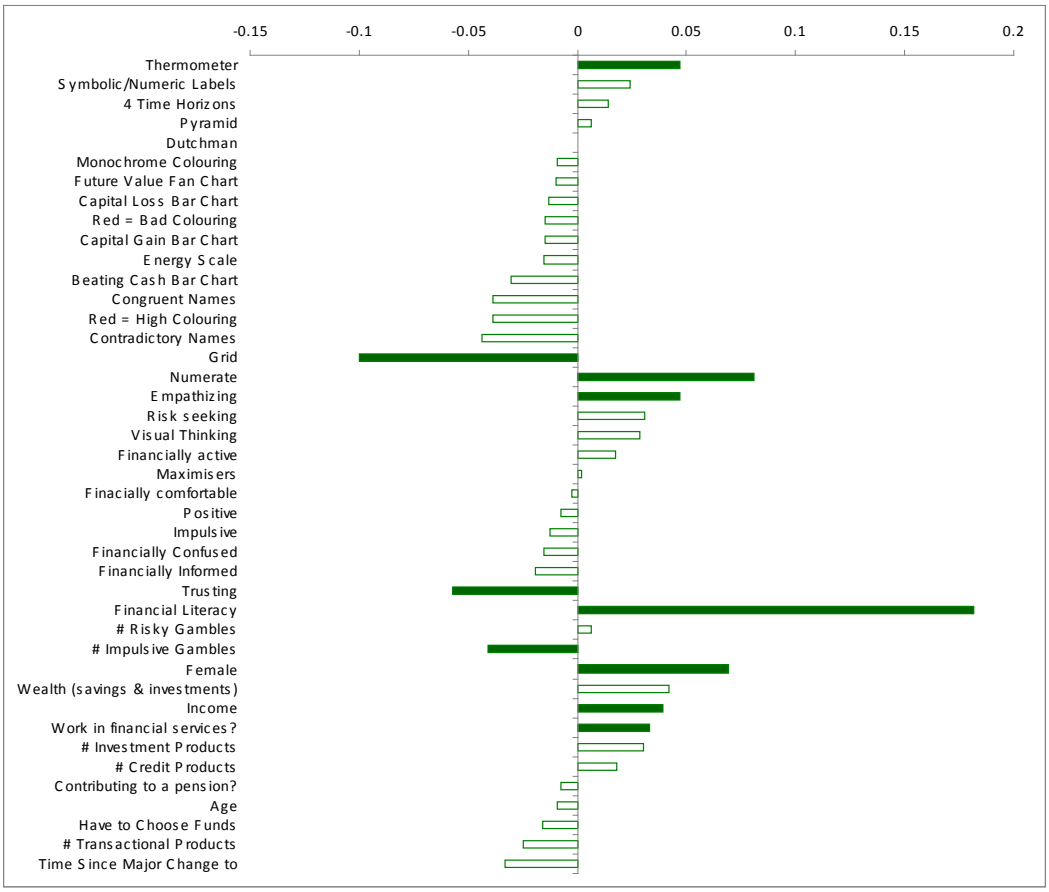
Source: ABI Research and Decision Technology Limited

Table 2 shows the percentage of participants whose first choice matches that of the advisors. The results show that in general participants do significantly better than chance alone would account for, or in other words if they had simply picked the fund at random with a one in five (20%) chance that they have made the right choice. This is

particularly true when their first choice is assessed relative to the advisors' top two, or top three choices.

So which factors help participants in their choices? Figure 10 mirrors the results of Figure 8, by showing the results of analysing consumers' ability to pick the most suitable fund, rather than the overall fund ranking as shown in Figure 8. The results are from Phase I and are broadly similar. Again of the disclosure designs the thermometer does best out of the different disclosure designs. In the case of this simpler task, the grid reduces participants' ability to pick the best fund for each vignette.

Figure 10 Influence of disclosure design on consumers' ability to pick the best fund



Note: The results show the coefficients in a regression looking at the ability of different disclosure designs to improve the ability of consumers to identify the best fund, relative to a text-based design. A positive number indicates that the named factor improves the ability of consumers to answer effectively. A solid bar shows the results are statistically significant at the 10% level and the remaining bars indicate the sign of the coefficient, but the results cannot be considered statistically different from zero, or no impact. Results from Phase I.

Source: ABI Research and Decision Technology Limited

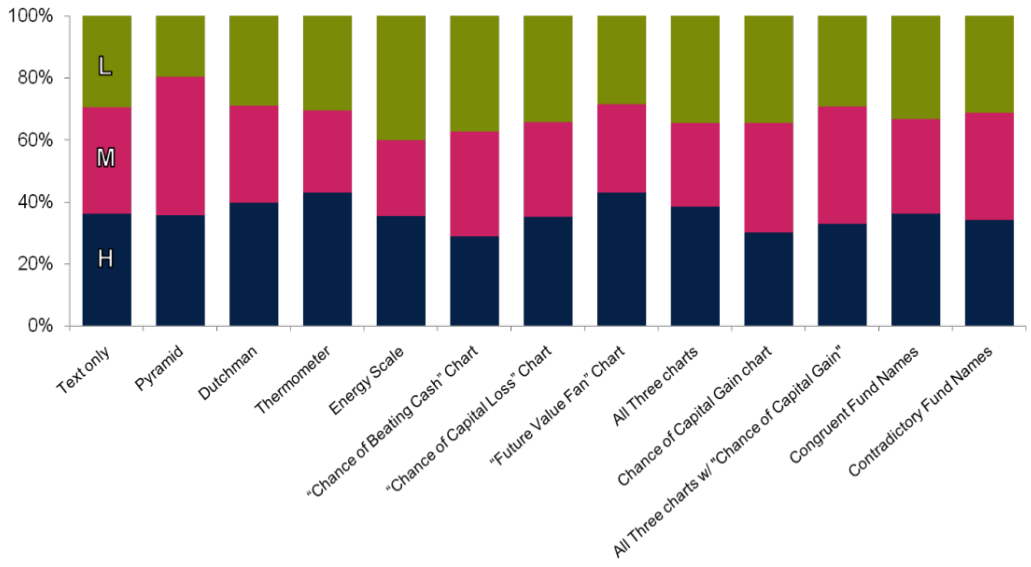
5.1.2 Is it better to have more right answers or fewer wrong answers?

In policy terms there are two possible objectives for changing disclosure requirements. One would be to try and help more consumers to make the right choice. However, it might also be important to try and prevent as many people as possible from making

the wrong choice. It will not necessarily be the case that the disclosure design that improves the proportion of people making good choices will be the same as the design that helps prevent bad choices.

In order to assess this we divide participants into three groups based on their success rate in the suitability task, where success is judged by the correlation between their answers and the answers provided by the financial advisors. The high correlation group are those who do well, the low correlation group are those who do badly and the medium correlation group are those in the middle. Other things equal, a good design will therefore have fewer people in the low correlation group (as fewer people get it wrong) and more people in the high correlation group (because they get it right).

Figure 11 How does design affect the proportion of right or wrong answers?



Note: Proportion of respondents in the high, medium and low correlation groups, split by disclosure design. Results for Phase I.

Source: ABI Research and Decision Technology Limited

Figure 11 shows the results of this analysis for Phase I. The thermometer and the fan chart prove to be best at helping people arrive at the right answer. However the pyramid is the best design from the point of view of reducing the number of people making really bad choices. Appendix A4.3 contains more detailed results from this exercise, including the results from Phase II. What those show is that the CESR thermometer is slightly better than the original thermometer at getting a higher proportion of high correlation answers, while the original thermometer is best at generating a low proportion of low correlation answers.

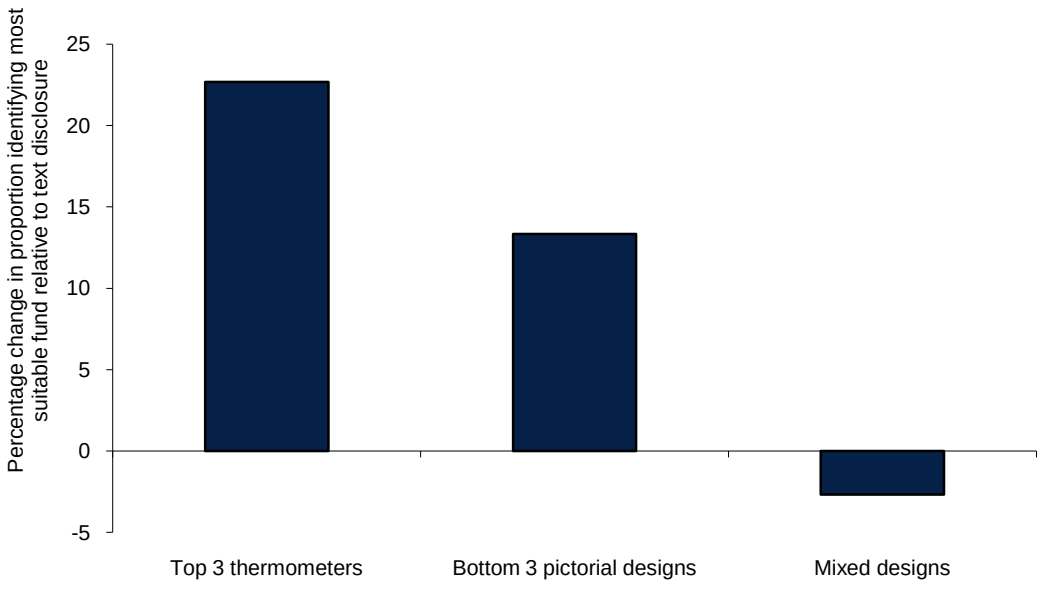
5.2 What are the benefits of standardisation?

For standardisation of risk disclosure, with the associated costs to the industry, to be the appropriate it is important that standardisation itself delivers benefits to consumers. Therefore as part of Phase II of the experiment we include two options

where participants see a different disclosure design for each of the five funds they are shown, rather than a single disclosure design for all options. In the first of these options, participants see five radically different designs (the pyramid, the red is high grid, the Dutchman, the original thermometer used in Phase I and the vertical thermometer). In the second option, participants see five thermometer-based designs, all of which use a six-point scale, to see if the degree of standardisation matters.

We start by assessing the results for the first of the key suitability test, which looks at the impact of design on the participants' ability to rank the funds correctly in terms of suitability for the five hypothetical investors. Comparing the results of those who see five completely different designs to the average results for the participants who see one (but only one) of those five designs, shows that the impact of standardising delivers the same benefit as 10.4% of a change in financial literacy from 0 to 12. The same result for the mixed thermometer designs is equivalent to an 8.5% increase, so standardisation matters and it is also important for the design to be fully standardised.

Figure 12 The impact of standardisation



Note: Percentage change in proportion identifying most suitable fund relative to text disclosure. Results from Phase II.

Source: ABI Research and Decision Technology Limited

Another way to assess the impact of design is to simply look at participants' ability to identify the most suitable fund for each investor, rather than to rank the funds from best to worst. Figure 12 shows the results for this exercise from Phase II. The results show that replacing text with a pictorial risk rating design has a positive impact. Even the three least successful pictorial designs deliver a 13% improvement on average over a simple text-based disclosure. However, the choice of pictorial design to use as the basis of standardisation also matters. Good design helps, with a 10 percentage point improvement for top 3 designs (all of which are thermometers) compared to worst 3. Finally, standardization itself helps, as mixed designs do very badly, leading to a 3% fall in performance relative to text.

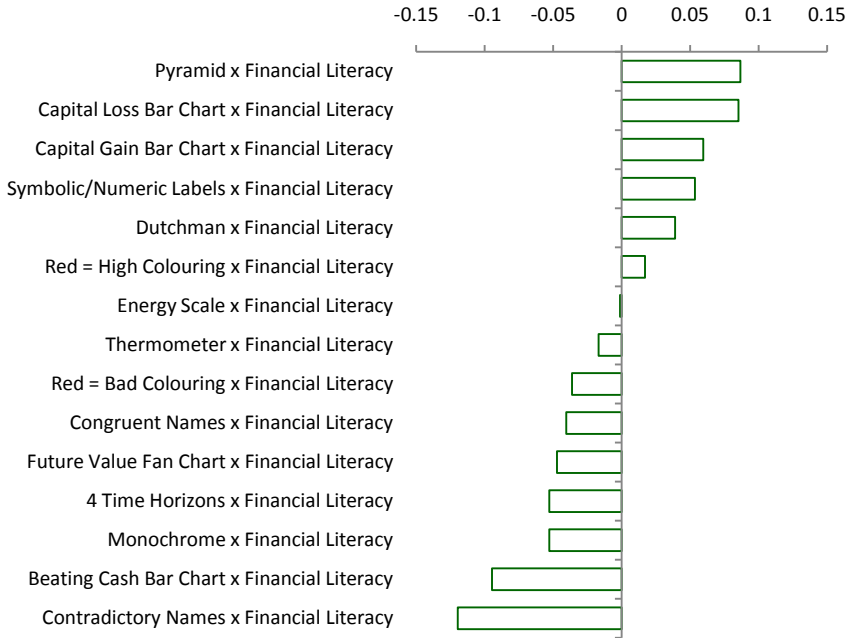
6.0 CAN DESIGN COMPENSATE FOR FINANCIAL LITERACY?

As the results in Section 5.1 demonstrate, financial literacy plays a very important role in determining consumers' ability to assess the suitability of different investment options. In this section, therefore, we assess whether the impact of different disclosure designs on people's ability to assess the best outcomes differs depending on their level of financial literacy, or on other factors such as wealth or income. Importantly we find that there is little scope to tailor disclosure designs to appeal to consumers who struggle to understand financial products. Therefore a good design will be suitable for everyone.[16]

6.1 Can disclosure design offset poor literacy?

In order to assess whether the impact of different designs differs depending on the level of financial literacy of the person using them, we ran a very similar test to the one used in Section 5.1, but included the interaction between financial literacy and design.

Figure 13 The interaction between disclosure design and financial literacy



Note: Results from the interaction between financial literacy and disclosure design. A shaded bar would indicate statistical significance. A positive score shows that the design is more effective for financially literate consumers. Results from Phase I

Source: ABI Research and Decision Technology Limited

Overall, the results are very similar, in terms of the things that have the biggest impact on design performance, so we omit those variables and simply include the

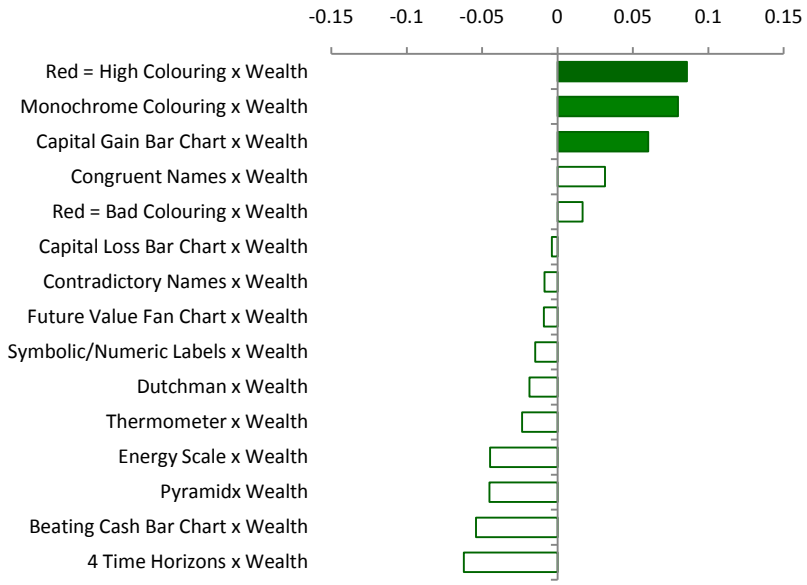
[16] Appendix A2.3 contains an assessment of what drives financial literacy and how it has changed over time.

interaction results in Figure 13.[17] The way that they should be interpreted is that a positive number indicates that the design works better for someone with a high level of financial literacy and a negative result shows that the design works better for someone with low levels of financial literacy. Again only a solid bar is statistically significant, which suggests that on balance the impact of all the designs is invariant to the degree of financial literacy of the person seeing it.

6.2 Are there other interactions that might be important?

We also made the same assessment of the interaction between wealth and income and the impact of the different designs. The results from this are shown in Figures 14 and 15. In both cases, the impact of the "red is high" grid design appears to differ depending on the wealth or income of those using it, with those with higher wealth or higher income finding it easier to use. For this reason, we include a red is high grid design in Phase II of our experiment.

Figure 14 The interaction of disclosure designs with wealth

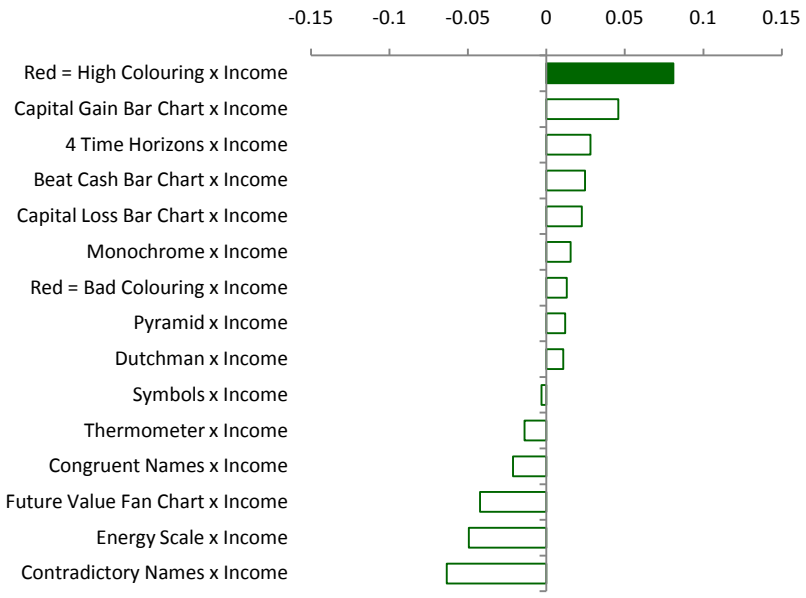


Note: Results from the interaction between wealth and disclosure design. A shaded bar indicates statistical significance. A positive score shows that the design is more effective for wealthy consumers. Results from Phase I.

Source: ABI Research and Decision Technology Limited

[17] The complete results can be found in Appendix A4.

Figure 15 The interaction of disclosure designs with income



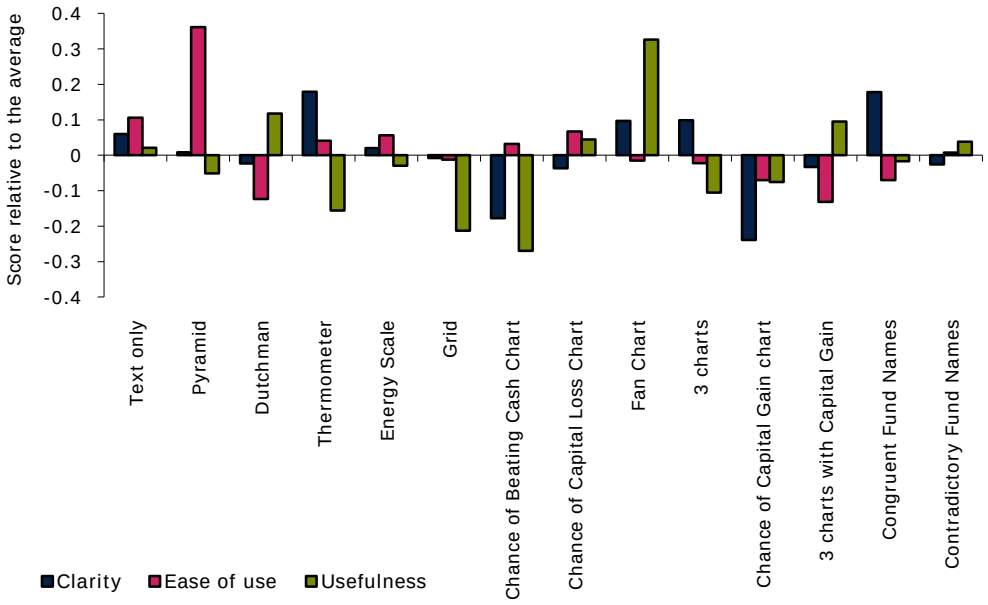
Note: Results from the interaction between income and disclosure design. A shaded bar indicates statistical significance. A positive score shows that the design is more effective for high income consumers. Results from Phase I.

Source: ABI Research and Decision Technology Limited

7.0 CONSUMERS' EVALUATION OF THE DESIGNS

Most of this experiment is designed to provide objective measures of a given design's performance in key tasks, to allow us to understand how the use of different design features might influence people's ability to make good choices in practice. However, while particular designs may be effective when people use them, it is also important that they are engaging, otherwise consumers will not pick them up in the first place. In order to try and assess the level of consumer engagement with the different designs we therefore ask consumers a variety of questions to reflect their views of the design they saw. The answers to these questions are then grouped into three factors: clarity, ease of use and usefulness.[18]

Figure 16 Consumer perceptions of clarity, ease of use and usefulness



Note: Score relative to average, based on factor loadings, see Appendix A4.5 Results for Phase I

Source: ABI Research and Decision Technology Limited

Figure 16 shows the results of the analysis for Phase I of the experiment. As can be seen the pyramid design scores highly on ease of use, or the extent to which it is easy to find the information and that the document contains the right amount of information. The thermometer design is seen as clearer than average, scoring well on clarity, although it does less well on usefulness. The fan chart is seen as the most useful design, as respondents are most likely to say that they would like to have this type of information in future if they were buying an investment fund.

The main difference in the results between Phase I and Phase II is that on average participants are more likely to find the disclosure documents useful, potentially

[18] In each case the answers to the questions are scaled so that a positive number indicates that respondents are more positive about the design. Appendix A4.5 provides a description of how the questions are grouped into factors, together with more detailed results to the different questions.

suggesting greater demand for disclosure information. Although the fan chart design is seen as the most useful design in Phase I, perceptions change in Phase II, although it does do better on clarity. Of the thermometer designs that are tested, the results from Phase II suggest that the original thermometer used in Phase I and CESR's seven category thermometer do best in terms of clarity.[19]

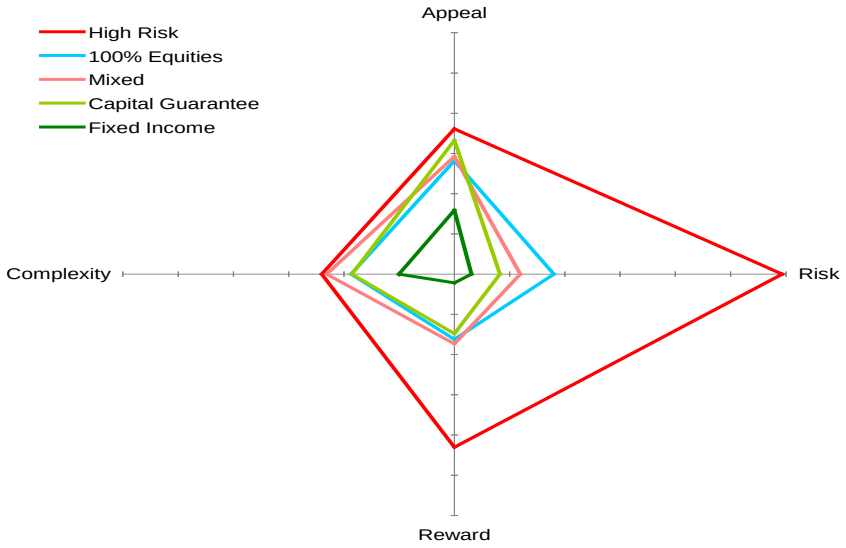
[19] See Appendix A4.5 for more details.

8.0 DOES FUND IMAGE VARY WITH FUND CHARACTERISTICS?

There is no right or wrong fund image. However, it is helpful to understand the interaction of the different disclosure designs with consumers' perceptions of the different funds. We therefore ask participants a set of 16 questions to understand how they view a given fund. In the case of Phase I of the experiment, this fund is the medium high-risk 100% equity fund, but for Phase II the fund is randomly selected. These answers are then grouped into four factors for ease of analysis, which are appeal, risk, return and complexity. We can then use these to answer the question: how does fund image vary with fund characteristics?[20]

One way to judge the effectiveness of the disclosure design overall is to assess the extent to which the fund image shifts depending on the fund that respondents are asked about. As can be seen from Figure 17, in practice the disclosure documents work, as consumer perceptions of risk and reward vary in line with the fund characteristics, particularly for risk.

Figure 17 How does the fund image vary between funds?



Note: In each case, the results are judged relative to the average outcome and positive number indicates that the fund is perceived as more risky, more appealing, offering higher reward or more complex than average.

Source: ABI Research and Decision Technology Limited

Overall, the image of the high-risk fund is that it is most risky, it offers the highest reward, is most appealing, but it is also seen as the most complex. The fixed income fund, in contrast, is seen as significantly less risky than the other funds, offering lower rewards and being less appealing, but also being less complicated. As the results in

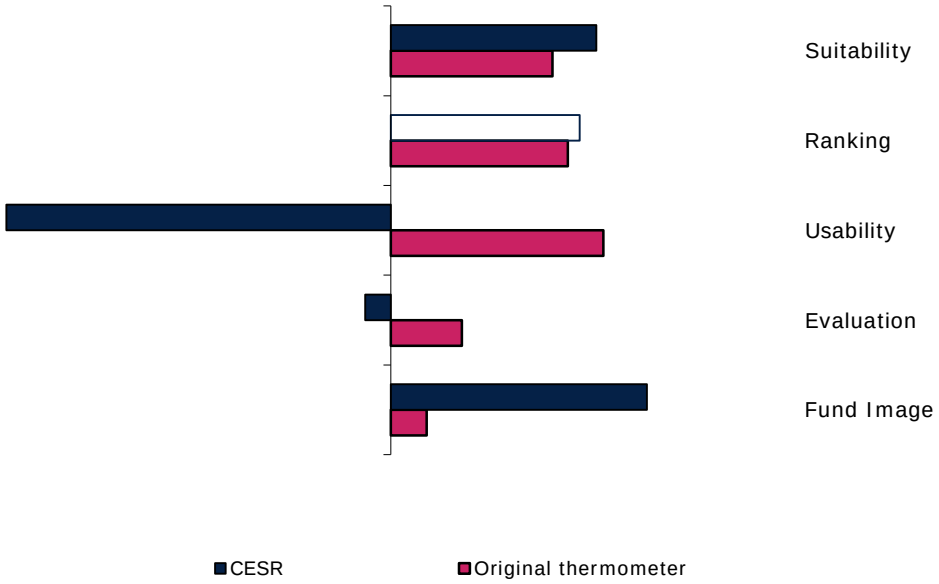
[20] Appendix A4.4 contains more details on the fund image results, including the interaction between fund image and design.

Appendix A4.4 show, the perceived riskiness of the different funds is invariant with the type of disclosure used.

9.0 OVERALL ASSESSMENT OF THE BEST DESIGNS

The results in Section 5 clearly show that introducing a standardised pictorial image to convey investment risks and returns can help consumers make better choices about the suitability of different investment funds. This suitability task is clearly the most important task we give our participants, because it is the task that shows whether participants can distinguish between funds based on their suitability for different people, not simply whether the fund is high or low risk. However, although this task is key, it is not the only task that will be important. In this section we therefore take the two best pictorial designs from the suitability task (the original thermometer used in Phase I and the CESR thermometer) and assess how they perform across the range of different tasks we gave participants.[21]

Figure 18 Relative performance of top two designs compared to text



Note: Performance of top two designs relative to a text based disclosure for 5 metrics: suitability, ranking, usability, evaluation (clarity, usefulness and ease of use) and fund image (judged by appeal and perceived lack of complexity only). The difference in performance between text and the CESR thermometer on the ranking task is not statistically significant, so the bar is not shaded. The 5 criteria are not comparable and should therefore not be added together. For this reason there is no scale.

Source: ABI Research and Decision Technology Limited

Figure 18 shows the difference between the two best overall performing designs relative to a simple text-based design on all aspects that we tested.[22] All of the

[21] Our choice of the original thermometer and CESR thermometer is based on the fact that they perform best for the suitability task if statistical significance is set at the 5% level.

[22] The metrics used to create the chart are: the suitability correlation compared to the advisers' assessment; the ranking task correlation (for ability to rank the funds in terms of risk and return); the usability score (out of a maximum of three, for the ability to pick three pieces of information out based on a single disclosure document); the design evaluation score (taken as the average of the underlying factor scores, with those factors with negative meaning having their signs reversed); and fund image score based on participants' assessment of the appeal and complexity (entered negatively) of the same medium-high risk 100% equity fund.

measures used are corrected for the sample of people that performed the tasks.[23] The measures shown in Figure 18 are obviously very different, both in terms of type of task and relative importance, and so should not be added together. This is why there is no scale included in Figure 18. Overall, however, the results show that the CESR thermometer does best on the suitability task and results in a more appealing fund image. However, the original thermometer does better for the simple ranking task (as the CESR design does not perform significantly better than text for that task) and receives a more positive evaluation from participants. Note that although they may appear to be large, the differences in usability between the thermometer designs are not statistically significant.

9.1 Additional insights on design

9.1.1 Use of bar charts

Although pictorial designs can significantly help with consumers' ability to understand and use information, it is worth emphasizing again that not all pictorial designs are good. For example we find that Bar charts are confusing; consumers' ability to understand the information in a risk disclosure drops by 50%-75% when tables are replaced by bar charts.

9.1.2 Impact of fan charts

As well as pictorial depictions of risk and bar charts, we also assess the impact of introducing a fan chart to convey the range of possible future values of a fund. Fan charts have proved to be helpful in helping people understand forecast risk, see for example Roulston and Kaplan (2009). For the suitability tasks in Phase I, the use of fan charts to supplement the text did not help lead to an overall improvement in suitability, but is associated with higher numbers of participants in the high correlation group who did well in the task. It is also seen by the participants in Phase I as the most useful design and the one that they would like to see most if they needed to make a financial decision.

We therefore include the fan chart design in Phase II of the experiment, including versions of the disclosure document where it is paired with the more successful pictorial disclosure designs. However, the results from Phase II are disappointing, suggesting that the benefits of including a fan chart may be limited. For example, consumers are not able to do any better in the tasks when a fan chart is presented along with a thermometer, although the addition of a fan chart does have a positive impact on perceptions of reward. In addition, participants in Phase II do not see the fan chart as the most useful design.

[23] We adjust for demographics by regressing each of the underlying measures upon demographic variables and to then work out what average value we would see for each measure with an average demographic profile.

9.1.3 Fund names

The final insight from our tests is that it is also important to not use misleading fund names. Using appropriate fund names has little impact, but the use of misleading names that contradict the actual risk confuses some consumers.

A1 DOES MORE INFORMATION LEAD TO BETTER CONSUMER CHOICES?

> "When one looks at the whole body of experimental studies of cognition and choice over the past 25 years, what stands out is that humans fail to retrieve and process information consistently."[24]

One of the fundamental tenets of classical economics is that people behave rationally. In other words, individuals will choose the course of action most likely to satisfy a given end, subject to constraints.

In reality however, individuals are often observed making irrational choices. Classical economics assumes this is due to some constraint placed upon the individual. One such constraint is a lack of information, with the assumption that individuals will make better, more optimal decisions if they have sufficient information. Unfortunately, even when information is available it is often the case that individuals still make apparently irrational choices.

This appendix looks at some of the reasons why providing consumers with greater levels of information may not always have the desired effect.

For example, one reason why providing consumers with information does not always have its intended effect is that the consumer may be constrained by time – in other words they simply do not have enough time to process the data. However, setting aside this issue, there are a number of other, perhaps more important, reasons as to why more information does not automatically lead to better decisions. Four of these reasons are described below.

A1.1 Processing information

The theory that more information will help consumers make more optimal choices assumes that individuals have unlimited processing capabilities. In reality, individuals only have limited brainpower.

The limitation on cognitive ability means individuals use approximate methods to handle complex decisions, such as simple rules of thumb; heuristics (mental shortcuts); and routine responses and behaviours (e.g. habits). Simon (1955) was one of the first to note the limitation of humans' computational capability. He coined the term "bounded rationality" in recognition that there are "bounds" on the ability of individuals to organise and utilise information.

The problem of "information overload" may sometimes be compounded by the problem of "choice overload". In one well-known study, Iyengar and Lepper (2000) set up a jam-tasting stall outside a supermarket, offering a selection of either 6 or 24 different jams.

[24] McFadden, (1998).

Although a wider selection was more attractive (60% of customers stopped compared to 40% for the limited selection), only 3% of customers made a subsequent purchase compared to 30% when the selection was more limited. This and many other studies suggest that people struggle to make a decision when faced with too much choice, and often end up opting out entirely.

A1.2 Presentation

How information is presented can have an important influence on how it is processed. Everyone is well aware of optical illusions or how two people can perceive quite different things from the same picture, but wording and phrases, or the way choices are arranged, can also have an important effect.

Table 3 shows the outcome from a study involving two experiments in which two sets of respondents are told that a new disease, if left unchecked, is expected to kill 600 people. Both sets of respondents are informed that two alternative courses of action are available that would affect the 600 people who are expected to die. One set of respondents (experiment 1) is then given a choice between A and B, while the other (experiment 2) has to choose between C and D.

Table 3 Tversky and Kahneman's Experiment

Experiment 1			Experiment 2		
		Choice			*Choice*
A:	200 people saved	72%	C:	400 people die	22%
B:	600 saved with probability 1/3 0 saved with probability 2/3	28%	D:	0 die with probability 1/3 600 die with probability 2/3	78%

Note: Percentage of participants choosing different options.
Source: Tversky and Kahneman (1981)

Options A and C have identical outcomes, as do alternatives B and D. Nevertheless, changing the presentation of the information from lives saved to lives lost significantly alters choice. Despite the fact that the outcomes are identical, 72% of people prefer option A, but only 22% of people prefer C.

Another example of the influence of presentation is the range of options offered, as people will tend towards a middle or "average" option if possible. In addition, individuals will often search for some clue in the information presented to them on how to act. For example, in questionnaires an individual's answer can often be influenced by a preceding question.

A1.3 Evaluation of risk

How individuals evaluate and treat risk can often go against "rational" behaviour. One obvious reason for this is the difficulty or inability of individuals to measure risk. However, even when risk can be measured, it does not ensure rational behaviour.

For example, studies have shown that individuals are often more motivated by losses than by gains. So, for example, an individual offered £300 for a win on a coin toss, but a loss of £150 if the coin toss goes against them, is likely to decline the bet – even though the expected value of the bet is positive (£75) and "rational" behaviour dictates that they should accept the bet. [25] In fact, some individuals may even decline two consecutive bets of the coin toss (outcomes: £600, £150, £150, -£300) simply because there is a possibility of a £300 loss.

Other factors in the evaluation of risk that can lead to irrational behaviour include:

- Individuals generally have an aversion to extreme negative outcomes, even when the possibility of that outcome occurring is negligible.
- Individuals are often more sensitive to short-term losses than they are to long-term gains.

A1.4 Psychological reasons

People often act in an irrational manner for psychological reasons. For example, recent research identified a psychosocial syndrome, called financial phobia, which causes individuals to avoid cognitive engagement with the management of their personal finances. [26] Sufferers experience negative emotions of anxiety, guilt, boredom, or feelings of lack of control when dealing with money matters, resulting in lack of vigilance – and in worst cases complete avoidance – in this area. It is estimated that a fifth of Britons suffer from financial phobia.

[25] Expected value is the sum of the each possible outcome times the probability of that outcome occurring. In this example it is: (0.5 probability X £300) + (0.5 probability X -£150) = £75.

[26] Burchell (2003).

A2 SAMPLE CHARACTERISTICS

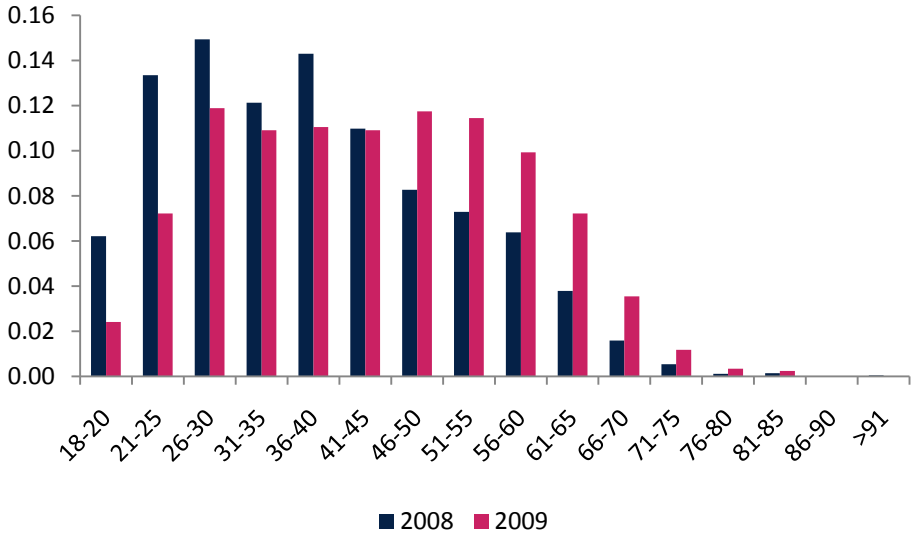
As there are two phases to our experiment, there are also two samples. We were careful to ensure that no person completed the survey in both Phase I and Phase II, so we can therefore consider the samples to be independent of one another. The sample size in Phase I is 2772, and in Phase II is 2036, to reflect the fact that there are fewer conditions in Phase II. The fact that the experiment is conducted on-line allows us to access a large sample. The only screening that took place was to ensure that participants are aged 18 or above, are UK residents and only completed one survey.

This appendix provides details of the sample characteristics of the participants in our experiment. The sample characteristics between the two phases are broadly similar, so in some cases we only present demographic details for the participants in Phase II.

A2.1 Demographic details

Figures 19-29 summarise the non-financial details for the participants. Unless specified otherwise, each chart shows the results for Phase I and Phase II. On balance the results show that the samples are relatively representative of the UK population as a whole, although there is a slight bias towards those with higher levels of education, income and wealth than is true for the population as a whole. There is also a slight bias towards a relatively older sample in Phase II compared to Phase I. Given that the subject of this research is investment disclosure this bias is, if anything, relatively helpful, because it reflects the segment of the population that is most likely to be making investment decisions.

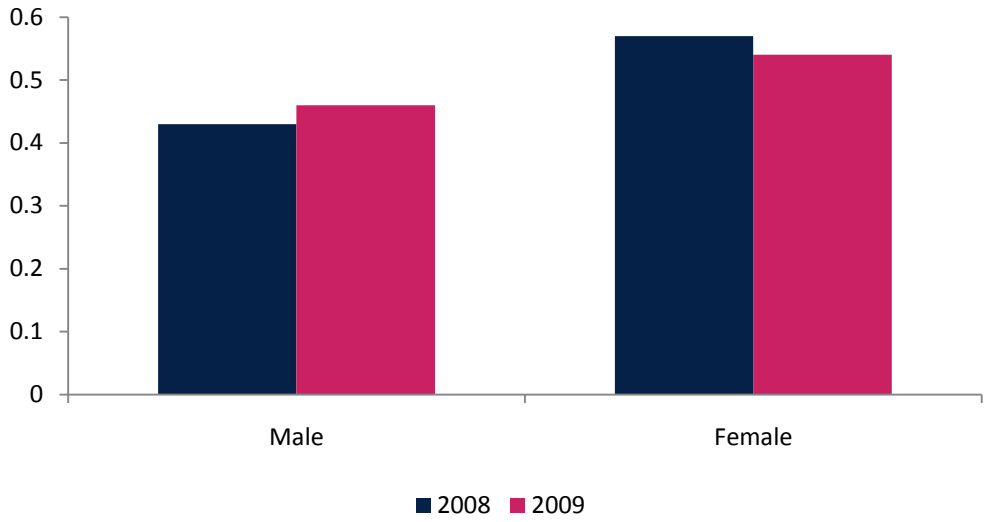
Figure 19 Respondents' ages



Note: Results from Phase I and Phase II

Source: ABI Research and Decision Technology Limited

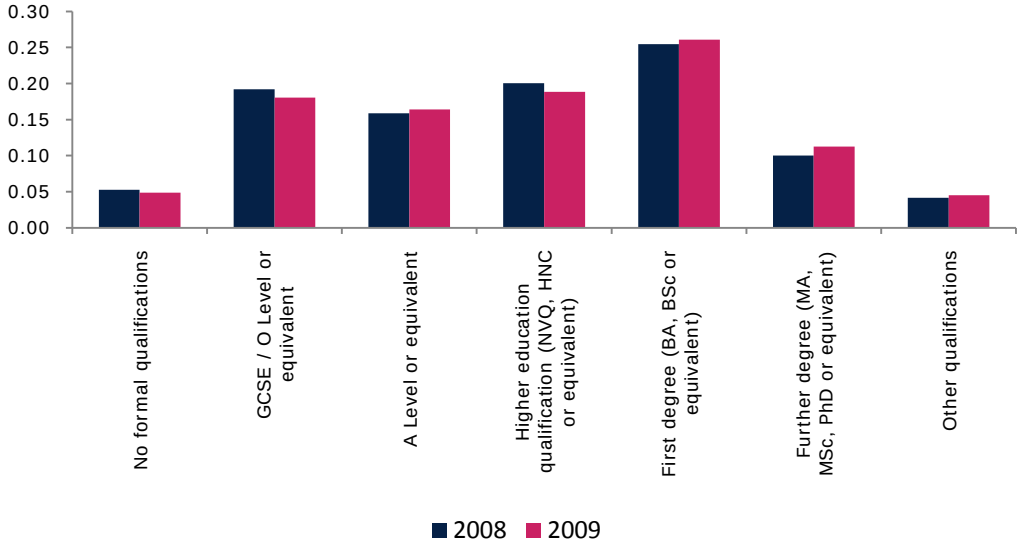
Figure 20 Gender of respondents



Note: Results from Phase I and Phase II

Source: ABI Research and Decision Technology Limited

Figure 21 Highest educational qualification



Note: Results from Phase I and Phase II

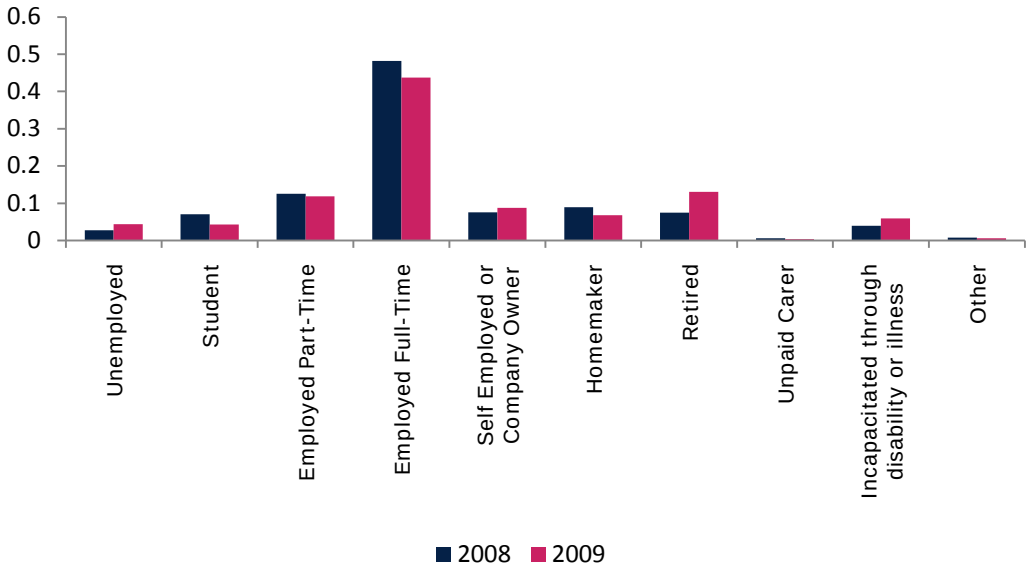
Source: ABI Research and Decision Technology Limited

Figure 22 Annual household income before tax

Note: Results from Phase I and Phase II

Source: ABI Research and Decision Technology Limited

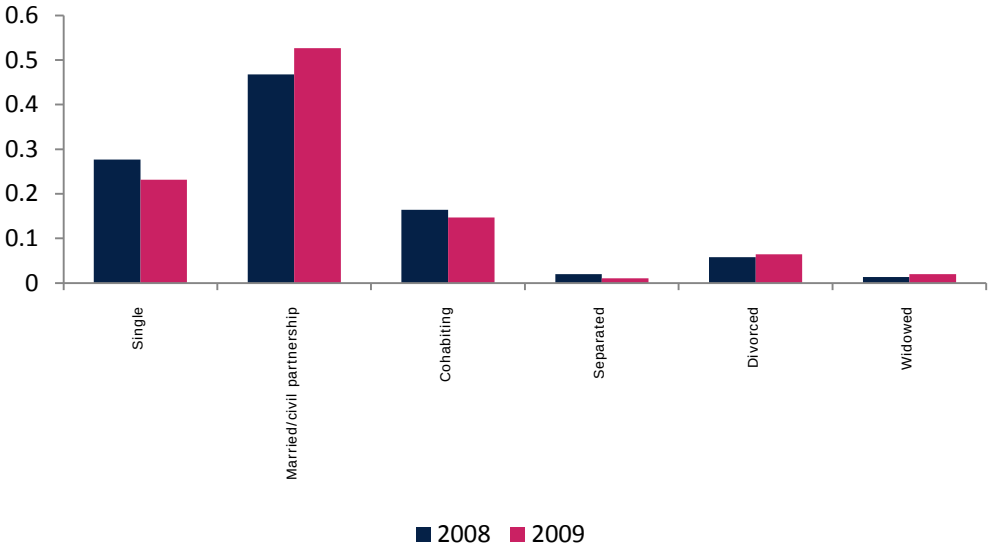
Figure 23 Current employment status



Note: Results from Phase I and Phase II

Source: ABI Research and Decision Technology Limited

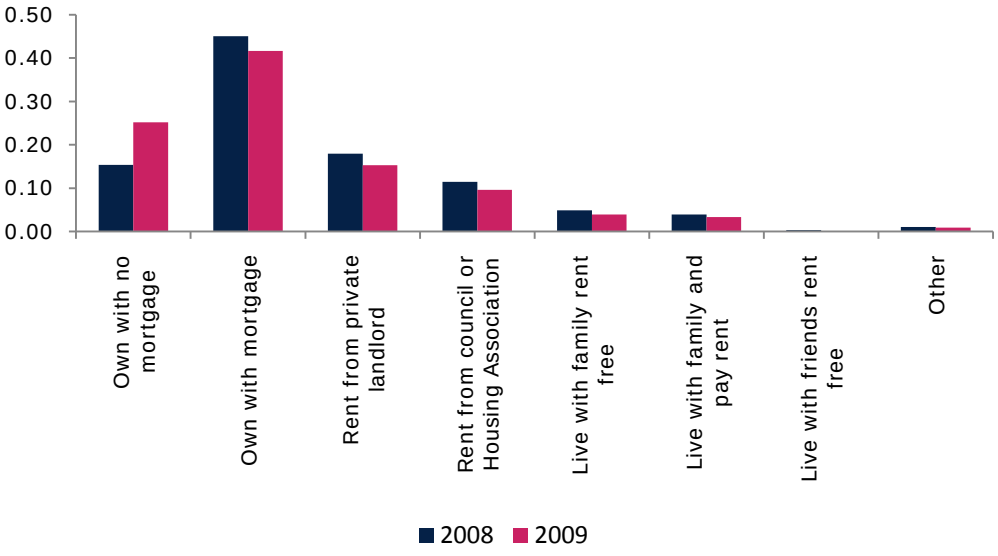
Figure 24 Marital status



Note: Results from Phase I and Phase II

Source: ABI Research and Decision Technology Limited

Figure 25 Do you rent or own your current home?



Note: Results from Phase I and Phase II

Source: ABI Research and Decision Technology Limited

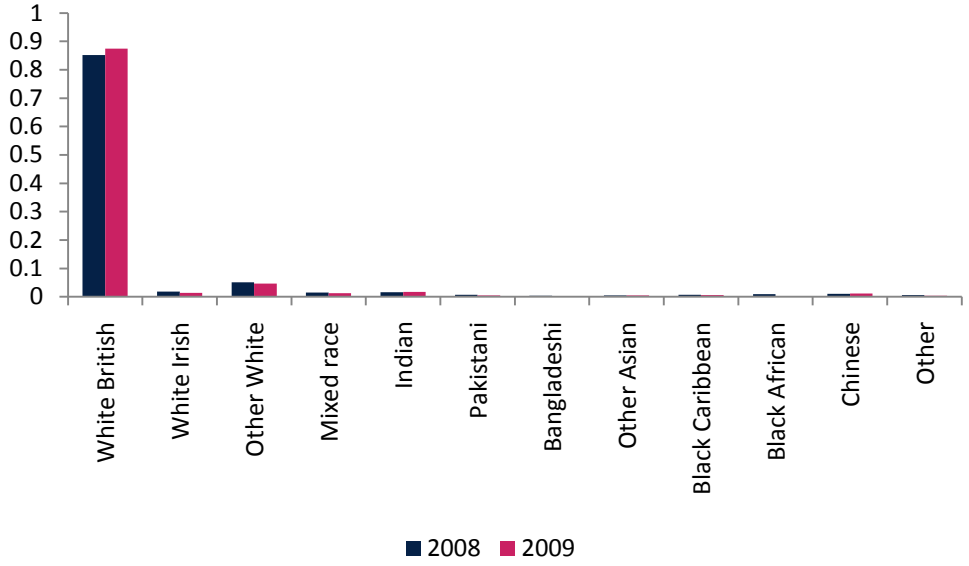
Figure 26 Which region of the UK do you live in?

Note: Results from Phase I and Phase II

Source: ABI Research and Decision Technology Limited

The only demographic characteristic where the samples are very different from the UK population as a whole is ethnicity. While this is unfortunate, there is no evidence to suggest that people from ethnic origins will necessarily react differently to disclosure designs.

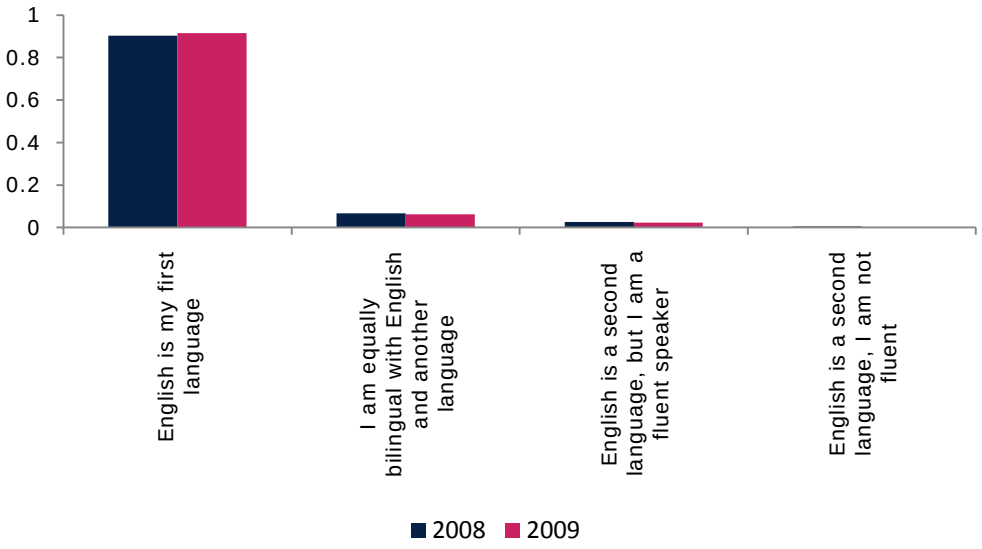
Figure 27 Ethnicity



Note: Results from Phase I and Phase II

Source: ABI Research and Decision Technology Limited

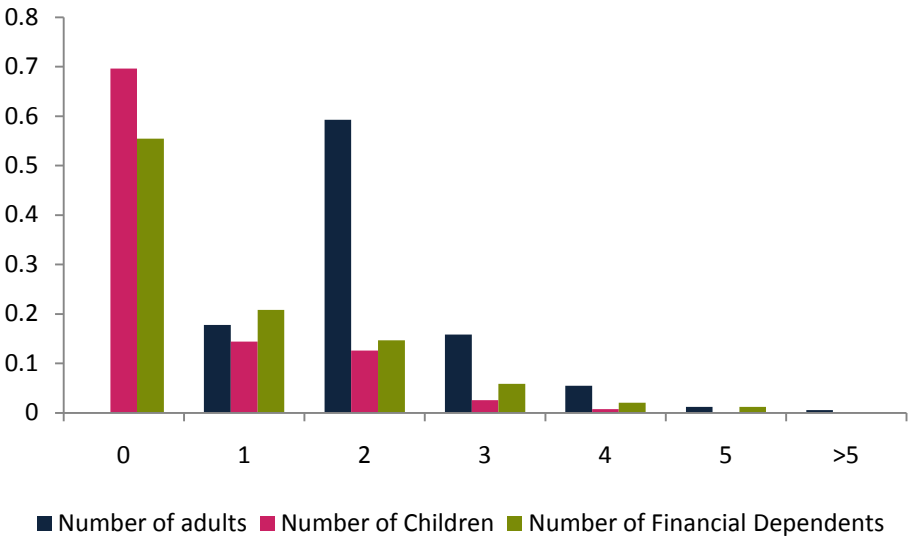
Figure 28 Is English your first language?



Note: Results from Phase I and Phase II

Source: ABI Research and Decision Technology Limited

Figure 29 Family characteristics



Note: Results for Phase II only.

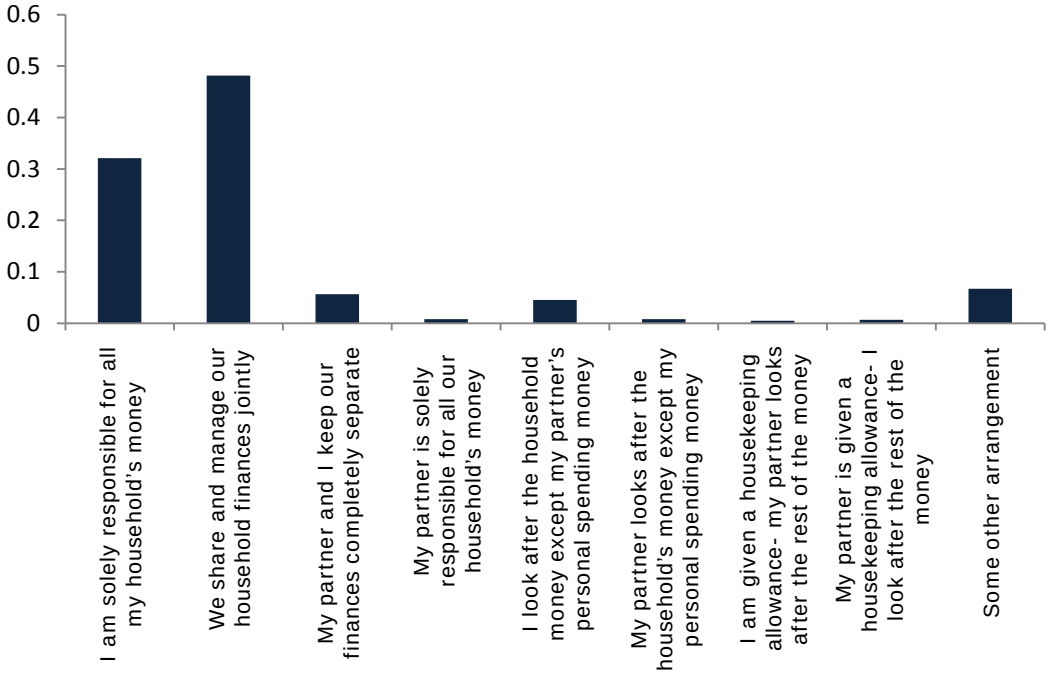
Source: ABI Research and Decision Technology Limited

A2.2 Approach to personal finance

As well as participants' overall demographic characteristics, it is also important to assess the extent of their exposure to financial services, as people with greater exposure may find certain questions easier because they are more likely to have acquired some degree

of familiarity with financial concepts. Given the broad similarities between the two samples demonstrated in A2.1, this section simply looks at the responses for participants in Phase II.

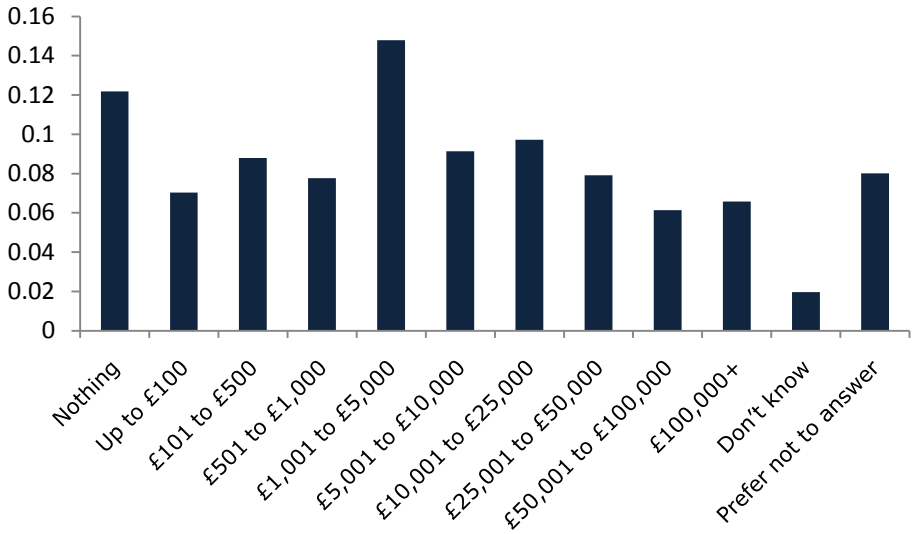
Figure 30 How do you organise your household finances?



Note: Results for Phase II only.

Source: ABI Research and Decision Technology Limited

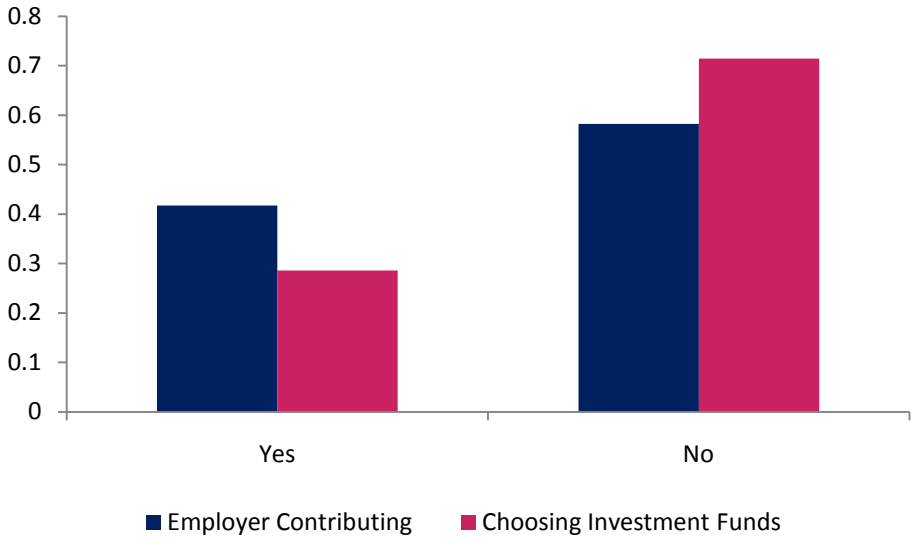
Figure 31 Thinking about all your savings and investment products, how much do you have in total?



Note: Results for Phase II only.

Source: ABI Research and Decision Technology Limited

Figure 32 Engagement with a pension



Note: Results for Phase II only.

Source: ABI Research and Decision Technology Limited

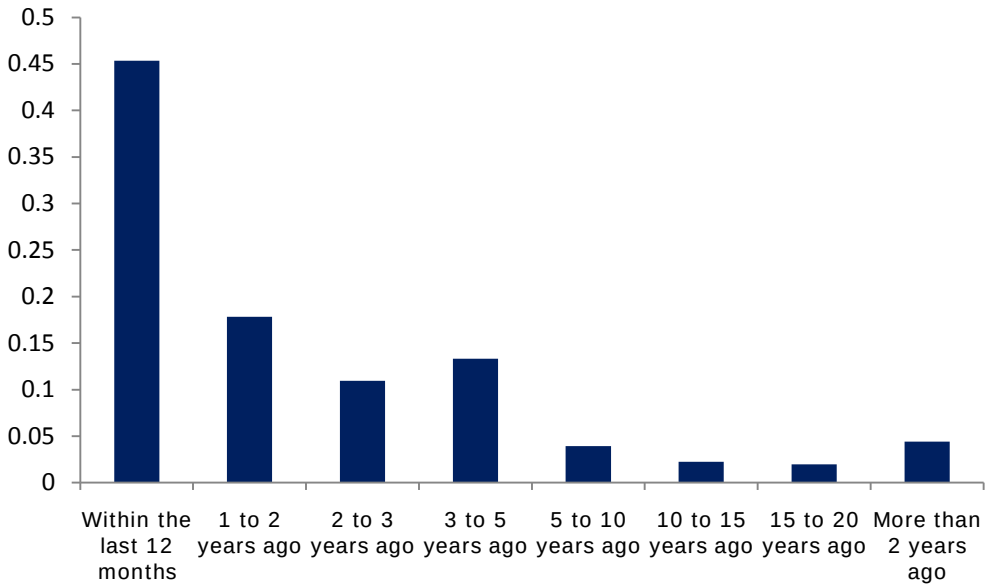
Table 4 Do you have any of the following financial products, either yourself or jointly with someone else?

Investment Product	Number of products					
	I don't have this	1	2	3	4	5 or more
Current account	1.7%	61.2%	29.5%	5.9%	1.0%	0.7%
Savings account	16.6%	44.2%	22.9%	9.6%	2.5%	4.3%
Cash ISA, TOISA, TESSA	44.4%	39.4%	10.4%	2.7%	0.9%	2.3%
Premium Bonds	61.5%	22.7%	2.8%	1.6%	0.4%	11.0%
National Savings & Investment Savings	85.7%	10.8%	1.7%	0.6%	0.1%	1.1%
Credit union account	95.7%	3.2%	0.6%	0.2%	0.0%	0.2%
ISA (Stocks and shares or life assurance)	68.2%	22.3%	5.2%	2.1%	0.4%	1.8%
PEP	89.2%	7.3%	2.0%	0.7%	0.3%	0.4%
Unit Trust, Investment Trust or OEIC	89.2%	6.2%	2.6%	0.9%	0.2%	0.8%
Guaranteed equity bond	95.4%	3.0%	0.8%	0.3%	0.3%	0.1%
Investment Bond	90.1%	6.8%	1.9%	0.6%	0.1%	0.4%
Gilts	97.5%	1.1%	0.8%	0.2%	0.0%	0.4%
Investments in a company (Stocks and Shares)	68.8%	14.6%	6.9%	2.6%	1.3%	5.8%
National Savings Bond or Certificate	90.1%	7.0%	1.1%	0.4%	0.3%	1.1%
Endowment Policy (not linked to mortgage), life assurance, savings plan	85.6%	10.6%	2.9%	0.7%	0.0%	0.1%
Personal Pension or FSAVC	58.8%	30.6%	7.5%	2.2%	0.4%	0.5%
Credit card	18.0%	29.4%	24.6%	14.7%	6.2%	7.0%
Personal loans or other unsecured credit	73.3%	21.5%	4.3%	0.6%	0.0%	0.2%
Student loan	87.1%	11.6%	0.7%	0.4%	0.1%	0.1%
Mortgage	57.3%	39.6%	2.3%	0.3%	0.3%	0.1%

Note: Phase II results only

Source: ABI Research and Decision Technology Limited

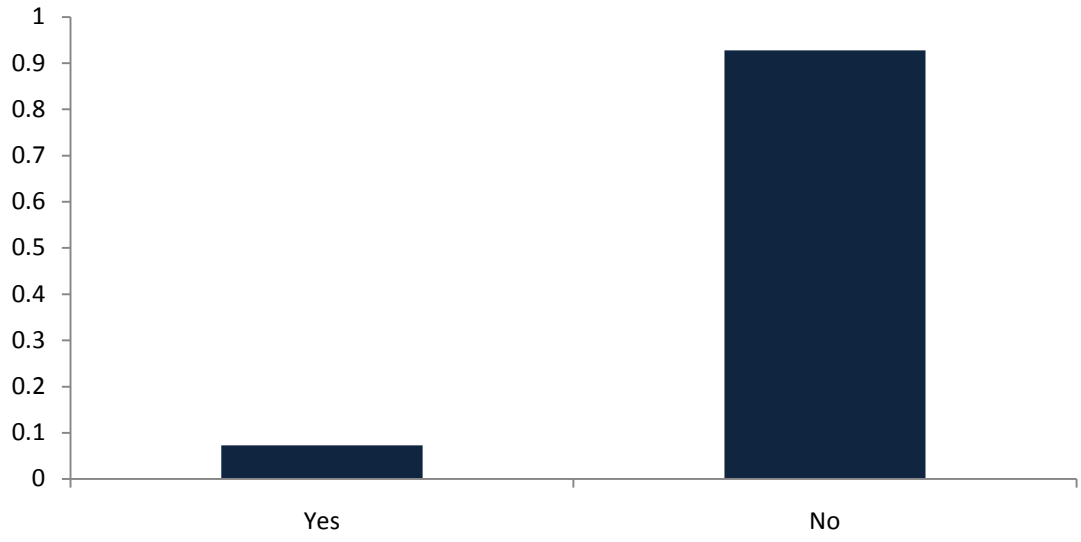
Figure 33 How long ago did you last make a major change to your finances?



Note: Results for Phase II only.

Source: ABI Research and Decision Technology Limited

Figure 34 Have you ever worked in the financial services industry?



Note: Results for Phase II only.

Source: ABI Research and Decision Technology Limited

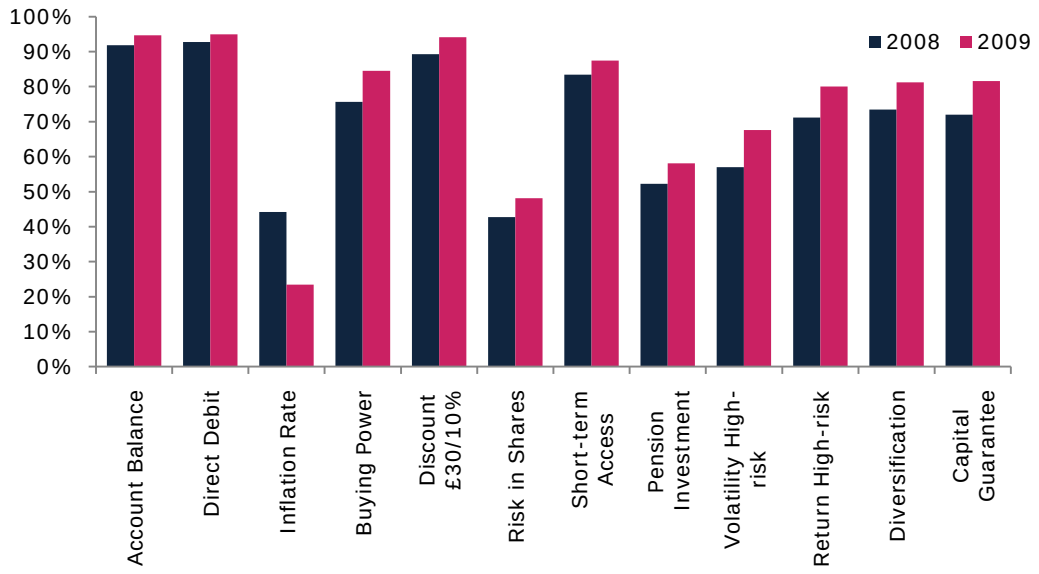
A2.3 Financial literacy and attitude to risk

In both surveys we collected information on the respondents' financial literacy and their attitudes to risk. The quiz that determines financial literacy is detailed in the full survey design document, which is available on request. We will present details of these measures primarily for Phase II, but mention some details of the results for Phase I where they are interesting.

A2.3.1 Financial Literacy

An individual's financial literacy is defined as the score out of 12 that they obtain in the financial literacy quiz. The questions are based on the FSA's baseline survey and range from simple questions on the balance shown on a bank statement to more complex questions on diversification. The percentage of correct responses per question is displayed in Figure 35, for both Phase I (2008) and Phase II (2009). In all but one case (the question on inflation, see below) the percentage of respondents answering the questions correctly increased.

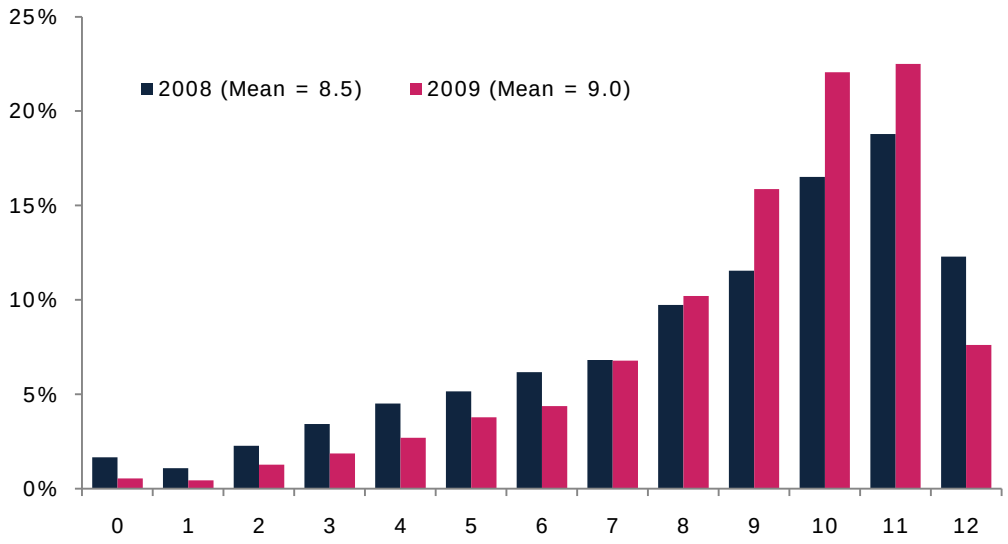
Figure 35 Financial literacy quiz, percentage of correct responses per question



Note: Percentage of respondents answering each question correctly, results from Phase I and Phase II.
Source: ABI Research and Decision Technology Limited

Figure 36 displays the distribution of correct answers in Phase I and Phase II and, as would be expected from the results in Figure 35, there is an increase in the mean score in Phase II. However, we cannot immediately say whether this improvement is due to an improvement in people's financial literacy, because it could simply reflect sample differences between the two years, as that this might be responsible for the observed difference.

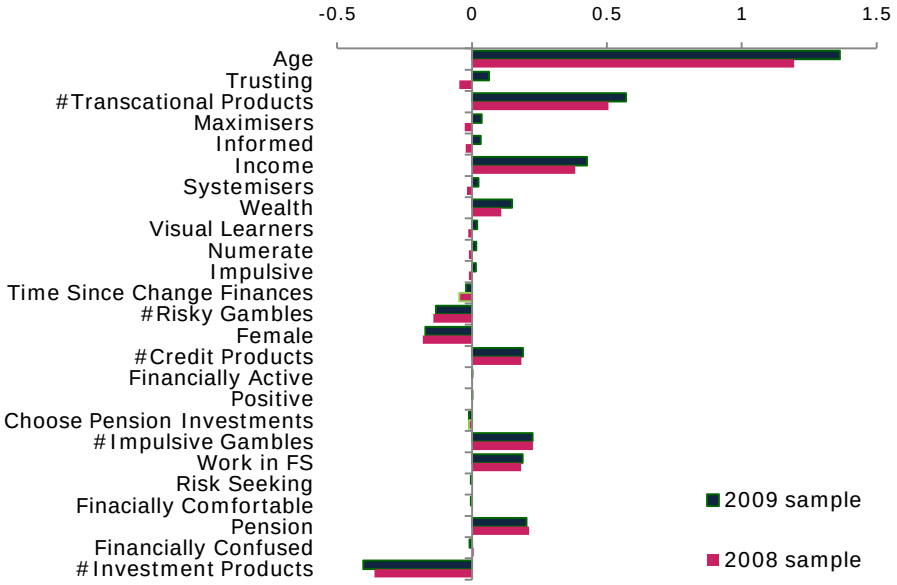
Figure 36 Financial literacy, distribution of number of correct answers



Note: Distribution of number of correct answers, results from Phase I and Phase II.

Source: ABI Research and Decision Technology Limited

Figure 37 Contribution of explanatory variables to financial literacy



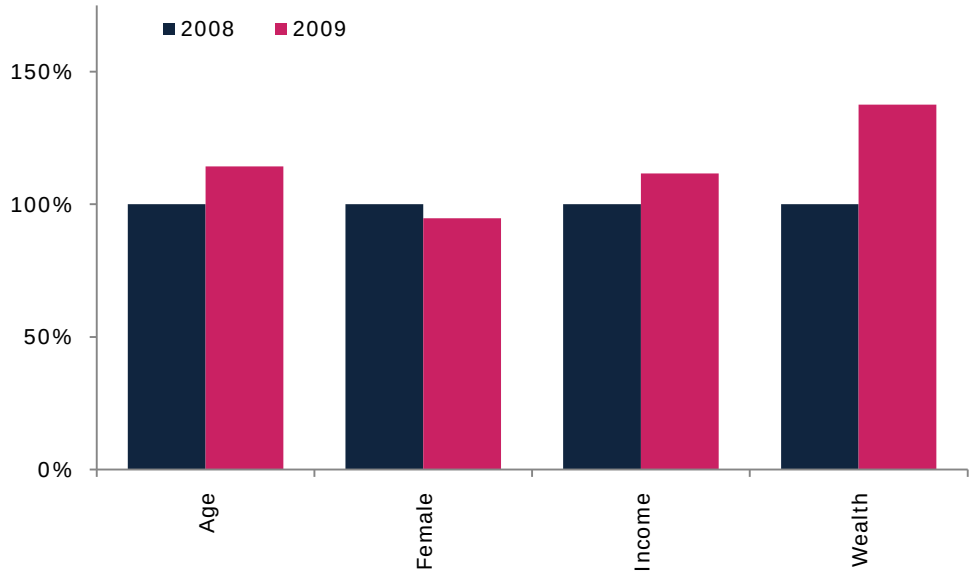
Note: Contribution of demographic factors to change in financial literacy. Bars represent average outcome of independent variable in that Phase multiplied by regression coefficient corresponding to that variable (regression using 2008 and 2009 data together). It is important to note that the difference in the size of the bars for Phase I and Phase II is entirely dependent upon the mean value of the explanatory variable; the differences between variables come from the size of the regression coefficients.

Source: ABI Research and Decision Technology Limited

As Figure 37 shows, at least some of the observed change in financial literacy reflects differences in the two samples. To establish whether financial literacy increased between 2008 and 2009, or whether the observed changes are explained by the sample, we use a

linear regression to predict the financial literacy in each year. We combined the data from both phases and used as a dependent variable an indicator variable marking whether the year was 2009, along with a wide variety of demographic variables.[27] We find that the year indicator is not significantly different to zero, which suggests that differences in the sample account for the increased financial literacy observed in Phase II. Figure 37 displays the contribution of our explanatory variables to the observed mean financial literacy for each of the Phases based on the results of the linear regression. We can immediately see then that the age of the respondents in Phase II is the most important individual difference between the samples in determining the financial literacy. Figure 38 displays the mean values of the demographic variables that are significantly different, *i.e.* they had significantly different means, in the two phases. We see that the individuals in Phase II are on average older and wealthier, with higher incomes. There is also a higher percentage of men.

Figure 38 Changes in the demographic variables between Phases I and II



Note: The mean values of the demographic variables that are significantly different in phase I and phase II. Since the variables are not comparable, we calculate the percentages of the means in 2009 based on a value of 100% in 2008.

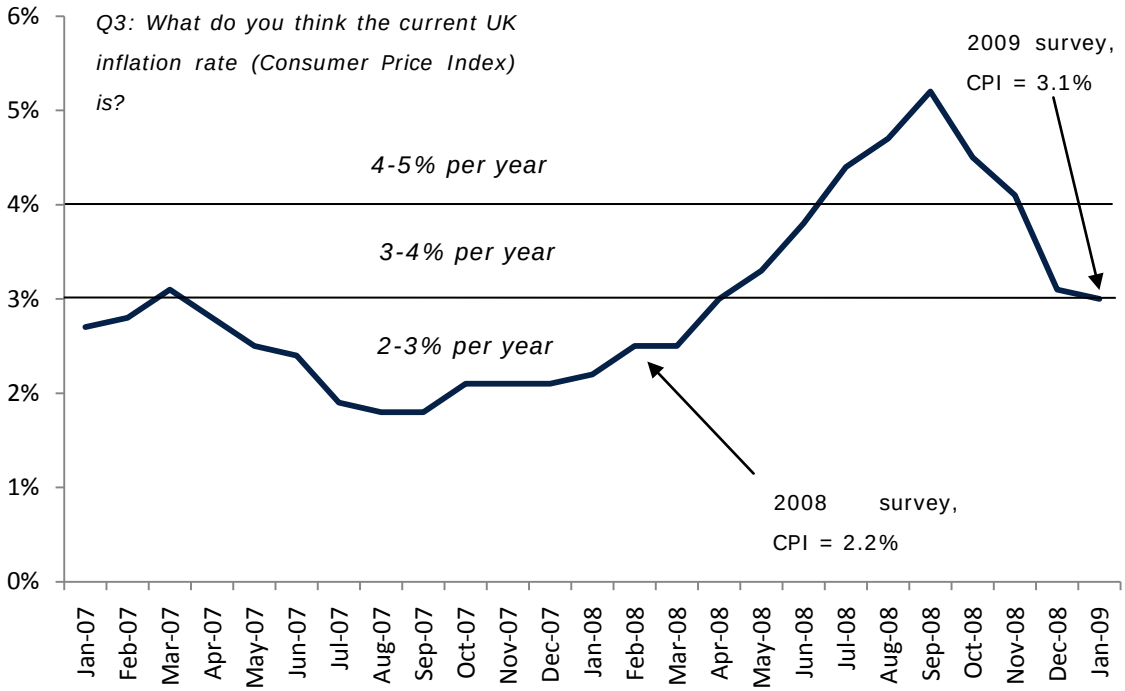
Source: ABI Research and Decision Technology Limited

It turns out, however, that , if we look more closely, the population may have improved its financial literacy from Phase I to Phase II. The percentage of correct responses for the 'inflation rate' question is much lower in Phase II, while the percentage of correct responses is higher for all of the other questions. Figure 39 shows why this may have happened. The correct answer to the inflation rate question at the time of Phase I had been the same for most of the previous year, however it then changed quite rapidly leading up to Phase II, and was close to the boundary between two possible answers. It

[27] Note all independent variables, except those that are binary, are first standardised to have a mean of zero and a standard deviation of one.

seems then that the inflation rate question was considerably more difficult to answer correctly at the time of Phase II, all other things being equal.

Figure 39 Evolution of the inflation rate over period of the surveys

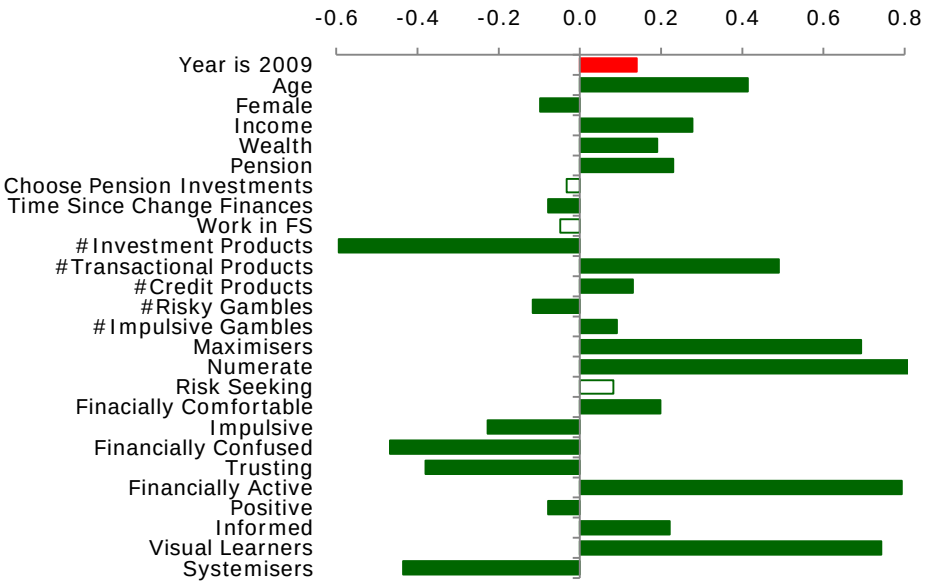


Note: Consumer price inflation over time.

Source: ABI Research and Decision Technology Limited

To account for the increased difficulty associated with the inflation question, we therefore assess the causes of financial literacy again, but this time measuring financial literacy on an 11 point scale that excludes the inflation question. Figure 40 displays the coefficients of a linear regression with financial literacy as the dependent variable. The interesting feature of this regression is that the coefficient of the year indicator is now significantly different from zero, and accounts approximately for an improvement of 0.15 in the mean financial literacy score.

Figure 40 Regression coefficients for the modified financial literacy measure



Note: The modified financial literacy variable is measured on an 11-point scale excluding inflation question. The bars represent the size of the regression coefficients. Solid bars indicate variables are statistically significant at the 5% level. Non-binary independent variables were standardised prior to performing regression analysis, and so the regression coefficient for a variable represents the amount by which the modified financial literacy changes when the variable changes by one standard deviation.

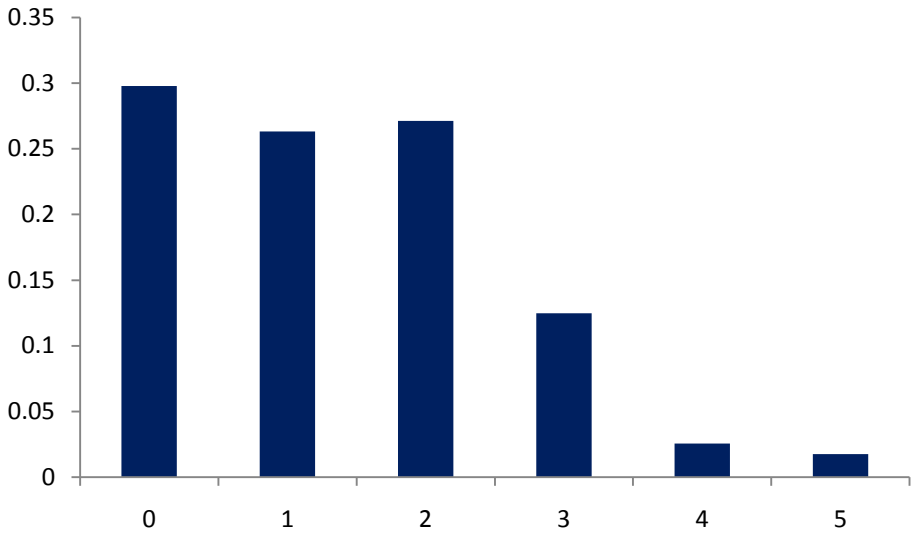
Source: ABI Research and Decision Technology Limited

A2.3.2 Risk attitude

We measure respondents' attitude to risk by presenting them with a collection of five gambles and five options regarding when they would like to receive a sum of money.[28] For the gambles, participants are asked to choose between gamble A, with possible outcomes of £150 or £120, or gamble B, with possible outcomes of £300 or £10. They are given five different levels of probability associated with winning ranging from a 10% chance of getting the higher outcome to a 90% chance and are asked to choose in each case which bet they prefer. In all but two cases, the expected outcome from choosing gamble B, the risky gamble is higher than the expected outcome from gamble A, therefore based purely on expected outcomes people should pick the risky gamble three times. However, as Figure 41 shows, very few people chose gamble B on all three occasions. Indeed, almost 30% would never pick gamble B.

[28] The gamble options considered are similar to those used in Harrison et al (2005) and the options to assess timing are similar to those used in Harrison et al (2002) and Coller and Williams (1999).

Figure 41 How often do people pick risky gambles?

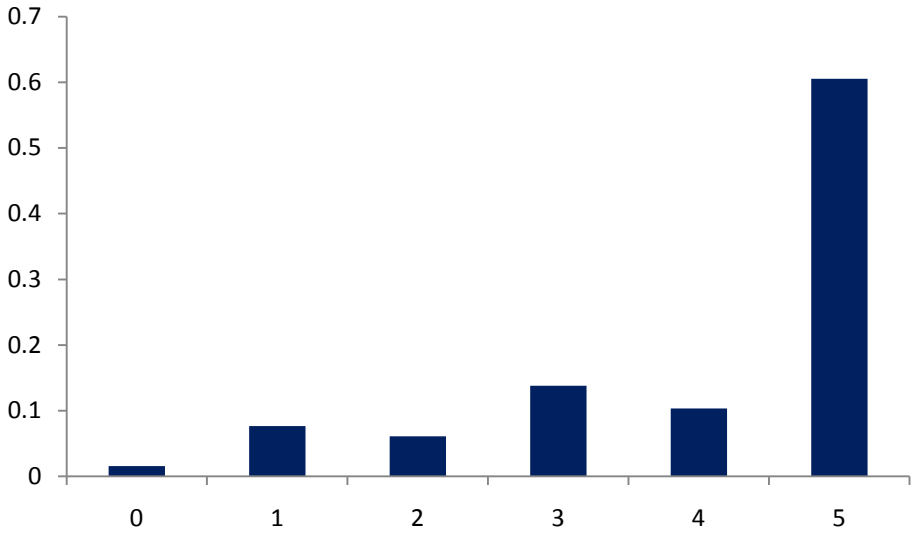


Note: The number of times people pick the risky gamble (with payoffs £300 and £10) over the safe gamble (with payoffs £150 and £120).

Source: ABI Research and Decision Technology Limited

The five choices people are given on timing are around whether they would prefer £200 in one month or £250 at a later point in time, which varies from 7 months to 5 years. In all but one of these options (when the implied discount rate is 5%), the implied annualised interest rate associated with waiting is over 15%. However, as Figure 42 shows, the majority of people prefer to take their money early in all cases.

Figure 42 Understanding time preference



Note: The number of times people pick the money sooner (with a payoff of £200) over money later (with a payoff of £250).

Source: ABI Research and Decision Technology Limited

A2.4 Personality dimensions

In both of the phases we ask the respondents to indicate their level of agreement with a series of 54 questions designed to reveal characteristics of their personality. Using factor analysis these statements can be combined into 12 personality dimensions.[29] These personality dimensions are important for explaining people's ability to do the tasks, see for example Section 5. The decomposition of these statements into factors is presented below in Tables 5 and 6.

Table 5 Personality factor loadings

	Maximizing	Numerate	Risk Seeking	Financially Comfortable	Impulsive	Financially Confused
When choosing products I prefer to look at a wide range of alternatives	0.71	-0.07	0.04	-0.05	-0.10	-0.11
I like to gather lots of detailed information about each option before making a choice	0.68	-0.04	-0.02	-0.02	-0.11	-0.08
I take a great deal of time over choosing what to purchase	0.60	-0.02	0.10	-0.03	-0.22	-0.05
I'm not satisfied with good enough – I always want to choose the very best option	0.48	-0.03	0.10	-0.01	0.09	-0.08
I learn best when information is written down in words and numbers	0.39	0.17	0.00	-0.09	-0.04	0.04
I try hard to do what is expected of me.	0.38	0.08	-0.03	0.00	0.01	0.11
I am able to make decisions without being influenced by people's feelings.	0.33	-0.01	-0.04	0.00	0.01	-0.16
When I ask for someone's advice, I don't necessarily then follow it.	0.32	0.04	0.08	0.05	0.06	0.13
I find losing money much more painful than not making it	0.32	-0.05	-0.18	-0.01	0.06	0.15
I usually play it safe and buy things that I know I like	0.29	0.01	-0.23	0.00	-0.08	0.10
I like to try new products and services	0.27	-0.03	0.05	0.04	0.25	-0.02
I'm good with numbers	0.02	0.90	0.05	0.04	0.02	0.03

[29] A non-orthogonal factor analysis, using maximum likelihood extraction, and promax rotation.

	Maximizing	Numerate	Risk Seeking	Financially Comfortable	Impulsive	Financially Confused
I'm good at mental arithmetic	-0.09	0.80	-0.01	-0.01	0.02	0.07
At school I was never any good at maths	0.02	-0.69	-0.02	-0.01	0.03	0.15
I don't really understand numbers and figures	-0.14	-0.57	0.06	0.02	0.03	0.33
I would invest in ways that are seen as high-risk	0.03	0.00	0.84	-0.02	-0.04	-0.02
I'm inclined to invest my money in risky investments that offer a better return	-0.05	0.01	0.77	-0.05	-0.06	0.07
I don't mind risking some of my savings to achieve long-term gains	0.11	0.02	0.69	0.04	-0.08	0.07
I take fewer risks with my money than most of my friends	0.12	-0.04	-0.33	0.01	-0.14	0.23
I am comfortable with my financial situation	-0.04	0.03	-0.04	0.85	0.04	0.04
My finances are good enough for me not to have to worry	-0.12	0.02	0.02	0.79	0.00	0.04
I am plagued by financial worries	-0.10	0.00	0.05	-0.65	0.08	0.25
I have made financial provisions to cope with any large unexpected expenses in the future	-0.06	-0.05	0.06	0.48	-0.15	0.03
I often buy things on impulse, even if I can't afford them	-0.11	0.00	-0.05	0.02	0.72	0.09
I am definitely a spender rather than a saver	-0.05	0.00	-0.10	-0.08	0.71	0.10
I easily resist temptation	-0.02	0.00	0.04	-0.04	-0.55	0.13
I would rather go without than get into debt	0.16	-0.03	0.04	0.15	-0.54	0.22
I get bored very easily	0.15	-0.02	0.12	0.02	0.30	0.10
I never read instruction manuals	-0.05	-0.02	0.12	0.13	0.24	0.10
I actively seek out new experiences and unusual products	0.21	-0.06	0.19	0.00	0.22	-0.04
I find the array of financial products on offer bewildering and confusing	-0.09	-0.04	0.02	-0.01	-0.01	0.70
I find APRs, yields, and all that	-0.03	-0.12	0.01	0.01	-0.03	0.60

	Maximizing	Numerate	Risk Seeking	Financially Comfortable	Impulsive	Financially Confused
financial jargon difficult to follow						
I think that the savings and investment industry often hides things in the small print	0.19	0.07	0.00	0.03	0.03	0.47
People in authority make me feel uncomfortable and uneasy.	-0.04	-0.05	0.13	-0.05	0.01	0.35
I can't learn how to do something until I have tried it for myself	0.24	-0.03	-0.03	0.04	0.11	0.25
I think that the savings and investment industry keeps its promises	-0.05	0.02	0.09	-0.01	-0.01	-0.08
I think that savings and investment products are typically a fair deal	0.08	0.03	-0.01	0.08	0.08	-0.10
I think that the savings and investment industry is just out to make money from you	0.09	0.04	0.05	0.02	0.04	0.46
I generally believe in doing as I am told.	-0.03	0.03	0.06	0.02	-0.04	0.17
I'd stick with my bank even if I knew I'd be better off moving to another one	0.05	-0.02	0.08	0.06	0.18	0.05
I think that moving money between accounts to get a better deal is worth the effort	0.03	0.04	-0.06	0.03	-0.07	0.10
I don't mind making changes to my finances	0.04	0.05	-0.02	-0.02	-0.02	0.09
I leave my finances as they are unless there's a very strong reason for changing them	0.23	0.02	-0.10	0.06	0.06	0.18
I never dwell on mistakes I've made in the past	-0.07	-0.03	0.00	0.00	-0.05	-0.03
When I make a bad decision, I move on and put it behind me	0.05	-0.01	0.00	0.00	0.01	-0.04
I tend to feel regret over bad financial decisions	0.21	-0.01	-0.06	-0.09	0.09	0.25
I often read the business and money sections in newspapers and magazines	0.06	-0.07	0.10	0.06	0.04	-0.21
I try to follow economic developments such as changes	0.12	-0.03	-0.01	0.07	0.06	-0.19

	Maximizing	Numerate	Risk Seeking	Financially Comfortable	Impulsive	Financially Confused
in interest rates						
When I need to find somewhere, I prefer written directions to a map	0.19	0.07	-0.01	-0.01	0.00	0.05
I find it easy to read maps	0.06	0.10	0.01	-0.01	0.00	0.05
I look at graphs before I read blocks of text	0.11	0.05	0.14	-0.01	0.03	0.05
It is hard for me to see why some things upset people so much.	-0.06	0.04	0.03	0.04	0.08	-0.05
I usually stay emotionally detached when watching a film.	-0.11	-0.03	0.02	-0.08	-0.10	-0.11
I find it easy to put myself in somebody else's shoes.	0.22	0.00	0.09	-0.01	0.01	0.15

Note: Factor loadings for personality types, first 6 factors.
Source: ABI Research and Decision Technology Limited

Table 6 Personality factor loadings (continued)

	Trusting	Financially Active	Positive	Financially Informed	Visual Thinking	Systemizing
When choosing products I prefer to look at a wide range of alternatives	-0.06	0.01	0.01	-0.01	0.01	-0.04
I like to gather lots of detailed information about each option before making a choice	-0.02	0.01	-0.04	0.05	0.01	-0.08
I take a great deal of time over choosing what to purchase	0.04	-0.13	-0.05	0.03	0.02	-0.03
I'm not satisfied with good enough – I always want to choose the very best option	0.01	0.05	-0.03	0.09	-0.02	0.02
I learn best when information is written down in words and numbers	-0.01	-0.06	0.07	0.08	-0.16	-0.03
I try hard to do what is expected of me.	0.12	-0.14	-0.02	0.04	-0.02	-0.15
I am able to make decisions without being influenced by people's feelings.	-0.07	-0.01	0.24	0.03	-0.01	0.22
When I ask for someone's advice, I don't necessarily then follow it.	-0.23	-0.02	0.06	-0.04	-0.03	0.07
I find losing money much more painful than not making it	-0.04	0.06	-0.13	0.00	-0.03	0.11
I usually play it safe and buy things	0.13	-0.21	-0.02	-0.04	0.00	0.15

	Trusting	Financially Active	Positive	Financially Informed	Visual Thinking	Systemizing
that I know I like						
I like to try new products and services	0.18	0.24	0.11	-0.10	0.00	-0.04
I'm good with numbers	0.04	0.01	-0.02	-0.05	-0.05	0.03
I'm good at mental arithmetic	0.04	0.01	0.08	0.06	0.01	0.02
At school I was never any good at maths	0.01	-0.03	0.11	0.13	-0.02	0.04
I don't really understand numbers and figures	0.06	-0.06	0.03	0.03	-0.03	0.00
I would invest in ways that are seen as high-risk	-0.01	-0.09	0.02	0.04	-0.02	0.05
I'm inclined to invest my money in risky investments that offer a better return	0.10	-0.05	-0.02	0.03	0.01	0.06
I don't mind risking some of my savings to achieve long-term gains	0.02	0.02	-0.01	0.02	0.02	-0.06
I take fewer risks with my money than most of my friends	0.12	-0.02	0.02	0.05	0.01	0.05
I am comfortable with my financial situation	0.05	-0.04	0.00	0.05	0.01	0.00
My finances are good enough for me not to have to worry	0.06	-0.06	0.03	0.09	-0.02	0.01
I am plagued by financial worries	0.13	0.03	0.02	0.14	-0.03	0.03
I have made financial provisions to cope with any large unexpected expenses in the future	0.04	0.08	-0.02	0.28	-0.02	-0.03
I often buy things on impulse, even if I can't afford them	0.10	-0.06	0.03	0.05	0.00	0.03
I am definitely a spender rather than a saver	0.03	-0.14	0.11	0.06	0.04	-0.05
I easily resist temptation	0.08	0.06	0.21	0.07	0.01	0.09
I would rather go without than get into debt	0.10	0.08	0.01	-0.20	0.03	0.03
I get bored very easily	-0.03	0.04	-0.17	-0.10	0.01	0.21
I never read instruction manuals	0.00	-0.01	-0.04	-0.11	-0.12	0.19
I actively seek out new experiences and unusual products	0.12	0.20	0.14	-0.04	0.06	-0.03
I find the array of financial products on offer bewildering and confusing	-0.12	0.02	0.01	-0.15	0.03	-0.11
I find APRs, yields, and all that financial jargon difficult to follow	-0.02	0.04	0.04	-0.31	-0.05	-0.11
I think that the savings and investment	-0.37	0.08	0.01	0.05	0.05	-0.04

	Trusting	Financially Active	Positive	Financially Informed	Visual Thinking	Systemizing
industry often hides things in the small print						
People in authority make me feel uncomfortable and uneasy.	0.05	-0.09	-0.16	-0.06	-0.04	0.12
I can't learn how to do something until I have tried it for myself	0.00	0.05	0.00	-0.10	-0.06	0.00
I think that the savings and investment industry keeps its promises	0.70	0.02	0.03	-0.04	-0.03	0.04
I think that savings and investment products are typically a fair deal	0.61	0.02	0.00	-0.03	0.06	0.02
I think that the savings and investment industry is just out to make money from you	-0.57	-0.02	0.04	0.14	0.07	0.07
I generally believe in doing as I am told.	0.34	-0.18	-0.15	0.07	0.01	-0.03
I'd stick with my bank even if I knew I'd be better off moving to another one	0.12	-0.66	0.06	0.10	0.02	0.01
I think that moving money between accounts to get a better deal is worth the effort	0.10	0.61	-0.05	0.13	0.00	0.03
I don't mind making changes to my finances	0.09	0.57	0.07	0.07	0.02	0.05
I leave my finances as they are unless there's a very strong reason for changing them	0.08	-0.40	0.13	-0.10	0.03	-0.05
I never dwell on mistakes I've made in the past	-0.01	-0.07	0.68	-0.01	-0.03	0.10
When I make a bad decision, I move on and put it behind me	-0.02	0.00	0.66	-0.03	0.01	0.05
I tend to feel regret over bad financial decisions	0.06	0.04	-0.30	0.11	-0.03	0.00
I often read the business and money sections in newspapers and magazines	-0.07	-0.05	0.00	0.73	-0.05	-0.01
I try to follow economic developments such as changes in interest rates	-0.03	0.10	-0.05	0.68	0.03	0.00
When I need to find somewhere, I prefer written directions to a map	0.04	-0.02	0.07	0.04	-0.71	0.02
I find it easy to read maps	0.02	-0.07	0.07	-0.01	0.64	0.06
I look at graphs before I read blocks of text	0.12	0.01	-0.09	0.06	0.23	-0.01
It is hard for me to see why some	-0.02	0.04	0.08	-0.05	0.00	0.52

	Trusting	Financially Active	Positive	Financially Informed	Visual Thinking	Systemizing
things upset people so much.						
I usually stay emotionally detached when watching a film.	0.06	0.02	0.15	0.08	0.02	0.51
I find it easy to put myself in somebody else's shoes.	0.02	0.02	0.16	0.08	-0.05	-0.32

Note: Factor loadings for personality types, remaining 6 factors.

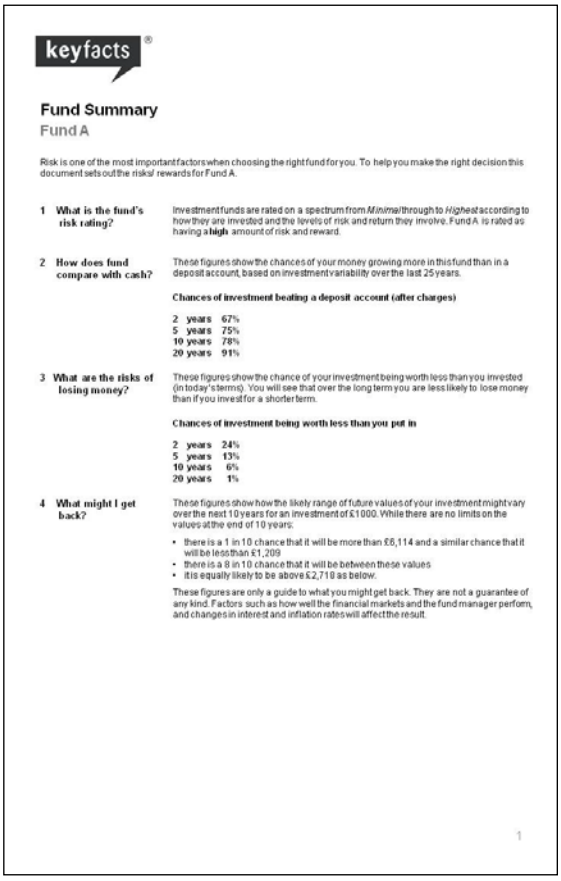
Source: ABI Research and Decision Technology Limited

A3 EXPERIMENTAL DESIGN

A3.1 Disclosure designs used in Phase I

Overall 29 disclosure designs are used in Phase I of the experiment. The components of these designs are described in Section 2.3. Examples of each design for the high-risk fund are shown in Figure 43 below. The more successful of these 29 disclosure designs are also used in Phase II of the experiment. Table 7 lists the different conditions used in Phase I.

Figure 43 The 29 disclosure designs used in Phase I



keyfacts®

Fund Summary

Fund A

Risk is one of the most important factors when choosing the right fund for you. To help you make the right decision this document sets out the risks/ rewards for Fund A.

1 What is the fund's risk rating?

Investment funds are rated on a spectrum from *Minimal* through to *Highest* according to how they are invested and the levels of risk and return they involve. Fund A is rated as having a **high** amount of risk and reward.

2 How does fund compare with cash?

These figures show the chances of your money growing more in this fund than in a deposit account, based on investment variability over the last 25 years.

Chances of investment beating a deposit account (after charges)

2 years 67%
5 years 75%
10 years 78%
20 years 91%

3 What are the risks of losing money?

These figures show the chance of your investment being worth less than you invested (in today's terms). You will see that over the long term you are less likely to lose money than if you invest for a shorter term.

Chances of investment being worth less than you put in

2 years 24%
5 years 13%
10 years 6%
20 years 1%

4 What might I get back?

These figures show how the likely range of future values of your investment might vary over the next 10 years for an investment of £1000. While there are no limits on the values at the end of 10 years:

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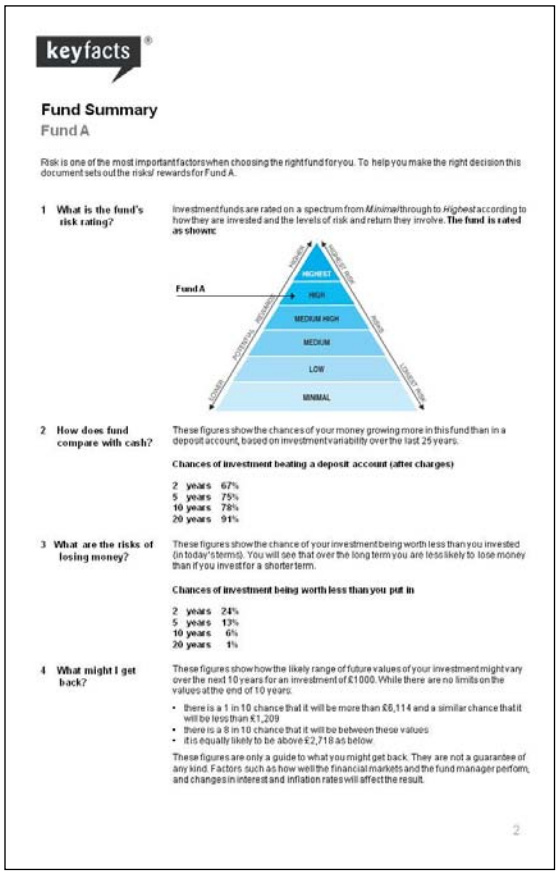

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	Over 5 Years
LIKELY RETURN	5
VOLATILITY	5
RISK TO INITIAL INVESTMENT	5
CHANCE OF BEATING CASH	3

1-2 Low 3-4 Medium 5-6 High

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	2 Years	5 Years	10 Years	20 Years
LIKELY RETURN	5	5	5	5
VOLATILITY	5	5	5	5
RISK TO INITIAL INVESTMENT	6	5	3	2
CHANCE OF BEATING CASH	2	3	5	6

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	Over 5 Years
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VOLATILITY	High
RISK TO INITIAL INVESTMENT	High
CHANCE OF BEATING CASH	Medium

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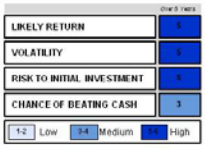

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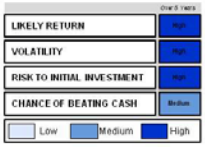

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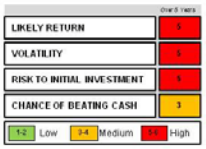

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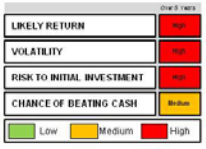

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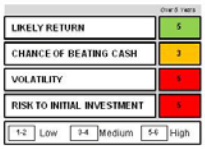

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5 years 13%
10 years 6%
20 years 1%

4 What might I get back?

These figures show how the likely range of future values of your investment might vary over the next 10 years for an investment of £1000. While there are no limits on the values at the end of 10 years:

- there is a 1 in 10 chance that it will be more than £6,114 and a similar chance that it will be less than £1,209
- there is a 8 in 10 chance that it will be between these values
- it is equally likely to be above £2,718 as below.

These figures are only a guide to what you might get back. They are not a guarantee of any kind. Factors such as how well the financial markets and the fund manager perform, and changes in interest and inflation rates will affect the result.

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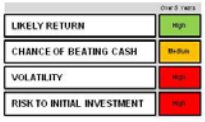
Fund Summary

Fund A

Risk is one of the most important factors when choosing the right fund for you. To help you make the right decision this document sets out the risks/ rewards for Fund A.

1 What is the fund's risk rating?

Investment funds are rated on a spectrum from *Minimal* through to *Highest* according to how they are invested and the levels of risk and return they involve. The fund is rated as shown:



2 How does fund compare with cash?

These figures show the chances of your money growing more in this fund than in a deposit account, based on investment variability over the last 25 years.

Chances of investment beating a deposit account (after charges)

2 years 67%
5 years 75%
10 years 78%
20 years 91%

3 What are the risks of losing money?

These figures show the chance of your investment being worth less than you invested (in today's terms). You will see that over the long term you are less likely to lose money than if you invest for a shorter term.

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Investment funds are rated on a spectrum from *Minimal* through to *Highest* according to how they are invested and the levels of risk and return they involve. **The fund is rated as shown:**

	2 years	5 years	10 years	20 years
LIKELY RETURN	High	High	High	High
CHANCE OF BEATING CASH	Low	Medium	High	Highest
VOLATILITY	High	High	High	High
RISK TO INITIAL INVESTMENT	Highest	High	Medium	Low

2 How does fund compare with cash?

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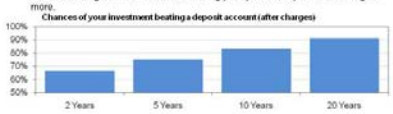

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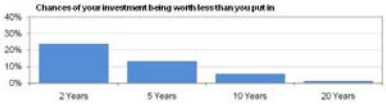

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The chart below shows how the likely range of future values of your £1,000 investment might vary over the next 10 years. While there are no limits on the values at the end of 10 years:

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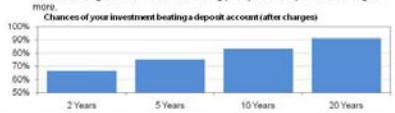

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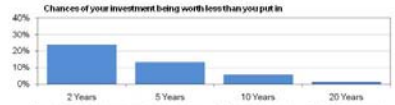

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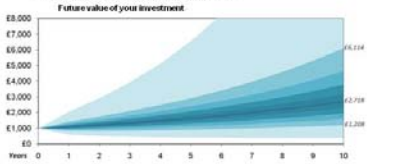

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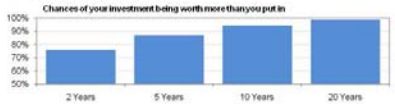

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Risk is one of the most important factors when choosing the right fund for you. To help you make the right decision this document sets out the risks/ rewards for Fund A.

1 What is the fund's risk rating?

Investment funds are rated on a spectrum from *Minimal* through to *Highest* according to how they are invested and the levels of risk and return they involve. Fund A is rated as having a **high** amount of risk and reward.

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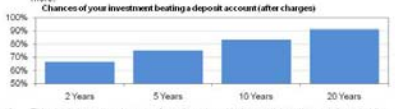

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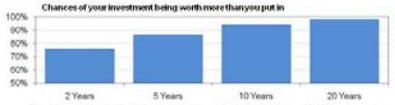

4 What might I get back?

The chart below shows how the likely range of future values of your £1,000 investment might vary over the next 10 years. While there are no limits on the values at the end of 10 years:

- there is a 1 in 10 chance that it will be more than £6,114 and a similar chance that it will be less than £1,209
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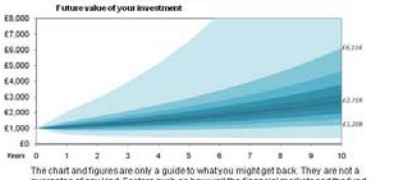

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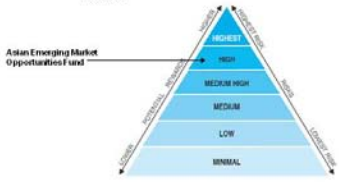
Fund Summary

Asian Emerging Market Opportunities Fund

Risk is one of the most important factors when choosing the right fund for you. To help you make the right decision this document sets out the risks/ rewards for the Asian Emerging Market Opportunities Fund.

1 What is the fund's risk rating?

Investment funds are rated on a spectrum from *Minimal* through to *Highest* according to how they are invested and the levels of risk and return they involve. **The fund is rated as shown:**



2 How does fund compare with cash?

These figures show the chances of your money growing more in this fund than in a deposit account, based on investment variability over the last 25 years.

Chances of investment beating a deposit account (after charges)

2 years 67%
5 years 75%
10 years 78%
20 years 91%

3 What are the risks of losing money?

These figures show the chance of your investment being worth less than you invested (in today's terms). You will see that over the long term you are less likely to lose money than if you invest for a shorter term.

Chances of investment being worth less than you put in

2 years 24%
5 years 13%
10 years 6%
20 years 1%

4 What might I get back?

These figures show how the likely range of future values of your investment might vary over the next 10 years for an investment of £1000. While there are no limits on the values at the end of 10 years:

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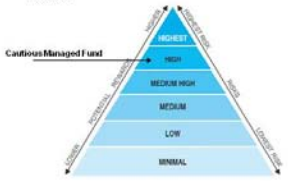
Fund Summary

Cautious Managed Fund

Risk is one of the most important factors when choosing the right fund for you. To help you make the right decision this document sets out the risks/ rewards for Cautious Managed Fund.

1 What is the fund's risk rating?

Investment funds are rated on a spectrum from *Minimal* through to *Highest* according to how they are invested and the levels of risk and return they involve. **The fund is rated as shown:**



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Fund A

Risk is one of the most important factors when choosing the right fund for you. To help you make the right decision this document sets out the risks/ rewards for Fund A.

1 What is the fund's risk rating?

Investment funds are rated on a spectrum from *Minimal* through to *Highest* according to how they are invested and the levels of risk and return they involve. **The fund is rated as shown:**

Fund A risk rating = **High**

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Table 7 Phase I: Survey conditions

Condition	Name	Notes		
1	Base Design	Text only		
2	Graphical Design 1	Pyramid		
3	Graphical Design 4	Energy Scale		
4	Custom Grid Design 1	No Colour	Number labels	5 years only
5	Custom Grid Design 2	No Colour	Number labels	2-20 years
6	Custom Grid Design 3	No Colour	Word labels	5 years only
7	Custom Grid Design 4	No Colour	Word labels	2-20 years
8	Custom Grid Design 5	Monochrome	Number labels	5 years only
9	Custom Grid Design 6	Monochrome	Number labels	2-20 years
10	Custom Grid Design 7	Monochrome	Word labels	5 years only
11	Custom Grid Design 8	Monochrome	Word labels	2-20 years
12	Custom Grid Design 9	Traffic lights 1: Red = high	Number labels	5 years only
13	Custom Grid Design 10	Traffic lights 1: Red = high	Number labels	2-20 years
14	Custom Grid Design 11	Traffic lights 1: Red = high	Word labels	5 years only
15	Custom Grid Design 12	Traffic lights 1: Red = high	Word labels	2-20 years
16	Custom Grid Design 13	Traffic lights 2: Red = "Bad"	Number labels	5 years only
17	Custom Grid Design 14	Traffic lights 2: Red = "Bad"	Number labels	2-20 years
18	Custom Grid Design 15	Traffic lights 2: Red = "Bad"	Word labels	5 years only
19	Custom Grid Design 16	Traffic lights 2: Red = "Bad"	Word labels	2-20 years
20	Detailed Chart Design 1	“Chance of Beating Cash” Chart		
21	Detailed Chart Design 2	“Chance of Capital Loss” Chart		
22	Detailed Chart Design 3	“Future Value Fan” Chart		
23	Detailed Chart Design 4	Three charts (i.e. design 1 + 2 + 3)		
24	Detailed Chart Design 5	inverse-"Chance of Capital Loss" chart		
25	Detailed Chart Design 6	Three charts (i.e. design 1 + 2 + 3) using inverse-"Chance of Capital Loss" chart		
26	Fund Names 1	Congruent names + graphical design 1 (pyramid)		
27	Fund Names 2	Contradictory names + graphical design 1 (pyramid)		
28	Graphical Design 3	Thermometer		
29	Graphical Design 2	Dutchman		

Source: ABI Research and Decision Technology Ltd

A3.2 Disclosure options used in Phase II

Overall 23 options are tested in Phase II of the experiment, based around 21 different disclosure documents. As well as some of the designs from Phase I of the research, including combinations with added fan charts, Phase II explores what design features made the thermometer such a successful design in Phase I, testing 7 new thermometers designs. The final two of the options tested involve participants seeing a different disclosure for each of the funds they are shown. The first of these assesses the impact of presenting participants with completely different designs and the second the impact of using designs based on similar principles to assess the extent to which any standardised design needs to be identical. Table 8 lists the 23 different options (or conditions) tested on participants in Phase II, while Figure 44 shows the 21 underlying disclosure designs.

Table 8 Phase II: Survey conditions

Condition	Name	Notes	
1	Base Design 1	Text only	
2	Base Design 2	Pyramid	
3	Base Design 3	Dutchman	
4	Base Design 4	Bar charts	
5	Base Design 5	Traffic lights, Grid, red is high, 4 time periods	Number labels
6	Fan Chart	Future Value Fan Chart	
7	Thermometer 1	6-point scale Thermometer risk rating design	Word labels
8	Thermometer 2	6-point scale Thermometer with number labels	Number labels
9	Thermometer 3	Vertical Thermometer risk rating design	Word labels
10	Thermometer 4	Yellow Thermometer risk rating design	Word labels
11	Thermometer 5	Two-arrow Thermometer risk rating design	Word labels
12	Thermometer 6	5-point scale Thermometer risk rating design	Word labels
13	Thermometer 7	7-point scale Thermometer risk rating design	Word labels
14	Thermometer 8	7-point CESR thermometer design	Number labels
15	Thermometer 1 + Fan	Thermometer 1 and Future Value Fan Chart	Word labels
16	Thermometer 2 + Fan	Thermometer 2 and Future Value Fan Chart	Number labels
17	Thermometer 3 + Fan	Thermometer 3 and Future Value Fan Chart	Word labels
18	Thermometer 4 + Fan	Thermometer 4 and Future Value Fan Chart	Word labels
19	Thermometer 5 + Fan	Thermometer 5 and Future Value Fan Chart	Word labels
20	Thermometer 6+ Fan	Thermometer 6 and Future Value Fan Chart	Word labels
21	Thermometer 7 + Fan	Thermometer 7 and Future Value Fan Chart	Word labels
22	Mixed thermometers	Thermometers 1-5 used to represent the five funds	
23	Mixed Designs	Thermometer 1, Pyramid, Dutchman, Thermometer 3, and Traffic lights used to represent the five funds	

Source: ABI Research and Decision Technology Ltd

Figure 44 Disclosure documents used in Phase II

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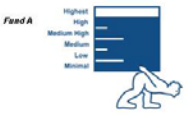

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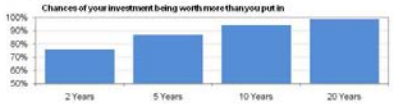

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	2 Years	5 Years	10 Years	20 Years
LIKELY RETURN	5	5	5	5
VOLATILITY	5	5	5	5
RISK TO INITIAL INVESTMENT	6	5	3	2
CHANCE OF BEATING CASH	2	3	5	6

1-2 Low 3-4 Medium 5-6 High

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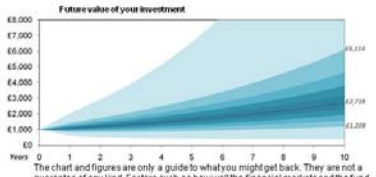

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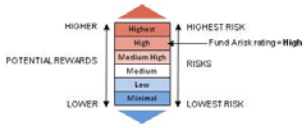

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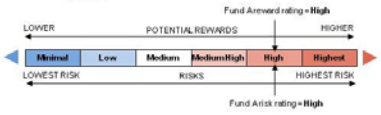

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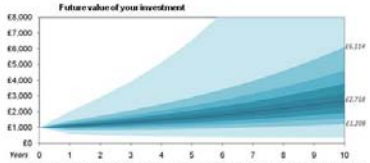

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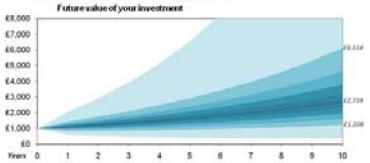

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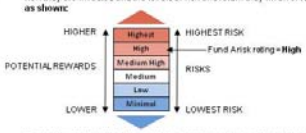
Investment funds are rated on a spectrum from *Minimal* through to *Highest* according to how they are invested and the levels of risk and return they involve. **The fund is rated as shown:**



2 How does fund compare with cash?

These figures show the chances of your money growing more in this fund than in a deposit account, based on investment variability over the last 25 years.

Chances of investment beating a deposit account (after charges)

2 years 67%
5 years 75%
10 years 78%
20 years 91%

3 What are the risks of losing money?

These figures show the chance of your investment being worth less than you invested (in today's terms). You will see that over the long term you are less likely to lose money than if you invest for a shorter term.

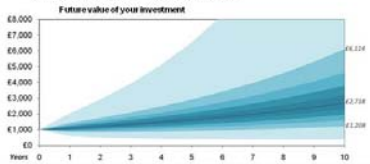
Chances of investment being worth less than you put in

2 years 24%
5 years 13%
10 years 6%
20 years 1%

4 What might I get back?

The chart below shows how the likely range of future values of your £1,000 investment might vary over the next 10 years. While there are no limits on the values at the end of 10 years:

- there is a 1 in 10 chance that it will be more than £6,114 and a similar chance that it will be less than £1,209
- there is a 8 in 10 chance that it will be between these values
- it is equally likely to be above £2,718 as below.



The chart and figures are only a guide to what you might get back. They are not a guarantee of any kind. Factors such as how well the financial markets and the fund manager perform, and changes in interest and inflation rates will affect the result.

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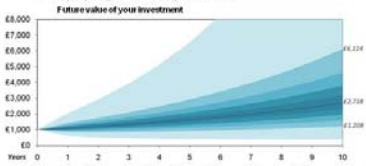

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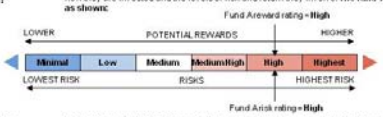

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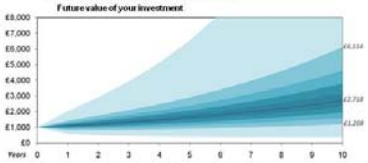

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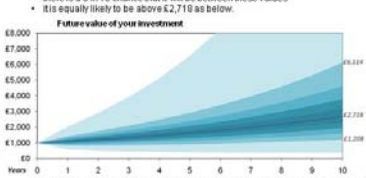

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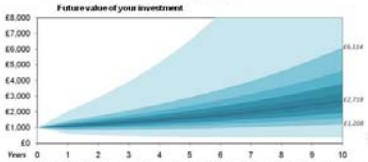

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A3.3 Fund design

To underpin the experiment, we create five representative funds that ranged from a fixed rate bond (100% cash) to a high risk/return investment (100% high-risk emerging market equity). The options also include a capital guarantee fund, where the value of the initial investment is guaranteed.

In each case we needed to create a disclosure document that includes information on the chance of beating a deposit account, the chance of the investment losing money and examples of the level of return that could be expected after various periods of time. This is calculated using the information in Table 9. To do this we assumed an inflation rate of 2.5%, we then assigned a real return rate and an associated volatility.[30] These values are chosen to be representative of the range of investments typically available to consumers.

Table 9 Five investment funds used in the experiment

Fund name	Description	Inflation	Real return rate	Volatility
Fixed rate bond	100% cash, no risk	2.5%	1.5%	0%
Capital Guarantee	Value of initial investment guaranteed	2.5%	2.75%	15%
Mixed Fund	50% equities, 50% cash	2.5%	4.5% equity/ 1.5% cash	15% equity/ 0% cash
100% equities	100% equities investment	2.5%	4.5%	15%
High Risk	100% high risk equity	2.5%	7.5%	20%

Source: ABI Research and Decision Technology Limited

A3.4 Vignette design

Once we had created the 5 funds, we create 5 fictional investors such that each fund has an associated investor for which that fund is best suited. The investors are identified to participants using a brief vignette describing who they are and what their financial situation is. These vignettes are listed below, together with the fund that is judged to be most suitable (the latter information is not shared with participants).

Investor 1: 19-year old graduate (Associated fund: Fixed Rate Bond):

> Anna is 19 and has just left college to start her first job. She has £2000 in savings that she wants to keep in case she has any large expenses in the next few years, such as needing to repair her car, which she relies on to get to work. Finances are quite tight, so she can't afford to lose any of her money; and she might need to access her money at short notice.

[30] To calculate expected return after t years, we assumed that the rate of return for a particular year would be normally distributed with mean μ (inflation rate + real return rate) and standard deviation σ (volatility). After t years the expected return on the initial investment would be a multiplicative product of these yearly rates, we therefore modeled the range of possible returns as a log-normal distribution.

Investor 2: Mid-twenties professional (Associated fund: Capital Guarantee):

> Bob is in his mid-twenties. After graduating a few years ago he landed a good job, and worked hard to pay off his student loans. He now wants to start saving for a house deposit. He wants to put aside money every month, and thinks it will take him two to three years to save enough. He is quite cautious and doesn't want to take much risk with his savings.

Investor 3: Early fifties, looking to enhance pension (Associated fund: Mixed):

> Emily and Edward are in their early fifties. They both plan to retire in around 10 years and are concerned that their current pension arrangements would not support them, if they were to need expensive medical treatment later on in their retirement. They therefore want to move £20,000 out of their building society savings into an investment that could provide them with additional money if they needed it later in life. They are willing to take a moderate amount of risk.

Investor 4: Early thirties with young children (Associated fund: 100% equity):

> Caroline is in her early thirties. She and her husband both have well-paid jobs and their income is sufficient to cover their mortgage payments and the cost of raising their two young children. She now wants to put aside some of her salary each month to start building a nest egg for when she and her husband retire. She has other savings, and so would not need to draw on the money before retirement. She is happy to take some risks if that means a higher retirement income.

Investor 5: Late forties, financially secure (Associated fund: High risk):

> David is in his late forties. He recently received £10,000 as a windfall from a relative's will. Now that his son has left home, and he has paid his off his mortgage, he and his wife have no immediate need for the money, and he already has a generous pension from his job. He is happy to take a gamble with the money in return for the possibility of high growth, so he and his wife could use the money to buy a few luxuries once they have retired.

To test if our assumption about which fund was best suited to which investor was appropriate, and to get a baseline ranking of the funds for each investor (that could be used to measure the competence of someone matching funds with investors) we ask a group of 16 financial advisors to look at each investor and rank the suitability of the five funds (5 = most suitable, 1 = least suitable). The advisors are asked to complete the task independently. The text only fund design is used and the order that the funds and investors are displayed is randomized across advisors. In total 16 advisors responded to our request, the average rankings given are shown in Table 10.

Table 10 Financial advisors fund ranking

Investor	Average ranking:				
	High risk	100% Equity	Mixed	Cap. Guarantee	Fixed Rate Bond
19 year old graduate	1.1	2.1	3.0	3.9	**4.9**
Mid-twenties professional	1.1	2.1	3.0	**4.5**	4.4
Early fifties, enhancing pension	2.4	3.3	**4.9**	2.8	1.5
Early thirties, young children	4.0	**4.6**	3.2	2.3	1.0
Late forties, financially secure	**4.9**	3.9	3.0	2.1	1.1

Note: The average ranking given for each vignette to the 5 different funds by 16 professional financial advisers. For each vignette these average rankings are placed in order of their relative size and converted into an integer scale of 1-5, where 1 denotes least suitable and 5 denotes most suitable. This is then used it to assess whether participants correctly rank the funds in terms of suitability for the different investors.

Source: ABI Research and Decision Technology Limited.

For each investor the highest ranked fund is the fund we expected to be most appropriate for that investor. There was also a high degree of consistency in the answers of the 16 financial advisers, with a correlation of over 80% between their answers.

A4 TASK PERFORMANCE

This appendix contains more background and detailed results from the key tasks used to assess the impact of the different disclosure designs.

A4.1 Usability tasks

The first key task respondents are given is to assess their ability to extract specific information from a single disclosure document. Overall the results suggest that respondents struggle with this task, but that task performance worsens if the disclosure document that they see contains a chart rather than a table (see Section 3). For completeness, this section contains the complete set of results from this task from the two phases, broken down by disclosure design and by question.

The task involved three multiple-choice questions to see how usable the different designs are. The questions are: the chance of the investment beating a deposit account (after charges), after 10 years; the chance of it being worth less than initially put in, after 2 years; and the probability of a particular return after 10 years. Tables 11 and 12 show the observed percentage of correct responses, by disclosure design, for each of the Phases.

Table 11 Phase I responses to usability tasks

	% of correct responses		
Disclosure design used	Chance of beating cash	Chance of losing money	Range of future values
Base Design: Text only	26.1%	31.8%	31.8%
Pyramid Design	18.5%	27.2%	27.2%
Dutchman Design	25.3%	25.3%	32.5%
Thermometer Design	19.6%	20.6%	28.4%
Energy Scale Design	28.9%	33.3%	33.3%
“Chance of Beating Cash” Chart	6.0%	14.5%	32.5%
“Chance of Capital Loss” Chart	24.2%	21.2%	27.3%
“Future Value Fan” Chart	23.2%	27.4%	28.4%
All Three charts	7.7%	17.9%	32.1%
Chance of Capital Gain chart	29.0%	10.8%	30.1%
All Three charts using "Chance of Capital Gain"	4.9%	6.1%	28.0%
Congruent Fund Names	26.3%	27.3%	30.3%
Contradictory Fund Names	26.0%	35.4%	38.5%
Grid: No Colour: Numbers: 1 Time horizon	25.9%	30.6%	38.9%
Grid: No Colour: Numbers: 4 Time horizons	29.6%	28.6%	28.6%
Grid: No Colour: Words: 1 Time horizon	24.4%	25.6%	32.1%
Grid: No Colour: Words: 4 Time horizons	22.8%	20.2%	29.8%
Grid: Monochrome: Numbers: 1 Time horizon	22.1%	27.9%	30.8%

Disclosure design used	% of correct responses		
	Chance of beating cash	Chance of losing money	Range of future values
Grid: Monochrome: Numbers: 4 Time horizons	27.7%	27.7%	26.7%
Grid: Monochrome: Words: 1 Time horizon	18.3%	23.1%	26.0%
Grid: Monochrome: Words: 4 Time horizons	22.1%	24.2%	30.5%
Grid: Traffic lights 1: Numbers: 1 Time horizon	19.6%	29.4%	28.4%
Grid: Traffic lights 1: Numbers: 4 Time horizons	28.9%	27.8%	24.7%
Grid: Traffic lights 1: Words: 1 Time horizon	26.9%	25.9%	30.6%
Grid: Traffic lights 1: Words: 4 Time horizons	24.2%	21.2%	38.4%
Grid: Traffic lights 2: Numbers: 1 Time horizon	22.0%	32.2%	27.1%
Grid: Traffic lights 2: Numbers: 4 Time horizons	28.1%	30.2%	34.4%
Grid: Traffic lights 2: Words: 1 Time horizon	18.7%	27.5%	27.5%
Grid: Traffic lights 2: Words: 4 Time horizons	13.3%	22.2%	21.1%

Note: Percentage of correct responses for usability tasks in Phase I

Source: ABI Research and Decision Technology Limited

Table 12 Phase II responses to usability tasks

Disclosure design used	% of correct responses		
	Chance of beating cash	Chance of losing money	Range of future values
Base Design: Text only	38.6%	40.9%	33.0%
Pyramid Design	42.4%	45.7%	43.5%
Dutchman Design	40.4%	48.3%	36.0%
“Chance of Capital Loss” Bar Charts Design	37.4%	14.3%	37.4%
Traffic Lights Design	35.4%	35.4%	39.2%
“Future Value Fan” Chart	44.6%	48.9%	40.2%
Original Thermometer Design	46.7%	51.1%	38.9%
Thermometer with number labels	40.7%	48.8%	44.2%
Vertical Thermometer Design	46.0%	46.0%	35.6%
Corporate Colours Thermometer Design	43.0%	50.0%	39.5%
Two-arrow Thermometer Design	43.2%	44.4%	38.3%
5-point scale Thermometer Design	48.8%	52.4%	38.1%
7-point scale Thermometer Design	40.9%	45.2%	38.7%
7-point CESR Thermometer Design	37.9%	40.2%	32.2%
Original Thermometer and Fan Chart	36.5%	39.7%	39.7%
Thermometer with number labels and Fan Chart	35.9%	38.8%	30.1%
Vertical Thermometer and Fan Chart	41.5%	50.0%	42.6%
Corporate Colours Thermometer and Fan Chart	36.4%	38.6%	44.3%
Two-arrow Thermometer and Fan Chart	44.2%	37.7%	37.7%

Disclosure design used	% of correct responses		
	Chance of beating cash	Chance of losing money	Range of future values
5-point scale Thermometer and Fan Chart	40.6%	43.6%	40.6%
7-point scale Thermometer and Fan Chart	45.1%	42.9%	36.3%
Mixed Thermometer Designs	39.6%	45.5%	31.7%
Mixed Designs	36.6%	47.3%	33.3%

Note: Percentage of correct responses for usability tasks in Phase II

Source: ABI Research and Decision Technology Limited

A4.2 Ranking tasks

A4.2.1 Return Ranking Task

The return ranking task involves ranking the five funds in terms of their likely return after five years. The results are presented in Tables 13 and 14. In both phases of the experiment, the correct rank is chosen by the highest proportion of respondents. This is shown by the fact that the results on the diagonal are the highest for each group.

Table 13 Respondents' assessment of the funds relative ranking by return

Fund	Actual Rating	Lowest return	-	-	-	Highest return
High Risk	5 (highest)	15.5%	13.5%	10.8%	11.0%	**49.2%**
100% Equities	4	10.6%	14.0%	23.4%	**37.7%**	14.3%
Mixed	3	9.7%	16.0%	**35.4%**	25.0%	14.0%
Capital Guarantee	2	14.2%	**42.4%**	18.6%	15.5%	9.2%
Fixed Income	1 (lowest)	**50.1%**	14.1%	11.8%	10.8%	13.3%

Note: Results from Phase I for the question "Please order the funds from the lowest to the highest likely return after 5 years". Percentage of respondents allocating a fund to a given rank.

Source: ABI Research and Decision Technology Limited

Table 14 Phase II results for the return ranking task

Fund	Actual Rating	Lowest return	-	-	-	Highest return
High Risk	5 (highest)	10.6%	11.2%	8.2%	9.7%	**60.4%**
100% Equities	4	7.5%	12.4%	24.2%	**45.6%**	10.4%
Mixed	3	9.0%	16.2%	**40.2%**	23.6%	11.0%

Fund	Actual Rating	Lowest return	-	-	-	Highest return
Capital Guarantee	2	11.0%	**48.6%**	17.8%	13.5%	9.2%
Fixed Income	1 (lowest)	**62.1%**	11.6%	9.7%	7.6%	9.0%

Note: Results from Phase II for the question "Please order the funds from the lowest to the highest likely return after 5 years". Percentage of respondents allocating a fund to a given rank.

Source: ABI Research and Decision Technology Limited

A4.2.2 Risk Ranking Task

The risk-ranking task involves ranking the five funds on their chance of being worth less than the amount invested, after 2 years. The results are presented in Tables 15 and 16. Again, in most cases the high scores are on the diagonal. However, overall, the percentage of respondents allocating the correct rank to the funds is lower for the relative risks than for the relative return and in the case of the high risk and 100% equity funds, respondents find it harder to rank the relative risks.

Table 15 Respondents' assessment of the funds relative ranking by risk

Fund	Actual Rating	Lowest risk	-	-	-	Highest risk
High Risk	5 (highest)	18.2%	14.1%	12.4%	24.5%	**30.8%**
100% Equities	4	11.0%	14.7%	19.4%	26.5%	**28.4%**
Mixed	3	11.5%	16.4%	**39.6%**	19.8%	12.7%
Capital Guarantee	2	18.5%	**37.2%**	16.2%	16.2%	11.9%
Fixed Income	1 (lowest)	**40.9%**	17.6%	12.3%	12.9%	16.2%

Note: Results from Phase I for the question "Please order the funds from the lowest to the highest chance of the fund being worth less than the original amount invested after 2 years". Percentage of respondents allocating a fund to a given rank.

Source: ABI Research and Decision Technology Limited

Table 16 Phase II results for the risk ranking task

Fund	Actual Rating	Lowest risk	-	-	-	Highest risk
High Risk	5 (highest)	13.1%	14.1%	10.8%	30.3%	**31.7%**
100% Equities	4	8.8%	11.8%	18.4%	27.7%	**33.3%**

Fund	Actual Rating	Lowest risk	-	-	-	Highest risk
Mixed	3	11.0%	14.5%	**47.6%**	16.9%	10.0%
Capital Guarantee	2	15.8%	**43.2%**	14.4%	14.7%	11.8%
Fixed Income	1 (lowest)	**51.4%**	16.4%	8.7%	10.3%	13.2%

Note: Results from Phase II for the question "Please order the funds from the lowest to the highest chance of the fund being worth less than the original amount invested after 2 years". Percentage of respondents allocating a fund to a given rank.

Source: ABI Research and Decision Technology Limited

A4.3 Suitability Task

The suitability task is the most important of the tasks we gave participants. Tables 17 and 18 contain the regression results for our tests on suitability and the ability to pick the best fund.

Table 17 Assessment of the impact of design on suitability

	Phase I	Phase II	Ability to pick best fund - Phase I
Thermometer	**0.0451**	**0.0833**	**0.0452**
Pyramid	0.0443	0.0497	0.0064
Symbolic/Number labels	0.0138		0.0243
Dutchman	0.0130	0.0167	0.0002
Capital loss bar chart	0.0126		-0.0129
Capital gain bar chart	0.0052	0.0152	-0.0151
Monochrome colouring	0.0024		-0.0092
Future value fan chart	0.0020	0.0384	-0.0099
Energy scale	-0.0086		-0.0155
Red=bad colouring	-0.0146		-0.0143
Grid	-0.0214	0.0051	**-0.0995**
4 time horizons	-0.0223		0.0139
Red=high colouring	-0.0262		0.0384
Congruent names	-0.0314		-0.0380
Beating cash bar chart	-0.0367		-0.0299
Contradictory names	**-0.0545**		-0.0448
5-point scale		0.0392	
7-point scale		0.0678	
CESR design		**0.0894**	
Corporate colours		0.0131	

	Phase I	Phase II	Ability to pick best fund - Phase I
Two-arrow design		0.0728	
Mixed thermometers		0.0166	
Mixed designs		-0.0042	
Empathizing	**0.0599**		**-0.0469**
Numerate	**0.0546**	**0.0244**	**0.0797**
Maximisers	**0.0409**	**0.0105**	0.0020
Visual thinking	0.0219	**0.0234**	0.0283
Risk seeking	0.0142	0.0099	0.0064
Financially active	0.0127	0.0488	0.0175
Financially informed	0.0116	0.0112	-0.0195
Positive	0.0101		-0.0076
Impulsive	-0.0114	-0.0036	-0.0123
Financially confused	-0.0264	**-0.0197**	-0.0149
Financially comfortable	-0.0335	-0.0028	-0.0025
Trusting	**-0.0581**	**-0.0125**	**-0.0565**
Financial literacy	**0.2341**	**0.0764**	**0.1801**
No. risky gambles	0.0042	-0.0003	0.0064
No. impulsive gambles	-0.0230	**-0.0096**	**-0.0415**
Female	**0.0867**	**0.0285**	**0.0690**
No. investment products	0.0823	0.0089	0.0313
Income	**0.0608**	**0.0137**	**0.0395**
Savings & investments	**0.0485**	**0.0107**	0.0417
Working in financial services	**0.0444**	0.0079	**0.0324**
Have to choose funds	0.0011	**-0.0100**	-0.0161
Contributing to a pension	-0.0007	0.0016	-0.0073
Time since major change to finances	-0.0173	-0.0037	-0.0338
No. credit products	-0.0317	-0.0086	0.0176
Age	-0.0361	-0.0047	-0.0091
No. transactional products		-0.0007	-0.0252

Note: The coefficients in a regression looking at the impact of different disclosure designs on the ability of consumers to identify the most suitable funds, relative to a text-based design. A bold number shows the results are statistically significant at the 10% level. First two columns measure the dependent variable as the correlation between respondents' answers and the correct answers (results from Phase I and Phase II), and in the final column the dependent variable is the ability of respondents to pick the most suitable fund (Phase I results only).

Source: ABI Research and Decision Technology Limited

Table 18 Interaction between design and financial literacy, wealth and income

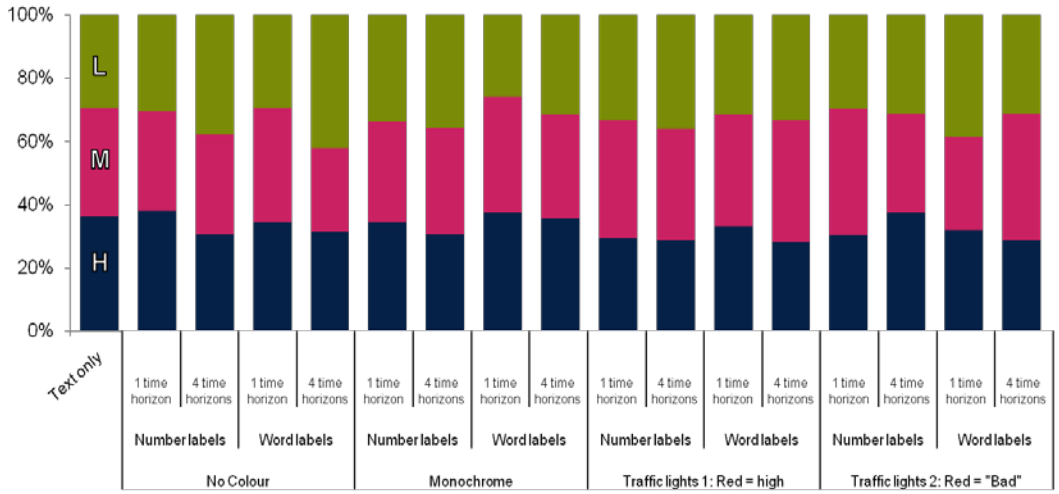
	Interaction with financial literacy	Interaction with wealth	Interaction with income
Thermometer	-0.0168	-0.0235	-0.0139
Pyramid	0.0867	-0.0452	0.0120
Symbolic/Number labels	0.0534	-0.0148	-0.0032
Dutchman	0.0390	-0.0186	0.0108
Capital loss bar chart	0.0853	-0.0037	0.0226
Capital gain bar chart	0.0596	**0. 0602**	0.0459
Monochrome colouring	-0.0529	**0.0798**	0.0155
Future value fan chart	-0.0472	-0.0092	-0.0424
Energy scale	-0.0011	-0.0447	-0.0493
Red=bad colouring	-0.0362	0.0165	0.0130
4 time horizons	-0.0528	-0.0623	0.0280
Red=high colouring	0.0170	**0.0859**	**0.0809**
Congruent names	-0.0405	0.0314	-0.0214
Beating cash bar chart	-0.0946	-0.0542	0.0246
Contradictory names	-0.1197	-0.0087	-0.0635

Note: The coefficients in a regression looking at the impact of different disclosure designs on the ability of consumers to identify the most suitable funds, relative to a text-based design. A bold number shows the results are statistically significant at the 10% level. Phase I results only.

Source: ABI Research and Decision Technology Limited

Figures 45-47 show the performance of the respondents in both phases of the experiment on the suitability for investors task. Performance is measured by correlating the ranking of each respondent with that of the financial advisors. We then take all responses and find out which are in the bottom third of all responses, which are in the middle, and which are at the top. This defines two numbers marking the boundaries between 'low' and 'medium' correlations and 'medium' and 'high' correlations. The charts show, for each of the disclosure options, what proportion of the responses are in the low, medium and high correlation bins. The results are a continuation of the results in Figure 11 in Section 5.1.2.

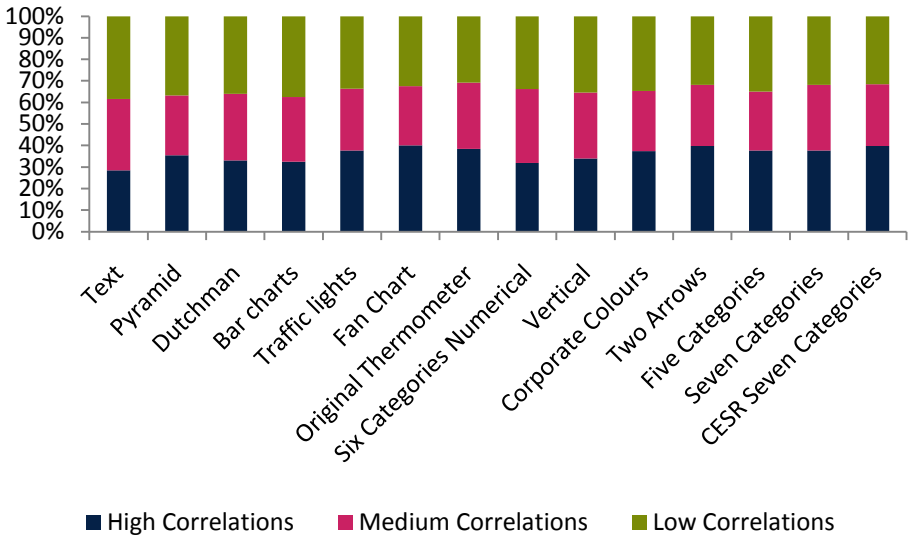
Figure 45 How do differences in the grid design affect the outcomes from the investment decision task



Note: Proportion of high, medium and low correlations accounted for by different grid designs. Results from Phase I

Source: ABI Research and Decision Technology Limited

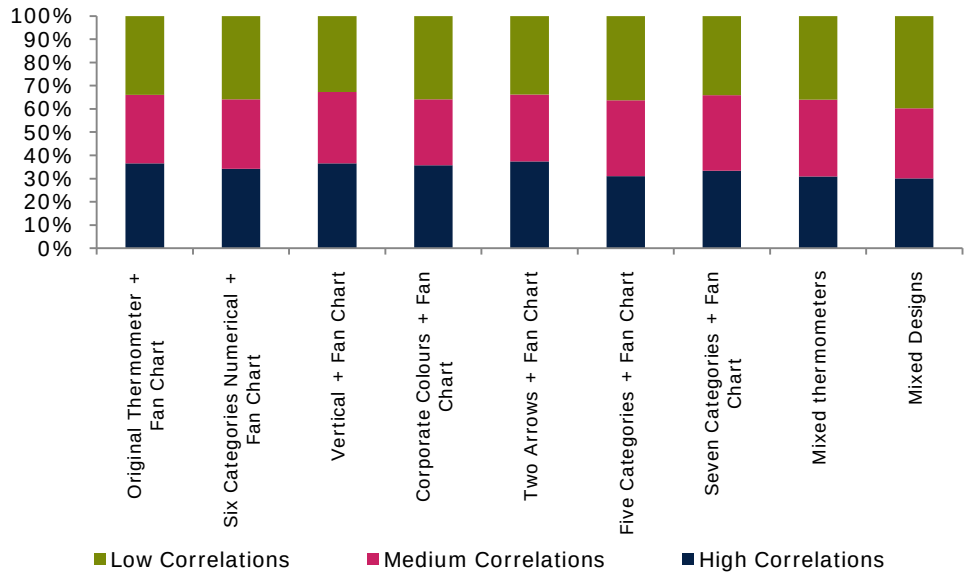
Figure 46 Phase II results for low-medium-high correlations from the investment decision task



Note: Proportion of high, medium and low correlations accounted for by different designs, where the correlation is between respondents' answers and the answers provided by financial advisers for the suitability task. Results from Phase II

Source: ABI Research and Decision Technology Limited

Figure 47 Impact of fan chart on investment decision outcomes

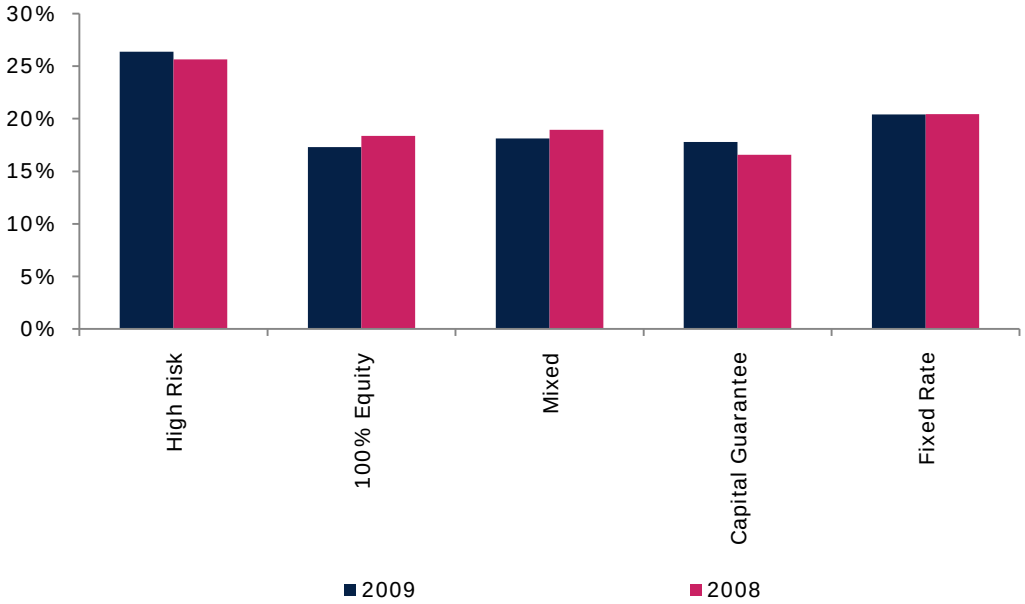


Note: Proportion of high, medium and low correlations accounted for by different designs, where the correlation is between respondents' answers and the answers provided by financial advisers for the suitability task. Results from Phase II

Source: ABI Research and Decision Technology Limited

A4.3.1 Are there any biases?

Figure 48 Percentage of 'most suitable' responses attributed to each fund



Note: Percentage of respondents allocating different funds as most suitable in the two experimental phases

Source: ABI Research and Decision Technology Limited

Figure 48 shows the percentage of respondents that chose each of the five funds as the 'most suitable' for the fictional investors in both phases. Given the economic climate at the time of Phase II it might have been expected that people picked the low risk fund

more of the time. We clearly see that this is not the case. An interesting finding in Phase II, conducted during the height of the financial crisis, is that people are no more likely to choose low risk funds as being the most appropriate funds for the fictional investor task.

A4.4 Fund image

In order to assess fund image, a series of 16 fund image statements are presented to each respondent, and the respondents are asked how much they agreed or disagreed with statements about the fund they have seen. In Phase I every respondent saw the medium high risk 100% equity fund, while a random fund is allocated in Phase II.

A factor analysis (specifically a non-orthogonal factor analysis, using maximum likelihood extraction, and promax rotation) is carried out on the responses from Phase I to identify any underlying factors. Four factors describing the fund are extracted from the 16 statements: appeal, risk, return and complexity. Table 19 shows the factor loadings on each of these statements. Tables 20 and 21 show the distribution of scores for each question in the two phases.

Table 19 Factor loadings for fund image statements

	Appeal	Risk	Return	Complexity
It is an attractive investment	0.76	0.02	-0.11	-0.01
It is a good compromise between taking risks and growing your money	0.71	0.07	0.00	0.02
It offers a good balance between risk and reward	0.71	0.07	-0.01	-0.03
It would almost certainly perform better than a bank or building society account	0.68	0.10	-0.19	0.05
It would probably be worth many times what was invested after 10 years	0.64	0.18	-0.20	0.07
It is a safe place to put your money	0.46	-0.30	0.28	0.04
It would grow in value steadily and predictably	0.39	-0.26	0.31	0.07
It is a fund where you could lose all or most of your money	0.06	0.60	0.08	0.00
It is much riskier than most other financial investments	0.04	0.58	0.01	0.06
It could potentially be worth much less than what was invested after 10 years	0.03	0.57	0.21	-0.06
It would go up and down in value a lot from year to year	0.24	0.53	-0.02	-0.01
It is not an investment I would ever consider	-0.23	0.34	0.29	0.14

	Appeal	Risk	Return	Complexity
It is unlikely to increase much in value compared to most other financial investments	-0.11	0.07	0.61	0.05
It might not make as much as putting the money in the bank or building society	-0.13	0.31	0.43	-0.02
It is complicated	0.12	0.04	0.11	0.86
It is simple and straightforward	0.38	0.10	0.21	-0.45

Note: Factor loadings from Phase I fund image statements, based on a non-orthogonal factor analysis, using maximum likelihood extraction, and promax rotation.

Source: ABI Research and Decision Technology Limited

Table 20 Distribution of scores for fund statements in Phase I

	1 Agree	2	3	4	5	6	7 Disagree
It is an attractive investment	3%	9%	15%	38%	14%	12%	10%
It is a good compromise between taking risks and growing your money	3%	5%	15%	39%	28%	7%	3%
It offers a good balance between risk and reward	7%	14%	18%	39%	14%	5%	3%
It would almost certainly perform better than a bank or building society account	2%	5%	16%	38%	22%	12%	6%
It would probably be worth many times what was invested after 10 years	3%	8%	17%	33%	23%	12%	4%
It is a safe place to put your money	4%	9%	16%	32%	22%	11%	6%
It would grow in value steadily and predictably	1%	4%	12%	41%	23%	12%	7%
It is a fund where you could lose all or most of your money	4%	8%	16%	38%	23%	6%	4%
It is much riskier than most other financial investments	1%	4%	10%	42%	26%	11%	6%
It could potentially be worth much less than what was invested after 10 years	6%	12%	20%	36%	20%	5%	1%
It would go up and down in value a lot from year to year	2%	6%	13%	39%	24%	12%	5%
It is not an investment I would ever consider	3%	12%	23%	43%	14%	3%	1%

	1 Agree	2	3	4	5	6	7 Disagree
It is unlikely to increase much in value compared to most other financial investments	2%	6%	15%	39%	25%	9%	3%
It might not make as much as putting the money in the bank or building society	3%	5%	13%	39%	29%	8%	3%
It is complicated	2%	6%	17%	37%	22%	10%	6%
It is simple and straightforward	5%	8%	21%	38%	21%	7%	1%

Note: 1=strongly disagree, 7 = strongly agree
Source: ABI Research and Decision Technology Limited

Table 21 Distribution of scores for fund statements in Phase II

	1 Agree	2	3	4	5	6	7 Disagree
It is an attractive investment	4%	8%	19%	28%	18%	14%	9%
It is a good compromise between taking risks and growing your money	2%	7%	14%	37%	29%	9%	2%
It offers a good balance between risk and reward	12%	22%	21%	26%	16%	2%	1%
It would almost certainly perform better than a bank or building society account	1%	3%	15%	27%	22%	19%	13%
It would probably be worth many times what was invested after 10 years	3%	5%	17%	29%	22%	14%	10%
It is a safe place to put your money	3%	7%	14%	24%	27%	15%	10%
It would grow in value steadily and predictably	1%	5%	12%	34%	26%	19%	5%
It is a fund where you could lose all or most of your money	4%	12%	25%	25%	22%	9%	5%
It is much riskier than most other financial investments	2%	2%	12%	30%	29%	18%	7%
It could potentially be worth much less than what was invested after 10 years	8%	13%	27%	30%	15%	5%	2%
It would go up and down in value a lot from year to year	2%	5%	10%	35%	29%	16%	3%

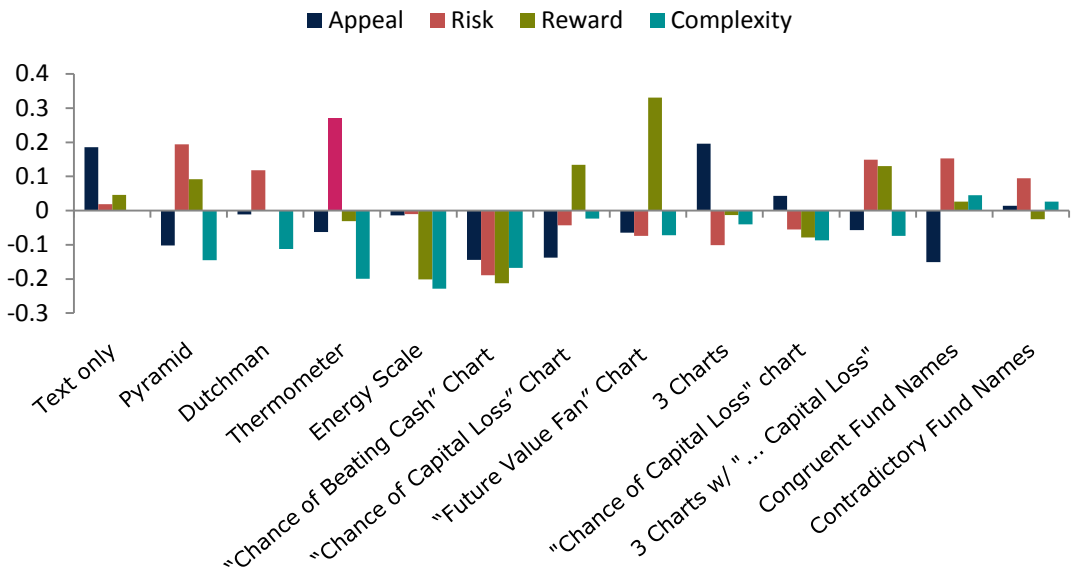
	1 Agree	2	3	4	5	6	7 Disagree
It is not an investment I would ever consider	6%	16%	29%	36%	9%	2%	1%
It is unlikely to increase much in value compared to most other financial investments	2%	7%	14%	33%	36%	7%	2%
It might not make as much as putting the money in the bank or building society	2%	8%	19%	28%	30%	12%	1%
It is complicated	2%	8%	22%	39%	16%	9%	5%
It is simple and straightforward	5%	10%	16%	34%	23%	8%	3%

Note: 1=strongly disagree, 7 = strongly agree

Source: ABI Research and Decision Technology Limited

Figures 49-52 show the factor scores split by design for each of the Phases. Overall, the results from Phase I, when everyone evaluates the same fund, suggests that the thermometer appears to suggest that the fund is more risky but also less complex, while the fan chart gives a sense that the rewards are higher.

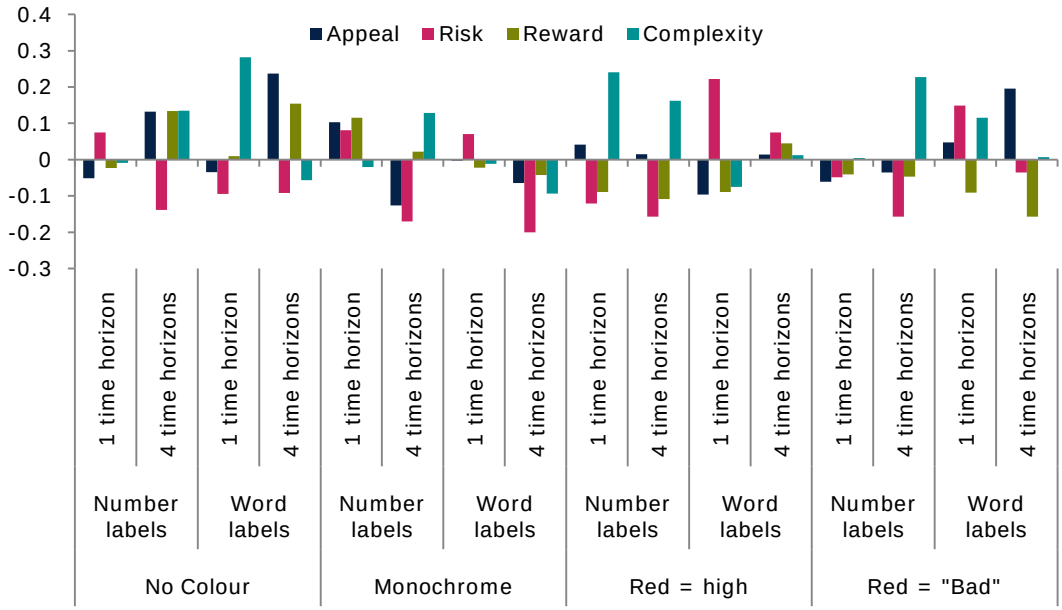
Figure 49 Phase I results for fund image by design



Note: Average factor scores (relative to mean) split by design conditions. Results for Phase I

Source: ABI Research and Decision Technology Limited

Figure 50 Phase I fund image results for the grid



Note: Average factor scores (relative to mean) split by design conditions. Results for Phase I.

Source: ABI Research and Decision Technology Limited

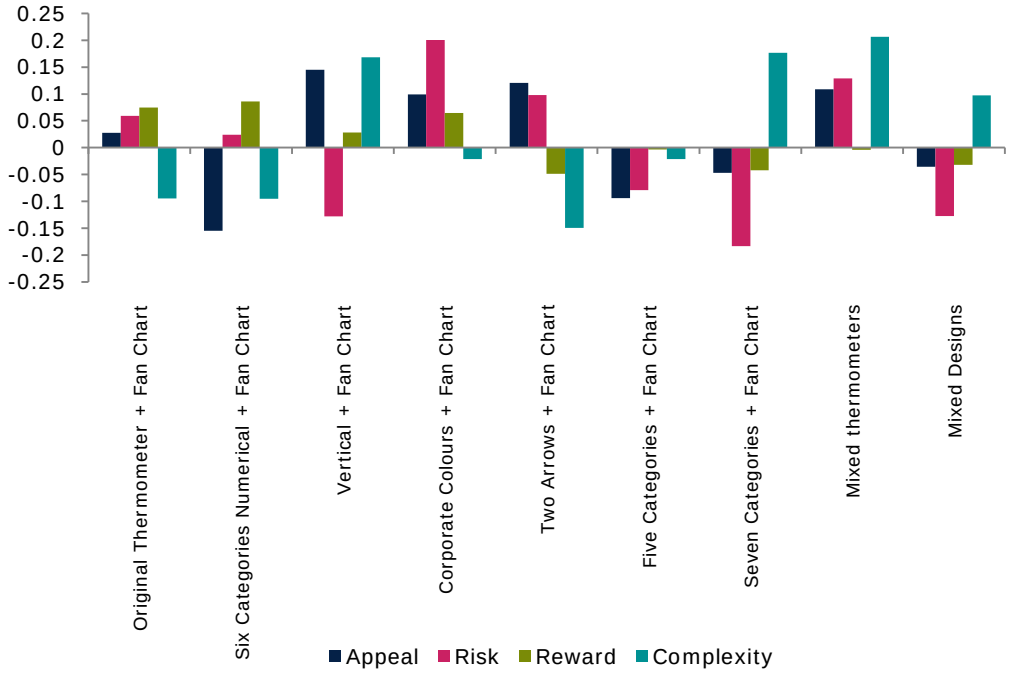
The results from Phase II suggest that the fan chart again provides a greater sense of possible rewards, but also of the likely risks, while CESR's seven category thermometer both provides a strong sense of risk and also shows the funds as more appealing. In cases where participants had seen multiple different disclosure documents they are more likely to see the fund as complex, see Figure 52.

Figure 51 Phase II results for the impact of design on fund image

Note: Average factor scores (relative to mean) split by design conditions Phase II results.

Source: ABI Research and Decision Technology Limited

Figure 52 Impact on fund image of including a fan chart with different designs

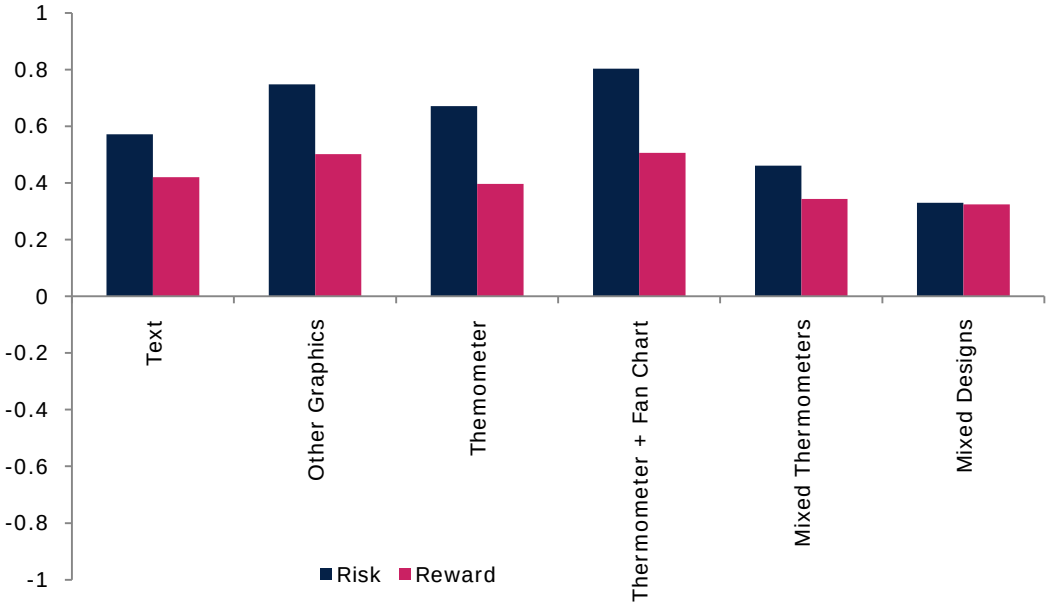


Note: Average factor scores (relative to mean) split by design conditions Phase II results.

Source: ABI Research and Decision Technology Limited

One problem might be that some designs make it harder to understand the relative risks and rewards. Figures 53 and 54 show how the fund image varies for the high risk and low risk funds respectively, where the results are split by design type. In all cases the high-risk fund is perceived as riskier than the low-risk fund, regardless of the design used. The same is true for the perceived rewards.

Figure 53 Fund image by design type for high risk fund



Note: Average factor scores (relative to mean) split by design conditions Phase II results.

Source: ABI Research and Decision Technology Limited

Figure 54 Fund image by design type for fixed income fund

Note: Average factor scores (relative to mean) split by design conditions Phase II results.
Source: ABI Research and Decision Technology Limited

A4.5 Design image

The respondents are asked how much they agreed or disagreed with a series of 10 statements about the fund design that they are shown. We then use factor analysis (a non-orthogonal factor analysis, using maximum likelihood extraction, and promax rotation) on the responses from Phase I to identify any underlying factors. Three factors describing the designs are extracted from the 10 statements: clarity, ease of use and usefulness. Table 22 shows the factor loadings on each of these statements and Table 23 shows the correlation between the factors. For comparability we used the same factor loadings in our Phase II analyses. Tables 24 and 25 show the distribution of statements scores in Phase I and II. The impact of design on participants' perceptions of clarity, ease of use and usefulness are shown in Figures 55-57.

Table 22 Factor loadings on design image statements

	Clarity	Ease of use	Usefulness
The documents are clear and easy to understand	0.76	0.09	-0.04
The documents clearly explain which funds offered the highest potential returns	0.72	0.01	0.07
The documents are attractive and engaging	0.66	0.01	-0.08
The documents clearly explain which funds were more or less risky	0.64	0.04	0.11
The documents clearly explain how the riskiness of each fund might change over time	0.61	-0.01	0.12
It was difficult to find the information I was looking for*	-0.02	-0.98	-0.02
The documents contain too much information*	0.12	-0.32	-0.31
The documents contain too little information*	-0.16	-0.19	0.11
If I was making a financial investment in the future, and each investment fund was accompanied by one of these documents, I would be very likely to read it	0.07	-0.01	0.77
If you were making a financial investment in the future, it would be very useful if this document were available for every fund	0.24	-0.05	0.61

Note: How much do you agree/disagree with the following statements. * Indicates factor scores reversed for ease of understanding. Factor loadings from Phase I disclosure design evaluation statements based on non-orthogonal factor analysis, maximum likelihood extraction, promax rotation.

Source: ABI Research and Decision Technology Limited

Table 23 Correlation between factor loadings for design image

	Clarity	Ease of use	Usefulness
Clarity	1	0.4	0.7
Usability		1	0.3
Usefulness			1

Note: Correlation between factor loadings

Source: ABI Research and Decision Technology Limited

Table 24 Phase I: Distribution of disclosure design statements scores

	1 disagree	2	3	4	5	6	7 agree
The documents are clear and easy to understand	3%	7%	17%	27%	26%	15%	5%
The documents clearly explain which funds offered the highest potential returns	9%	13%	23%	32%	11%	7%	5%
The documents are attractive and engaging	5%	11%	17%	38%	18%	7%	4%
The documents clearly explain which funds were more or less risky	2%	5%	11%	26%	28%	20%	9%
The documents clearly explain how the riskiness of each fund might change over time	2%	5%	11%	26%	27%	21%	9%
It was difficult to find the information I was looking for	3%	4%	10%	28%	31%	18%	8%
The documents contain too much information	5%	12%	23%	34%	16%	7%	3%
The documents contain too little information	2%	3%	6%	26%	28%	21%	14%
If I was making a financial investment in the future, and each investment fund was accompanied by one of these documents, I would be very likely to read it	5%	12%	19%	36%	18%	5%	4%
If you were making a financial investment in the future, it would be very useful if this document were available for every fund	2%	3%	7%	25%	24%	20%	19%

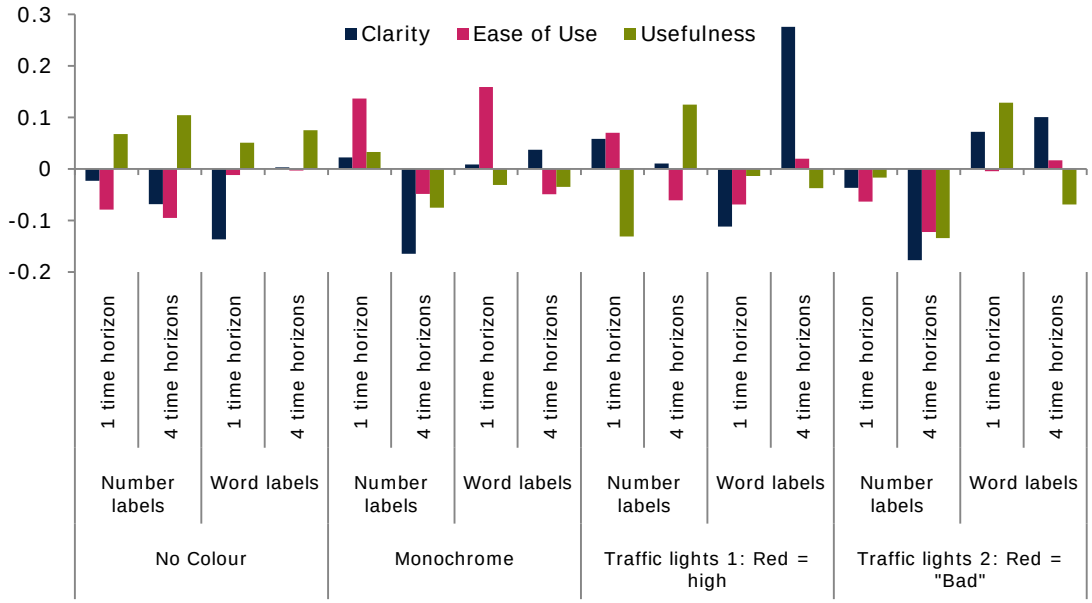
Note: 1=strongly disagree, 7 = strongly agree
Source: ABI Research and Decision Technology Limited

Table 25 Phase II: Distribution of disclosure design statements scores

	1 disagree	2	3	4	5	6	7 agree
The documents are clear and easy to understand	6%	10%	16%	18%	23%	19%	8%
The documents clearly explain which funds offered the highest potential returns	11%	18%	23%	26%	10%	7%	5%
The documents are attractive and engaging	10%	11%	15%	33%	17%	9%	5%
The documents clearly explain which funds were more or less risky	3%	4%	12%	16%	27%	24%	13%
The documents clearly explain how the riskiness of each fund might change over time	4%	6%	10%	18%	24%	27%	10%
It was difficult to find the information I was looking for	3%	6%	11%	16%	29%	24%	11%
The documents contain too much information	7%	14%	21%	26%	17%	10%	6%
The documents contain too little information	2%	3%	5%	15%	26%	28%	21%
If I was making a financial investment in the future, and each investment fund was accompanied by one of these documents, I would be very likely to read it	7%	12%	21%	30%	17%	8%	4%
If you were making a financial investment in the future, it would be very useful if this document were available for every fund	3%	4%	7%	11%	25%	24%	26%

Note: 1=strongly disagree, 7 = strongly agree
Source: ABI Research and Decision Technology Limited

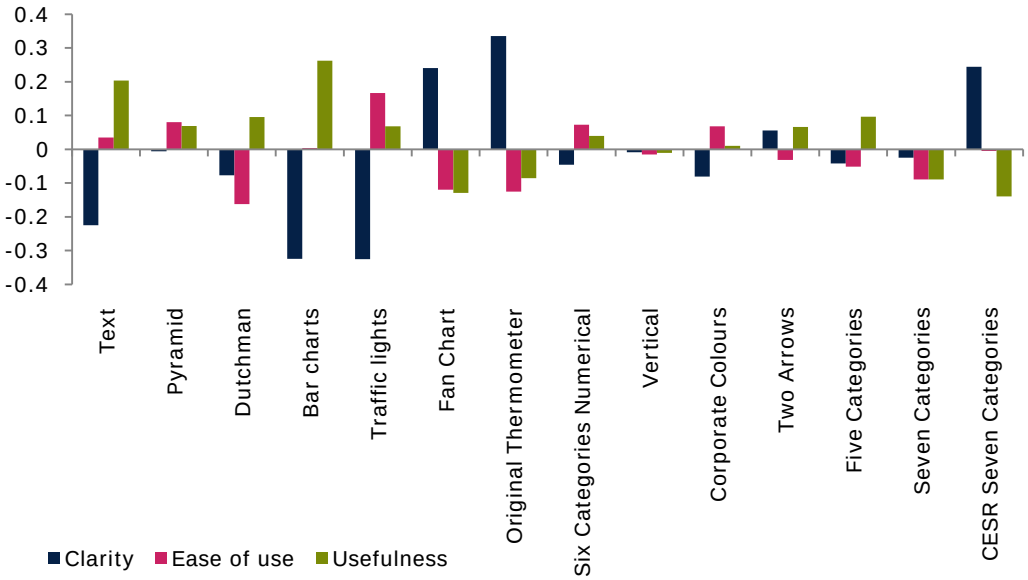
Figure 55 Impact of the grid designs on design image



Note: Phase I: Average factor scores (relative to mean) split by design

Source: ABI Research and Decision Technology Limited

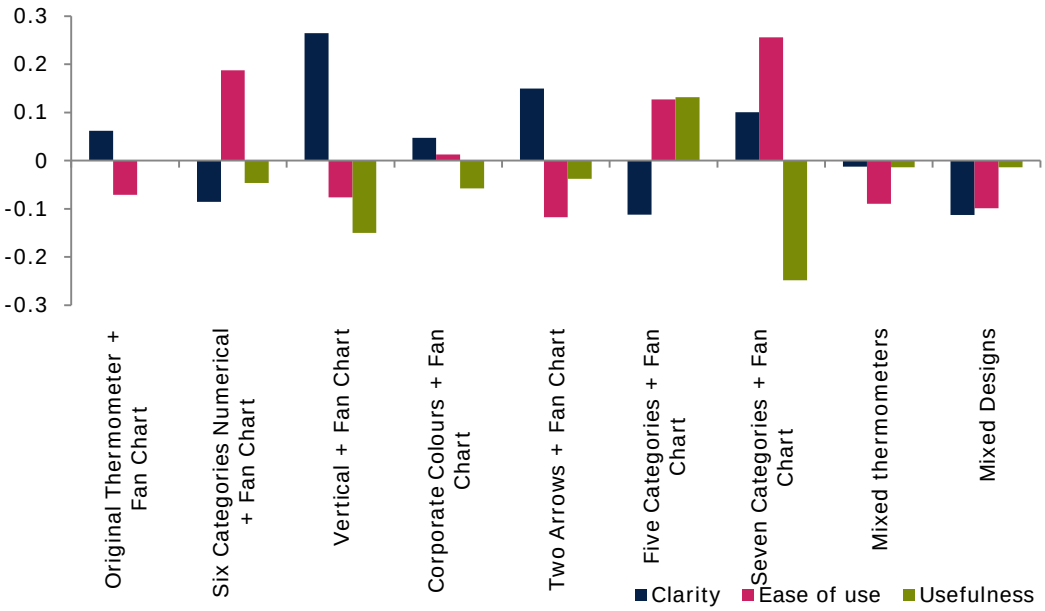
Figure 56 Design image in Phase II



Note: Factor scores relative to average. Results from Phase II

Source: ABI Research and Decision Technology Limited

Figure 57 Impact of interaction between thermometer designs and fan charts on design image



Note: Factor scores relative to average. Results from Phase II.

Source: ABI Research and Decision Technology Limited

A5 REFERENCES

Beshears, J, Choi, J, Laibson, D and Madrian, B.C, (2009) "How does simplified disclosure affect individuals' mutual fund choices?", Harvard University Working Paper No. RWP09_16.

Barsky, R.B, Kimball, M.S, Juster, F.T, and Shapiro, M.D, (1997) "Preference parameters and behavioral heterogeneity: An experimental approach in the health and retirement survey," NBER Working Paper No. 5213, National Bureau of Economic Research.

Burchell, B (2003) "Financial phobia: a report for Egg", University of Cambridge, January.

CESR, (2009) "Addendum to CESR's consultation paper on the format and content of Key Information Document disclosures for UCITS (Ref CESR/09.552)", August 2009, The Committee of European Securities Regulators.

Clare, A, (2010) "Developing a risk rating methodology", Joint ABI and IMA Research Paper.

Coller, M and Williams, MB, (1999) "Eliciting individual discount rates", Experimental Economics, Vol 2, 107-127.

De Meza, D, Irlenbusch, B and Reyniers, D, (2007) "Information versus persuasion: experimental evidence on salesmanship, mandatory disclosure and the purchase of income and loan payment protection insurance", FSA monograph.

Driver, R.L and Patterson, J (2010) "Note on CESR's recommendations for the calculation of a synthetic risk reward indicator", Joint ABI and IMA Research Brief, March.

Duflo, Gale, Liebman, Orszag and Saez (2005) "Savings incentives for low- and middle-income families: Evidence from a field experiment with H&R Block", NBER working paper 11680.

FSA (2006) "Investment disclosure research", by IFF Research, FSA Consumer Research Paper No. 55.

Harrison, GW, Lau, MI, Rutström, EE and Sullivan, MB, (2005) "Eliciting risk and time preferences using field experiments: some methodological issues" in J Carpenter, GW Harrison and JA List eds. *Field experiments in economics*, JAI Press, Research in Experimental Economics Vol. 10.

Harrison, GW, Lau, MI and Williams, MB (2002) "Estimating individual discount rates for Denmark: a field experiment", American Economic Review, Vol 92, 1606-1617.

Howitt, D, and Cramer, D, (2007) "Introduction to research methods in psychology," 2nd edition, Harlow, England: Pearson.

Iyengar, SS, and Lepper, MR (2000) "When Choice is Demotivating: Can One Desire Too Much of a Good Thing?", Journal of Personality and Social Psychology, Vol 79, No. 6, 995-1006.

IFF Research Ltd (2007) "Risk ratings research", Financial Services Consumer Panel.

Malcolm, K, Wilsdon, T and Xie, C, (2010) "Cost of providing financial advice: identifying and quantifying the cost of the key components of a full advice service", ABI Research Paper No. 22.

McFadden, D, (1998) "Rationality for Economists", Journal of Risk and Uncertainty, Special issue on preference elicitation.

Nicholson, N, Fenton-O'Creevy, M, Soane, E, and Willman, P, (2005) "Personality and domain-specific risk taking" Journal of Risk Research, March, Vol 8, 157-176.

Niels, G, (2010) "Balancing act: pension investment and the financial crisis", Oxera Agenda, February 2010.

Roulston, M.S and Kaplan, T.R (2009) "A laboratory-based study of understanding of uncertainty in 5-day site-specific temperature forecasts", Meteorological Applications, Vol 16, 237-244.

Simon, H.A, (1955) "A behavioural model of rational choice", Quarterly Journal of Economics, Vol 69, 99-118.

Treasury Select Committee (2004) "Report on restoring confidence in long-term savings".

Tversky, A and Kahneman, D, (1981) "The framing of decisions and the psychology of choice", Science, Vol 211, 453-458.

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