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Consumer engagement: barriers and biases

Consumer Engagement: barriers and biases is sponsored by Pinsent Masons. This is report is the first in a series of reports exploring consumer engagement with pensions and financial products. Further reports will explore policies designed to promote engagement internationally and draw out lessons for promoting better engagement in the UK, including the ways in which people engage currently and how behavioural interventions might work alongside other policy levers (defaults, compulsion, consumer protection and safety nets) to help people to achieve better outcomes from pensions.

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Consumer engagement: barriers and biases

Executive Summary

There are many behavioural factors which explain why people do not always make rational decisions. Carefully designed behavioural interventions have been suggested as a way to improve decision-making in order to produce better outcomes as a result. But other policy levers remain important in ensuring positive outcomes in pensions.

Experience, family, social structures and other influences lead to attitudes and behaviours that can affect decision-making, and in some cases lead to less optimal outcomes.

Policy-makers are increasingly seeing behavioural techniques as a means to help people to make more rational decisions and achieve better outcomes.

Behavioural interventions have been successful in reducing harmful behaviour:

- Choice architecture redesigns have increased organ donor registration.
- Creating new anchoring heuristics has been used to decrease alcohol consumption.
- Decreasing availability and salience has also been used to decrease alcohol consumption.
- Financial incentives have been used to counteract present-bias among smokers.
- Refocusing risk in terms of others, rather than personal risk, has been used to increase use of safety precautions by reducing overconfidence.
- Influence of social norms has been used in order to encourage behaviour that reduces risk.

Using behavioural techniques in a pensions environment brings complications due to the myriad of factors affecting pension outcomes. Some of these techniques are now being used to promote saving and have the potential to help people make better decisions about retirement saving:

- Choice architecture redesigns have been used in automatic enrolment in order to harness people's tendency towards procrastination and inertia to increase the number of people saving for retirement.
- Automatic enrolment does not solve the problem of low levels of engagement with contribution rate decisions, as those who are defaulted into saving are by definition less engaged than those who opt-in.
- A behavioural technique that works with people's inertia, like automatic enrolment, could be used to increase contribution rates and deliver better outcomes for many people. For example, the Save More Tomorrow (SMarT) programme which schedules increases in contribution rates to coincide with pay rises.
- There are many behavioural factors which can influence people's investment decision-making, including:
  - Inertia or status quo bias: People often avoid making difficult decisions.

  - Representativeness and availability heuristics: People may rely heavily on past fund performance, ignoring expected future returns and risk factors.
  - Choice and information overload: Investment decisions often involve a large number of options and vast amounts of complex financial information.
  - Risk aversion: Some people may feel that the risk of making a loss is lesser if they invest in the default fund, rather than relying on their own knowledge.
- As decumulation decisions become more complex, behavioural techniques are unlikely to be able to make up for shortfalls in financial capability that may lead people to make less rational decisions about how to access their retirement savings.

The complexity of both behavioural techniques and the pensions environment mean that it is not always most effective to attempt to eliminate behavioural factors. Automatic Enrolment, for example, uses behavioural factors in order to produce better outcomes, rather than trying to eliminate those factors. As well as identifying behavioural barriers and biases and ways in which these could be counter-acted, part of the difficulty lies in determining what level of engagement is most appropriate for different individuals in order to produce the best outcomes.

A range of policy levers remain important in ensuring positive outcomes in pensions:

- Compulsion: Options that people must take whether they wish to make an active choice or not.
- Defaults: An option given to people who do not make an active choice.
- Safety nets: Policy mechanisms designed to help those who find it difficult to support themselves financially and are in danger of falling into poverty as a result.
- Consumer protection: Legal and regulatory measures put in place to protect people from fraud or poor governance.
- Behavioural intervention: Policies aimed at encouraging people to make a decision (or not make a decision) which results in better financial outcomes for that individual.
- Freedom: Policies which allow greater freedom to individuals such as removal of tax regulations which prevent people from taking all of their DC savings in cash.

Introduction

The pension landscape is constantly evolving. Dramatic policy moves, demographic shifts and economic effects mean many future retirees will face a new retirement horizon, unrecognisable today. Although much of the future direction is unpredictable, what is certain is that prospective retirees will bear more risk at and during retirement than previous cohorts. Many savers are ill equipped to make decisions regarding accessing their savings and protecting themselves from such risk. Therefore it lies with policy-makers, industry and those with an interest in helping pension savers to ensure that support and safety nets exist for those who find navigating such decisions challenging.

Behavioural economic theory provides insight into the way that people engage with the decision-making process, and why behaviour differs from the rational model proposed by conventional economic theory.

This report explores the reasons behind people's decisions and the lessons behavioural economic theory offers policy-makers, particularly in relation to engagement in pension decisions.

Chapter one describes key economic theories and reflects on how they relate to actual decision-making behaviour. It reviews the available literature on behavioural economic theory and the biases that lead to barriers to engagement and effective decision-making.

Chapter two reflects on uses of behavioural economic theory in policy approaches, particularly in the health sector.

Chapter three explores the retirement saving decision-making process, and draws out the lessons behavioural economic theory may have for these decisions. It also explores how increased use of digital platforms could be used to enhance engagement in the future.

This report is the first in a series of reports exploring consumer engagement with pensions and financial products. Further reports will explore policies designed to promote engagement internationally and draw out lessons for promoting better engagement in the UK, including the ways in which people engage currently and how behavioural interventions might work alongside other policy levers (defaults, compulsion, consumer protection and safety nets) to help people to achieve better outcomes from pensions.

Chapter one: behavioural economics – how do people engage with choices?

This chapter describes key economic theories and reflects on how they relate to actual decision-making behaviour.

While conventional economic theory (CET) assumes people make rational financial decisions, behavioural economic theory (BET) focuses on the decision-making process and the context in which decisions are made. It takes into account a wider range of factors which can influence behaviour in order to explain why people don't always make rational financial decisions.

Taking into account the behavioural factors which can affect the decision-making process enables a better understanding of how and why these decisions are made, as well as the possibilities for improving the decision-making process in the future.

This chapter describes both CET and BET, and then sets out the key factors which influence people's financial decision-making. The biases and barriers explored in this chapter are:

- Choice overload
- Information overload
- Framing effects and choice architecture
- Heuristic decision-making
  - Anchoring heuristic
  - Representativeness heuristic
  - Availability heuristic
- Present bias and time inconsistency
- Overconfidence
- Risk aversion
- Low levels of self-control
- Procrastination and inertia

Conventional economic theory (CET) assumes that people make rational financial decisions

CET assumes that individuals are informed economic agents who will act rationally to maximise their own interests. This suggests that, given the freedom to make decisions, individuals will make choices that will enhance their welfare.[1] CET assumes that individuals have the necessary knowledge, will-power and self-control to make optimal choices for their welfare.[2] It suggests that people choose using a rational framework of decision-making,[3] and that their choices

[1] Tapia & Yermo (2007) p.4
[2] Ibid p.5
[3] De Meza, Irlenbusch & Reyniers (2008) p.20

are unaffected by the nature of the decision, the way it is presented and the environment in which it is made.

People sometimes make poor choices that are bad for their finances and their overall wellbeing[4]

If people really were perfectly rational in their decision-making (as suggested by CET), then those who make sub-optimal decisions would do so willingly and in opposition to their clear understanding of the rationally optimal choice.[5] In reality, there are various barriers and subconscious processes that may impede people from making optimal financial decisions. Acknowledging these barriers paves the way to take appropriate action to improve how people make decisions, and ultimately the outcomes of those decisions to enhance their welfare.

Behavioural economic theory (BET) identifies factors which can act as barriers to rational decision-making

People often have imperfect knowledge and decision-making ability and will not always make choices which will lead to optimal outcomes.[6] While people can and do try to maximise their self-interest, the decisions they make are often sub-optimal as a result of various barriers to engagement:[7]

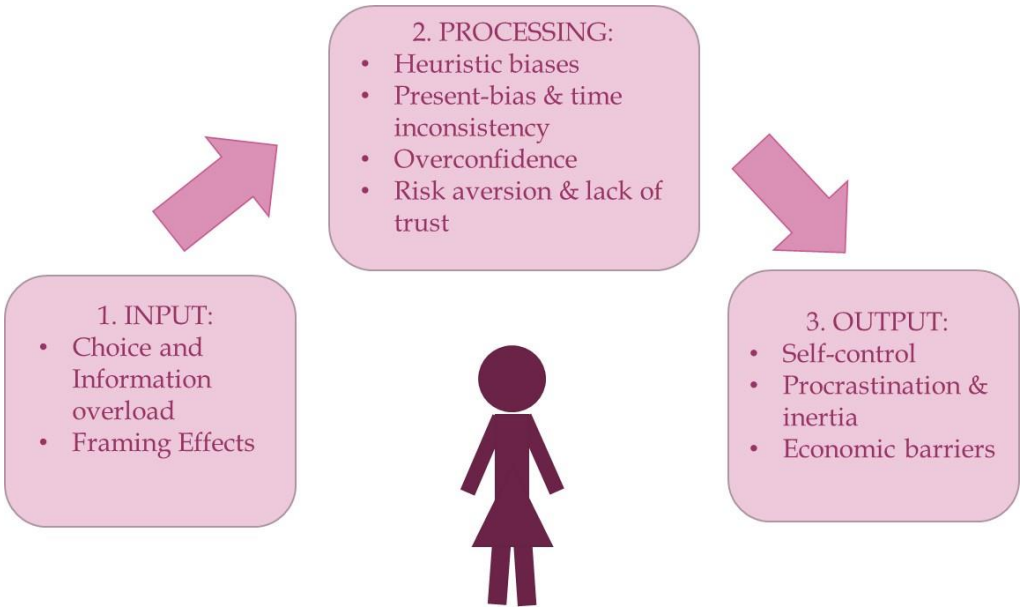
- Many individuals lack the cognitive ability, will-power and knowledge to make choices which will lead to the best outcomes.
- The decision-making process does not take place outside of or separate from the environment that people live in. External factors, past experiences and limitations on reasoning capacity can significantly influence the choices people make,[8] for better or worse.
- Even seemingly insignificant situational factors, such as the decision-maker's mood or the time of day when the decision is being made can be influential.[9]

Systematic biases[10] can occur at any point during the decision-making process:

- The input stage: the way choices are designed, the number of choices and the amount of information given are all examples of inputs into the decision-making process. These are determined by the policy-maker or choice architect, rather than the individual, and they can significantly affect the decisions people will make.
- The processing stage: the methods used to process the available choices and reach a decision can cause people to make less rational decisions.

[4] Sunstein (2014) p.8
[5] Kahneman (2011) p.412
[6] De Meza, Irlenbusch & Reyniers (2008) p.52
[7] Tapia & Yermo (2007) p.5
[8] Benartzi & Lehrer (2015) p.15
[9] Lerner, Small & Loewenstein (2004); Kouchaki & Smith (2013)
[10] Systematic biases refer to errors within the decision-making process, which tend to consistently occur across the population or among particular groups that can skew choices made in a specified direction, as opposed to random biases which may have a tendency to cancel each other out.

- The output stage: after a decision is reached, behavioural factors, as well as other factors such as limited income levels, can deter people from implementing those decisions.



The rest of this chapter will explore the different factors that impact upon engagement at each of these main points during the decision-making process.

Input stage: the way that decisions are presented can influence the choices people make

The input stage involves the way that decisions are presented and the information people are given. Cognitive reasoning, processing errors and output stages are equally important, but inputs determine the starting point for subsequent stages of decision-making and can significantly influence decisions.

The following are input barriers to engagement:

- Choice overload
- Information overload
- Choice architecture and framing effects

Conventional economic theory assumes that increased options can only increase people's welfare and satisfaction

Increasing the number of available options could increase the likelihood that an individual will find an option fitting their needs and preferences (as a larger number of options will generally mean a more diverse spread and combination of variables).[11] Those individuals whose needs and preferences are satisfied by

[11] Sela, Berger & Liu (2009) p.941-2

one of the options in the originally limited choice set can simply ignore these additional options.[12]

Behavioural economic theory challenges the view of people as rational agents for whom increased choice can only increase welfare and satisfaction

However, too many options can cause choice overload, which reduces people's ability to make effective and beneficial decisions.

Choice overload can increase the likelihood of:

- Regret aversion: people are concerned about making the wrong choice in case they regret it after the fact. With an increased number of options comes an increased feeling that the wrong option will be chosen. This in turn leads to;
- Decision paralysis: people are hesitant to make any decision in case it turns out to be the wrong one. This can mean that people choose not to engage with decisions at all (Box 1).

Increasing the number of options could mean that the best choice is better than in instances with a lower number of options, but it also increases the chance that a poorer option will be chosen, as there are also a greater number of options which are not the best choice.

Box 1: An example of choice overload

One study tested the effects of choice overload by observing how increasing the number of jam varieties on offer influenced the likelihood that customers would purchase the jam.

On one day 6 varieties of jam were offered at the tasting booth. On the other day 24 varieties were offered.

The study found that nearly 30% of the customers offered the limited choice set (6 varieties) subsequently purchased a jar. Only 3% of the customers offered the larger choice set (24 varieties) purchased a jar.[13]

Information overload can also reduce decision-making ability

Where choice overload relates to the number of available options, information overload relates to the amount of information which is given about each option.

Increasing the amount of information given about each available option can lead to individuals who are better informed, because they have access to additional information and possibilities,[14] and may be in a better position to select an option

[12] Schwartz (2004) p.19
[13] Iyengar & Lepper (2000)
[14] Le Lec, Lumeau & Tarroux (2016) p.1

which better meets their needs and preferences. But as with too many choice options, too much information can overwhelm people, complicate the decision-making process, and result in sub-optimal results or disengagement from decision-making.

While increasing available information should make decision-makers better informed, it can actually have the opposite effect

Because of technological advances, people are being exposed to increasing amounts of information and they must choose what to attend to and what to ignore, while attention span and people's ability to absorb information remains limited.[15]

When people are exposed to more information than they could possibly absorb, they sometimes absorb less than if they had been exposed to a smaller amount of total information.[16] In these situations people can also make mistakes about which information is important and which is not. This can lead to less informed choices than if the decision-maker had been exposed to a smaller amount of relevant information, meaning that people may make less optimal choices, as well as being less confident in those choices even if they have chosen a satisfactory option.

There is a subtle distinction between 'consumption satisfaction' and 'decision satisfaction':

- Consumption satisfaction relates to the outcome of the choice, the product which is chosen, the quality it offers, and the extent to which it meets the needs and preferences of the individual (as identified prior to choosing).
- Decision satisfaction relates to the decision-making process which led to the choice, the extent to which the choice can be justified and therefore how confident the individual can feel in that choice.

Choice and information overload can reduce decision satisfaction

The larger the number of available options, the more difficult it becomes to carry out a thorough evaluation and comparison of those options, as the differences between options are likely to get smaller.[17] This makes it more difficult to distinguish between options, particularly when attempting to choose between the 'best' and 'second best' options. Similarly, large amounts of information can make it more difficult to reach a decision which can be justified by reason.

The time and effort required to carry out such an extensive evaluation when there are many available options and/or vast amounts of information may cause people to disengage.[18] People may choose almost arbitrarily rather than based on

[15] Benartzi & Lehrer (2015) p.22
[16] Benartzi & Lehrer (2015) p.27
[17] Hutchinson (2005) p.76
[18] Schwartz et al. (2002) p.1179

any rational justification or rely on default options rather than making any choice at all.[19]

Choice and information overload can decrease participation rates, as well as leading to less optimal outcomes or reliance on default options

If people experience risk aversion[20] and decision paralysis they may disengage with the decision-making process altogether. Those who do choose may end up with an option that is less beneficial to their welfare than one which may have been chosen through an easier decision-making process with fewer alternatives or less information about alternatives (provided the information is relevant).

In some cases disengagement from decision-making will result in the individual removing themselves from the process altogether. In others, particularly when participation is compulsory, disengagement will result in automatic adoption of the default option.

Use of default options is not necessarily a bad thing, particularly when defaults have been carefully selected based on their capacity to enhance welfare. But while defaults can be beneficial for some people, they are unlikely to be the best option for everyone. This is the inherent compromise in defaults. In most cases use of the default option, even if it is not chosen in an active way, will be more beneficial than outcomes under a system where no default exists.

Pensions point: choice and information overload can significantly affect the investment allocation decisions made by members of Defined Contribution schemes, as they face a large number of options, as well as vast amounts of complex financial information.

Decision-making can also be affected by the way in which options are presented or 'framed'

The way that options are presented to decision-makers is known as choice architecture. In any decision there are many ways in which the available options may be presented.

Several aspects of choice architecture can influence the decision that is made:

- The order in which options are presented
- Whether the option is presented as a gain (positively) or a loss (negatively) (Box 2)
- The fluency of the presentation of information[21]

[19] Scheibehenne, Greifeneder & Todd (2010) p.409
[20] Explained further on pp.16-17
[21] Hernandez & Preston (2012)

Box 2: An example of framing effects

Imagine there will be an outbreak of a disease which is expected to kill 600 people. Two programmes have been suggested to deal with this outbreak.

Choice 1:
Programme A: 200 people will be saved
Programme B: 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved

72% of participants favoured Programme A, with the remainder (28%) favouring programme B.

Choice 2:
Programme A: 400 people will die
Programme B: 1/3 probability that nobody will die, and 2/3 probability that 600 people will die

22% of participants favoured Programme A, with 78% favouring Programme B.[22]

The real consequences of Programme A or Programme B remain the same in Choice 2 as they were in Choice 1. In a group of 600 people, to say that 200 people will be saved is equivalent to saying that 400 people will die. Yet participants' preferences changed between the two choices. In Choice 1 the two programmes are framed as positive gains (the number of people that will be saved), but in Choice 2 they are framed as negative losses (the number of people that will die). Although the choices have the same real consequences, framing one as a gain and the other as a loss influences the decisions people make.

Pensions point: framing pension saving in terms of gains (future income) rather than losses (amount taken through contributions) could make pension saving appear more positive.

Options must always be presented in some order, and generally cannot be presented in an entirely neutral way.[23] A random choice architecture, which is not intentionally designed to influence can still impact people's choices, and can sometimes direct them towards less than optimal outcomes.[24] A well designed choice architecture can help to reduce systematic irrationality in decision-making.[25]

[22] Tversky & Kahneman (1981)
[23] Johnson et al. (2012) p.488
[24] Fuller (2009) p.9
[25] Fuller (2009) p.10

Processing stage: people often make mistakes when processing input information in order to reach a decision

The processing stage refers to the methods used to get from inputs to a final decision. CET states that rational agents are capable of carrying out the calculations necessary to reach a decision, based on the inputs provided, which will best enhance their welfare, even when these calculations are complex and involve levels of uncertainty. But people do not always make rational decisions which will enhance their welfare. Errors in the way that inputs are processed to reach a decision are a factor in this.

The following are processing barriers to engagement:

- Heuristics
- Present-bias and time inconsistency
- Overconfidence
- Risk aversion and lack of trust

Heuristics can make the decision-making process easier

When faced with complex decisions, particularly when there are a large number of options, people often rely on heuristics: mental shortcuts or rules of thumb. Simply put, an heuristic is a strategy which simplifies or overlooks part of the information or cues[26] in order to make the decision-making process quicker, easier, and, in some cases, potentially more accurate.[27]

Reducing the effort required to make a decision could occur in a number of ways:

1. Examining fewer cues
2. Reducing the difficulty associated with remembering cues
3. Simplifying the way that cues are compared to one another
4. Considering less information
5. Examining fewer alternatives[28]
6. Replacing a harder question with an easier one, of which the answer is known[29]

Heuristics can reduce the amount of time and effort required to make a choice, and in many cases result in the 'right' decision. Rules of thumb have developed over time, generally through experience, so in many cases they will hold true. But at other times they can lead to systematic biases. Among others, these biases include:

- Anchoring
- Representativeness
- Availability

[26] In this instance cues refer to the information about options which could direct decision-making
[27] Gigerenzer & Gaissmaier (2011) p.454
[28] Shah & Oppenheimer (2008) p.209
[29] Tetlock & Gardner (2016) p.40

The anchoring heuristic can lead people to adjust their decision according to a particular starting point

Rather than carrying out the detailed and complex calculations that may be required to reach an answer, people often make estimates by beginning at an initial value and adjusting to produce the final answer. These adjustments are usually insufficient.[30] The initial value chosen will affect the final answer, as well as its closeness to the actual answer. The chosen starting point for an estimate can also be suggestible in some cases which will further skew the answer given (Box 3).

Box 3: An example of the anchoring heuristic

One study found that suggesting a number prior to asking a question could significantly impact the answer given, even if the suggested number was entirely irrelevant to the question asked.

A wheel of fortune was rigged to land on either 10 or 65. After the wheel was spun, participants were asked two questions:

1. Is the percentage of African nations among UN members larger or smaller than the number on the wheel of fortune?

This question links the number that appeared on the wheel to the number of African nations in the UN in participants' minds, even though the two numbers are in no way linked.

2. What is your best guess of the percentage of African nations in the UN?

The average answer to Question 2 among participants who saw 10 on the wheel of fortune was 25%. The average answer among participants who saw 65 was 45%.[31]

Pensions point: Some people overestimate the level of retirement income their savings might provide. People sometimes conflate the income they can expect to have at retirement with the level of income they feel they want or need in retirement.[32] Members of Defined Benefit (DB) pension schemes are, on average, better at estimating the level of retirement income they can expect to receive than members of Defined Contribution (DC) schemes. In a 2012 study, it was reported that half of DB scheme members received an income that was between 75% and 111% of the level of income they had expected to receive. Half of DC scheme members, on the other hand, received an income that was between 44% and 113% of their previously expected level.[33] Some people believe that having a workplace pension is sufficient to provide for retirement, regardless of contribution rates.[34]

[30] Tversky & Kahneman (1974) p.1128
[31] Tversky & Kahneman (1974) p.1128
[32] Kotecha, Kinsella & Arthur (2010) p.2
[33] Crawford & Tetlow (2012) p.34
[34] Kotecha, Kinsella & Arthur (2010) p.26

The representativeness heuristic can lead people to have misconceptions about probabilities

When evaluating the likelihood that two particular events or outcomes are linked, people generally rely on the similarities between the events, the extent to which one is representative of the other.[35] When making simple judgements, such as whether object A is an example of object type B, this heuristic can be useful and often accurate. But when the representativeness heuristic is used to predict the probability that certain event or outcome will occur, this can be problematic. The representativeness heuristic will often lead people to believe that probabilities within samples should be representative of probabilities in the wider population from which they are drawn, even if sample size is small (Box 4).

Box 4: An example of the representativeness heuristic

A flipped coin is equally likely to land on heads or tails. If a coin was flipped a million times, the coin would probably land on heads about 50% of the time and tails the remaining 50% of the time.

If a coin is flipped five times, with the first four flips landing on tails, people tend to predict the probability of the coin landing on heads as greater than 50%. This is because a heads would move the distribution of results back towards the 50/50 split we expect to see in a series of coin flips. In reality, the probability of the coin landing on heads is still only 50%.

The belief that small samples will resemble the larger population from which they are drawn reflects a more general tendency to exaggerate the consistency of what they see, to make their perceptions fit better within the framework developed through previous experience.

People also have a tendency to notice information which confirms their beliefs more readily than information which challenges them. This is known as confirmation bias.

The availability heuristic leads people to estimate the frequency of an occurrence by the ease with which they can recall similar occurrences

Often people judge the frequency or probability of a certain event or outcome based on the level of ease with which they can recall similar events or outcomes.[36] They assume that events which have occurred more often are more likely to occur again. This is often a reasonable assumption. It is reasonable to predict that the sun will rise tomorrow, because many instances can be recalled of this happening before – every day in fact. But the availability heuristic can be problematic in cases involving events which are more memorable or 'available'.

[35] Tversky & Kahneman (1974) p.1124
[36] Tversky & Kahneman (1974) p.1127

People tend to assume that events which come more easily to mind must occur more frequently.[37] But shocking or traumatic events are generally more memorable than events which are mundane. So while a certain event may have had positive outcomes in almost all instances, if it has had negative outcomes once or twice, people's judgement of the likelihood that it will have positive outcomes in the future may be disproportionately reduced by those few negative instances because they are particularly memorable.

In some cases, the availability heuristic can increase the belief that relatively unlikely positive outcomes will occur, because they are more memorable (Box 5).

Box 5: An example of the availability heuristic

The probability of winning the jackpot in the National Lottery is just 1 in 45 million, so highly improbable.

A perfectly rational person, as presented by CET, would recognise the improbability of winning the lottery. They would calculate the amount of money that is spent over a lifetime by regular players who are highly unlikely to ever win the jackpot. This would discourage them from buying a ticket. But millions of people buy lottery tickets each week.

This may be in part because of overconfidence or irrational optimism. But the ease with which people can call to mind instances of people who have beaten the odds and won may also contribute to people's willingness to play.

The media can play a significant role in influencing people's conceptions of probability

By its very nature, the media is skewed towards reporting events that are shocking or out of the ordinary.[38] This increases the availability or salience of unusual events within people's minds, leading them to believe that they occur much more frequently than they actually do.

Pensions point: news stories about pensions are rarely positive, mainly focusing on failed pension schemes and other threats to people's retirement savings. This may lead some people to believe that pension schemes are significantly more risky than they actually are.

Present-bias and time inconsistency can prevent people from making rational savings choices for their future

CET suggests that when making decisions about how much to spend and how much to save, people estimate the likely costs of their future needs and calculate

[37] Tversky & Kahneman (1973) p.163
[38] Pachur, Hertwig & Steinmann (2012) p.315

how much they will need to save to satisfy them; this is sometimes referred to as the life cycle hypothesis. This view suggests that people are impartial between their present and future selves, and that they weigh costs and benefits now as equal to costs and benefits later.

In practice, people assess the value of costs and benefits differently depending on whether they are in the near or distant future; this can bias the choices that are made. People can be averse to making a decision which involves costs now and benefits later, even if the benefits far outweigh the costs.

Many people use hyperbolic discounting to identify their preferences. This is when high discount rates[39] are used in decisions that involve short-term horizons, but lower discount rates when the horizon is more long-term.[40]

People tend to value immediate benefits more highly than benefits further into the future. In some cases a smaller benefit now may be considered preferable to a larger benefit later (Box 6). For some people this may be the rational choice. Those whose income struggles to cover basic needs may need the immediate benefit so much that it is worth foregoing the increased future benefit.

Pensions point: hyperbolic discounting may explain why pension increase exchange exercises[41] can be very attractive to some people, even if they do not offer actuarially fair value.

Box 6: An example of time inconsistency

Choice 1:
(a) £100 now; or
(b) £110 in a week's time
Given this choice, many people would choose option (a) because this offers an immediate, albeit smaller, benefit.

Choice 2:
(c) £100 in three weeks' time; or
(d) £110 in four weeks' time
Given this choice, many of those same people who would prefer option (a) to option (b) in Choice 1 would prefer option (d) to option (c) in Choice 2, even though both choices offer a decision between £100 at a specified time or £110 one week later. In Choice 2 both options are in the future and therefore not subject to present-bias.

[39] Discount rates are used to calculate future values in relation to current values. They can be used to calculate the amount that should be saved or invested now in order to generate a specified amount in the future. In the case of hyperbolic discounting, people do not accurately weight future values against present values (which they tend to value more highly because they are in the present or immediate future).
[40] De Meza, Irlenbusch & Reyniers (2008) p.2
[41] Pension increase exchange (PIE) exercises involve an offer to scheme members of a one-off increase in the amount of benefits that they are entitled to, in exchange for giving up entitlement to any further annual benefit increases.

Often people do not recognise their future selves as a continuation of their current self. This makes the prospect of having to pay costs now in order to secure benefits for their future self-unappealing. In extreme cases it might feel like paying out to secure benefits for someone else entirely. This can negatively impact engagement with saving decisions.

Pensions point: the benefits of saving for retirement can only be enjoyed long after the costs have been incurred. This may act as a strong disincentive to save for some individuals.

Overconfidence can lead people to make irrational savings decisions

People often overestimate their knowledge, abilities and the accuracy of the information available to them. This can lead to choices which are based more on inaccurate assumptions or overoptimistic speculation than fact.

Some examples of overconfidence include:

- People tend to overestimate their personal immunity from harm, which means they may fail to take sensible preventative steps.[42]
- The "above average" effect causes people to believe that they are less likely than others to suffer a particular misfortune.[43]
- People tend to integrate positive information into their beliefs about probability more readily than negative information.[44] This can lead people to believe that positive outcomes are more likely than negative outcomes.

Even when people acknowledge the possibility of negative outcomes, they may be inclined to believe that they personally will not be affected by them. When people have information about the tendency for a certain negative outcome to occur within a particular group, they may not feel that they particularly fit within that group, or simply that they are the exception rather than the rule for a member of that group, and so are less likely to adjust their decisions to reflect that information.[45]

An aversion to the negative feelings associated with the actual probabilities may also contribute to overconfidence in some cases. Individuals who are aware that they are not saving enough but do not want to make the sacrifices required to save more, for example, or individuals who are unable to save more due to liquidity constraints, may be overoptimistic about the level of income likely to be generated by their current saving levels, so that they do not have to confront the reality of how they are likely to struggle in the future as a result of low savings rates now.

[42] Sunstein (2014) p.44
[43] Sunstein (2014) p.45
[44] Sharot et al. (2012)
[45] Bovens (2008) p.6

Another possible explanation for overconfidence is that people tend to underestimate the difficulty of a task, and as such overestimate their own standard of performance. People often believe themselves to be better or more capable than others, whether this is the case or not. For example, the majority of people rate themselves as better than the median at performing a particular task, when statistically no more than half of them can be.[46] Many people estimate their own abilities as significantly higher than they actually are and can lead to overly ambitious choices.

Pensions point: some individuals feel that simply by being a member of a workplace pension scheme they are sure to have an adequate income in retirement, despite much evidence to indicate otherwise. People may underestimate the amount of time they are likely to spend in retirement, which can lead them to be over-optimistic about the level of retirement income their savings will provide them with. 9% of men and 10% of women aged 30-60 expect to live until at least age 90; it is predicted that 18% of men and 29% of women in this age group will live this long.[47] The average expectation of the number of years that will be spent in retirement is around 20.5 years, implying an average life expectancy of 83.3, but this does not accurately reflect current lifespans or predicted future longevity increases. Men aged 50-60 tend to underestimate their life expectancy by around 2 years, while women in the same age range underestimate by around 4 years.[48]

Personal levels of risk aversion can influence the way that individuals process decisions

Most people are risk averse – they do not want to make decisions or take chances that risk losing them money. In many cases, people would rather definitely receive a small amount of money than take a risk between a large amount of money and nothing; this suggests that people are generally risk averse when considering gains.

People tend to feel the negative impact of loss more strongly than the positive impact of gains, and are therefore likely to be even more risk averse when considering losses. The prevalent use of insurance against loss suggests that many people would prefer a smaller certain loss than the risk of a higher loss: a premium is paid (small certain loss) in order to protect against the potential for higher losses (Box 7).

[46] Moore & Healy (2007) p.4
[47] Crawford & Tetlow (2012) p.1
[48] Crawford & Tetlow (2012) p.1

Box 7: An example of risk aversion

Choice 1:
(a) A sure gain of £250; or
(b) A 25% chance to gain £1,000 but a 75% chance to gain nothing

Many people would prefer option (a) – the sure gain – to option (b). This is because people tend to be risk averse.

Choice 2:
(c) A sure loss of £250; or
(d) A 25% chance to lose £1,000 but a 75% chance to lose nothing

Most people would prefer option (c) to option (d). As in Choice 1, this is because people tend to be risk averse. However, people are likely to have a stronger preference towards the first option in Choice 2, than in Choice 1, because risk aversion is increased when it concerns losses rather than gains.

While risk is an important factor in making sensible savings decisions, calculations of risk cannot account for all possible outcomes. Calculations of risk are constrained by the limitations of rationality and experience of the past. The events which may most negatively impact people's savings are those which are unpredictable and so cannot be mitigated by risk aversion in decision-making.[49] Even so, those with a greater capacity to identify and evaluate risk also tend to make decisions which can lead to more optimal outcomes.[50] People who are less able to accurately assess risk may be prone to making less optimal decisions, or even abstaining from active decision-making in some cases as they may attempt to minimise risk even when they cannot accurately identify which risks are present in a particular decision.

Output stage: after a decision has been reached, there are barriers which can inhibit their effective implementation

The output stage refers to the extent to which people effectively implement their decisions after they have made them. Even someone who is rational in their processing of inputs and capable of carrying out the necessary calculations to reach an optimal decision, may not actually follow through on that decision. Knowing the right answer doesn't always mean that people will act on it.

The following are output barriers to engagement:

- Low levels of self-control
- Procrastination and inertia

[49] Beck (2006) p.330
[50] Beck (2006) p.333

Issues associated with low levels of self-control are linked to present-bias

Present-bias involves current benefits being valued more highly than future benefits of the same or greater value. During the output stage of the decision-making process, low levels of self-control can result in people who accurately identify the value of future benefits compared to immediate benefits not acting in a way that reflects this.

Most people admit that they should be saving more (particularly when asked following financial education seminars) but the proportion of people who actually raise their savings rate is significantly lower. This is in part because of an inability to resist spending money on things which will provide immediate gratification, as opposed to gratification in the future. Procrastination and inertia contribute to this behaviour.

Pensions point: Decisions about how much to save for retirement, and even whether to save at all, involve inter-temporal trade-offs. Some people think that consumption in old age should be valued less highly than consumption today, as declining health can result in decreased capacity to enjoy consumption.[51] If it is true that the capacity to enjoy consumption varies throughout the life-cycle, as do other capacities, then perhaps discounting the value of consumption in later life makes sense.[52] But people may be overestimating the extent to which this is the case in order to justify their time-inconsistent preferences. This logic also ignores the fact that declining health in older age can also lead to necessary increases in consumption costs, such as long-term care.

Procrastination and inertia can prevent people from acting decisively when saving for their future

People are generally loss averse and worry that the choices they do make may lead to regrets further down the line, leading to avoidance of difficult decisions and the negative emotions that may be associated with them. The result can be procrastination about difficult choices, putting them off for another time.

Procrastination can be particularly problematic when decisions involve short-term costs and substantial long-term gains. As discussed in the previous section, people tend to value the here and now more highly than the future. Even if an individual knows that at some point they will have to pay those short-term costs if they want to benefit from the long-term gains, they may put off doing so, always feeling it is preferable to pay the costs tomorrow rather than today. But, of course, when tomorrow comes, the same logic can lead them to put off the costs another day. This can go on indefinitely, until eventually they have missed the opportunity to benefit from the potential long-term gains.

[51] Gough & Sozou (2005) p.559
[52] Trostel & Taylor (2001) p.392

When it comes to saving for the future, procrastination can lead to serious shortfalls in savings. It causes a status quo bias or tendency to let things continue as they already are. If the status quo is that they are saving nothing or saving at a very low rate, this can lead to serious problems in the future.

Different levels of engagement will be most effective for different individuals, which means that different policy levers may be most appropriate for delivering the best outcomes:

- Compulsion: options that people must take whether they wish to make an active choice or not.
- Defaults: an option given to people who do not make an active choice.
- Safety nets: policy mechanisms designed to help those who find it difficult to support themselves financially and are in danger of falling into poverty as a result.
- Consumer protection: legal and regulatory measures put in place to protect people from fraud or poor governance.
- Behavioural intervention: policies aimed at encouraging people to make a decision (or not make a decision) which results in better financial outcomes for that individual.
- Freedom: policies which allow greater freedom to individuals such as removal of tax regulations which prevent people from taking all of their DC savings in cash.

Chapter two: engagement in other industries

This chapter explores the use of behavioural techniques in other industries.

Policy-makers are increasingly recognising the value of behavioural approaches

In July 2010, the Coalition Government established the Behavioural Insights Team (BIT) to work towards a better understanding of people's behaviour and ways in which the government could use behavioural economic theory (BET) in policy to produce better outcomes.

Influencing people's behaviour is not a new function of government, but it has traditionally been done through legislation, regulation and taxation. The establishment of BIT resulted from a recognition that some of the biggest policy challenges facing government today can only be resolved through persuading individuals to change their behaviour and lifestyle.[53]

MINDSPACE introduced a framework for using BET techniques in policy

Established shortly before BIT, the MINDSPACE framework identified key ways in which behavioural approaches could help policy-makers to influence people's behaviour to achieve better outcomes.

Messenger	We are heavily influenced by who communicates information
Incentives	Our responses to incentives are shaped by predictable mental shortcuts such as strongly avoided losses
Norms	We are strongly influenced by what others do
Defaults	We "go with the flow" of pre-set options
Salience	Our attention is drawn to what is novel and seems relevant to us
Priming	Our acts are often influenced by sub-conscious cues
Affect	Our emotional associations can powerfully shape our actions
Commitments	We seek to be consistent with our public promises, and reciprocate acts
Ego	We act in ways that make us feel better about ourselves

[53] Institute for Government (2010) p.4

Public health has been a key area of successful behavioural interventions

Behavioural factors, such as diet, exercise, smoking and excessive alcohol consumption, have been identified as the cause of half of all years of healthy life that are lost.[54] Because of this, public health is an area in which BET can make a positive difference by working to improve these factors.

The behavioural interventions discussed in this chapter are:

- Choice architecture redesigns in organ donor registration
- Creating new anchoring heuristics to decrease alcohol consumption
- Decreasing availability and salience to decrease alcohol consumption
- Offering financial incentives to quit smoking in order to overcome present-bias
- Reducing overconfidence by re-focusing safety precautions in relation to risk to others
- Altering social norms to increase seatbelt use

Choice architecture redesigns have resulted in a higher number of organ donors

A required choice initiative has been used to reduce the gap between people who say they support organ donation and those who actually register as an organ donor. Around 9 in 10 people in the UK support organ donation, but fewer than 1 in 3 people are registered organ donors.[55] The disparity between these two figures suggests that procrastination and inertia significantly decrease the number of people who actually register as donors.

The Driver Vehicles Licensing Agency (DVLA) is the largest channel for organ donor sign-up in the UK, with around half a million people registering through the DVLA each year, and a total of 8.5 million since 1994.[56]

In July 2011, the DVLA website began including a required choice on organ donation as part of its application process. This means that applicants must answer the question in order to complete their transaction. It is estimated that over time the implementation of this required choice will increase the number of people voluntarily registering to be organ donors to around 70%.[57]

While introducing active choice into the choice architecture of organ donation decisions can increase registration, there is evidence to suggest that default registration or presumed consent may deliver better outcomes. In European countries where the default is to be registered as an organ donor and those wishing not to must actively opt-out, almost all people are organ donors, compared to around a quarter of people in the USA where registering as a donor is an active choice.

[54] Behavioural Insights Team (2011) p.6
[55] Behavioural Insights Team (2013) p.2
[56] Department of Health (2011)
[57] Behavioural Insights Team (2011) p.7

Required choice is a less controversial approach than presumed consent as it appears to maintain a higher level of personal freedom, involving an active choice and not making it more difficult for someone to opt-out rather than opt-in. However, presumed consent does not actually reduce freedom in any real sense as people are entitled to opt-out of organ donation if they wish. The increased freedom which appears in required choice must be weighed up against the improved outcomes that can be delivered by presumed consent.

Creating new anchors or rules of thumb and reducing barriers to self-control will affect alcohol consumption but might increase it in some cases

In 2011 'schooners' (2/3 pint glasses) were introduced as an option in pubs, where previously it was only legal to sell beer in pints, half pints and the lesser known thirds. Similarly, carafes of wine were introduced as a smaller alternative to bottles.

Offering a wider variety of smaller portion sizes may decrease the amount of alcohol people drink. Providing more 'good' options makes it easier, and therefore more likely, for people to act in that way.

However, the direction in which people are 'nudged' by these changes depends on where they are coming from. While someone who had intended to drink a full pint opting instead for a schooner is a nudge in the right direction, someone who intended to drink only half a pint may be encouraged to drink more. People's starting points before behavioural intervention can often be just as influential as the intervention itself.

Decreasing availability and reducing salience can reduce alcohol consumption

It is estimated that between 30-40% of alcohol sold by supermarkets comes from promotions.[58] End-of-aisle alcohol displays increase sales by between 23% and 46%.[59]

Increased physical availability not only makes it easier for people to purchase alcohol, but also reinforces negative social norms about acceptable levels of alcohol consumption. Reducing the prominence of alcohol in shops reduces its salience in people's mind, as well as the social norms that can be reinforced by prominent alcohol position in shops; this results in a decrease in alcohol sales.

Several supermarkets have pledged, through the Public Health Responsibility Deal, not to display alcohol at the front of their stores, and in Scotland licensing legislation requires that alcohol displays must be confined to a single area of the store.

[58] Health Select Committee (2009) 262
[59] Nakamura et al. (2014)

When alcohol is displayed in a less prominent place, people are unlikely to see it unless they specifically go to the alcohol aisle within the store. By placing alcohol in a less visible location, its salience is reduced in people's minds and they are less likely to purchase alcohol unless they had planned to prior to entering the store. This policy targets the availability heuristic, recognising that people are more likely to engage in a certain behaviour if it is prominent in their mind.

Offering immediate incentives for engaging in positive behaviour or giving up harmful behaviour can counter-act present-bias and time-inconsistent preferences

Present-bias and time-inconsistent preferences can make it more difficult for people to give up behaviours which are harmful to their health (or their future savings). This effect is particularly prominent in instances that involve addiction, for example smoking.

People are aware of the health risks associated with smoking, but even among individuals who want to quit the habit, the immediate gratification of having a cigarette can outweigh the long-term benefits of successfully quitting. This is a result of present-bias, which causes people to weigh immediate gratification more heavily than benefits in the more distant future.

A study of 612 pregnant smokers found that offering immediate financial incentives (up to £400 of shopping vouchers) significantly increased the likelihood of successfully quitting smoking during pregnancy. 22.5% of women in the test group that was offered financial incentives had stopped smoking by late pregnancy (34 to 38 weeks), compared with just 8.6% in the control group.[60]

Overconfidence biases can be reduced by transferring the focus of precautions from personal risk to risk to other individuals

People are often overconfident about their own ability to carry out tasks, as well as their personal immunity from harm. They tend to be more accurate and less overconfident when estimating risk to others.

Because people tend to overestimate their own immunity from harm, emphasising the personal risks of engaging in certain behaviours is not always an effective way to discourage that behaviour, as people may believe that the risk does not apply to them. If the risk to other individuals is emphasised, people may take them more seriously, as they are less likely to be overconfident about other individuals' immunity.

A study of US medical professionals working in hospitals found that signs which highlighted the risk to patients if the doctors and nurses did not sanitise their hands were more effective in increasing hand washing than signs highlighting the risk to the professionals themselves.[61] The lesser impact of signs

[60] Tappin et al. (2015)
[61] Grant & Hoffman (2011)

displaying a personal safety message may be because of overconfidence about personal immunity from harm, though it could also result from patient safety being the primary concern of medical professionals.[62] Whatever the reason for the difference in results, this study also highlights the importance of framing effects in achieving outcomes.

Behavioural interventions must be carefully designed as they can affect behavioural factors in unexpected ways

In the UK it is mandatory that all adults (for the purpose of this law aged 14 or older) wear a seatbelt, with very few exceptions. Children must be in the correct car seat for their height and weight, until they reach 135 centimetres tall or 12 years old, at which point it becomes mandatory for them to wear a seatbelt. Failure to adhere to these rules can result in a fine of up to £500.

Social norms and advertising campaigns assisted regulation in encouraging universal seatbelt use. For example, the government's 'THINK!' campaign reinforced the importance of wearing a seatbelt by informing people that if you are involved in a road accident, you are twice as likely to die if you aren't wearing a seatbelt.[63] This campaign increased the salience in people's minds of the risks resulting from not wearing a seatbelt.

Behavioural responses to risk also played a key role. This policy aims to reduce deaths caused by road accidents; but in fact only reduces risk of death to those wearing seatbelts. It does not reduce risk to pedestrians, cyclists, or other car users who may not be wearing a seatbelt.

It is reasonable to predict that road deaths will decrease as this particular risk factor is eliminated. But this ignores behavioural factors, such as the risk compensation hypothesis. The risk compensation hypothesis suggests that some drivers may behave more recklessly as a result of enforced seatbelt use, as they have a certain level of risk tolerance which they will then redistribute among other risky behaviours.[64] In this case, the benefits of enforced seatbelt use may be offset by:

- Increases in the absolute number of road accidents
- Increases in the speed at which accidents occur
- Increased incidence of death among un-belted car users, pedestrians and cyclists[65]

This policy and its outcomes illustrate the difficulty of designing behavioural interventions which will effectively achieve specific policy goals. Effective behavioural interventions must not only identify behavioural factors and attempt to influence them, but also recognise that other behavioural factors may come into play as a result of the chosen intervention.

[62] Perry et al. (2015) p.16
[63] Department of Transport (2016)
[64] Adams (1983)
[65] Richens, Imrie & Copas (2000) p.401

Chapter three: behavioural economics

This chapter explores how behavioural patterns affect the way that people engage with retirement savings decisions.

Active engagement can be helpful in ensuring an adequate level of income in later life, though not everyone needs to be engaged in order to receive an adequate income in retirement (for example, those with sizeable Defined Benefit (DB) entitlements or those with other wealth to rely upon).

The barriers to engagement and effective decision-making identified in Chapter One can significantly impact retirement savings decisions. They are not limited to particular groups,[66] although the magnitude of their impact may vary depending on particular characteristics.

However, behavioural approaches can be difficult to design in a way that will target intervention at those who need the most help. They cannot necessarily help everyone to overcome the limitations of biases or low levels of financial capability.

As well as behavioural factors, optimal saving decisions can be inhibited by low levels of financial capability, which are sometimes linked to earnings, age or education

The complexity of retirement saving decisions can deter engagement, particularly among people who may have low levels of financial capability. The average person may lack the required knowledge and skills to make these complex decisions.[67] Some people struggle with basic financial calculations, for others the issue is a lack of knowledge and understanding of fundamental financial market concepts[68].

There is a correlation between higher levels of financial capability and saving, but it remains unclear which of these is the causal factor. On the one hand, higher levels of financial capability could result in more optimal financial behaviour, meaning that improving capability through financial education could improve saving decisions. But equally, it could be that people who choose to engage in more optimal financial behaviour develop higher levels of financial capability along the way. There could also be a third variable which results in both higher levels of financial capability and more responsible behavioural decisions.[69]

Psychological and behavioural factors can be just as important as informational differences in explaining variation in financial capability.[70] Financial education

[66] Kooreman & Prast (2010) p.102
[67] Brown (2007) p.21
[68] Lusardi & Mitchell (2009) p.2
[69] Hilgert, Hogarth & Beverly (2003) p.311
[70] De Meza, Irlenbusch & Reyniers (2008) p.2

alone is not likely to solve problems of low levels of financial capability and the shortfall in savings this can lead to. Although higher levels of financial capability are correlated with better financial decision-making, attempts to increase financial capability purely through education often do not lead to significant changes in behaviour.[71]

On a population level, levels of financial capability generally improve with age and level of education.[72] Low levels of financial capability are particularly prevalent in older individuals aged 50+, as well as young adults aged 23-27.[73] Financial capability also tends to be lower among low-income earners.[74] But when it comes to complex financial decisions, such as those surrounding retirement savings, financial capability can be an issue across all groups.

The key areas of pension decision-making are:

- Enrolment decisions – Should I save for retirement?
- Contribution decisions – How much should I save?
- Allocation decisions:
  - Which saving vehicle should I use?
  - How should I invest my retirement savings?
- Decumulation decisions – When and how should I access my retirement savings?

This chapter now considers each of these in turn, in particular the ways in which they may be affected by behavioural factors.

Should I save for retirement? Automatic enrolment has used people's tendency towards procrastination and inertia to increase the number of people saving into a workplace pension

The introduction of automatic enrolment between 2012 and 2018 means that all individuals earning above the minimum threshold (£10,000 from 2016/17) in a single job will be enrolled into a qualifying workplace pension scheme.

Automatic enrolment is a change in the choice architecture of pensions decisions

Policy-makers recognise that inertia and procrastination significantly influence the decisions people make about saving. But rather than trying to challenge these behavioural influences, automatic enrolment uses them to encourage higher participation in pensions saving.

[71] De Meza, Irlenbusch & Reyniers (2008) p.2
[72] De Meza, Irlenbusch & Reyniers (2008) p.2
[73] Lusardi & Mitchell (2009) p.1
[74] Lyons, Chang & Scherpf (2006) p.27

This policy largely eliminates the enrolment decision – *should I save for retirement?* – for many people. While people are entitled to opt out of automatic enrolment, the question is then *should I not save for retirement?* Instead of making an active decision to save, people now have to make an active decision not to save.[75] However, only half of the working age population are eligible for automatic enrolment, including around 77% of employed individuals.[76] The self-employed, unemployed and workers earning under £10,000 pa are not eligible for automatic enrolment (though some workers may opt in and receive employer contributions).

Inertia and procrastination can lower participation rates even in cases where enrolling requires no cost to the individual and provides significant benefits. A 2007 study on 25 Defined Benefit (DB) plans which did not require any employee contributions and were fully funded by the employer, found that only half of the eligible employees (51%) signed up.[77]

The upward trend in participation rates since the introduction of automatic enrolment suggests that people are behaving in accordance with behavioural economics' theory on choice architecture and inertia/procrastination

Since the introduction of automatic enrolment in 2012, active participation in workplace pension schemes has increased from 10.8 million[78] to around 17 million in 2016.[79] The overall proportion of employees who are active members in a workplace pension scheme has also increased, from 47% in 2012 to 66% in 2016.[80]

Because of its built in opt-out mechanism, automatic enrolment does not force anyone to save for retirement if they do not want to, maintaining individuals' freedom of choice. It recognises that there is often a gap between intentions and actions, or actual preferences and revealed preferences. But a recognition of undersaving is often not enough to prompt people to begin saving more.

Automatic enrolment advertising campaigns have sought to realign social norms, using the pull of 'herding behaviour' to normalise saving in a pension

The 'Workie' advertising campaign, with the message 'don't ignore the Workplace Pension', used an eye-catching creature to increase the memorability and salience of automatic enrolment in the minds of both employers and workers. Research into employers' awareness of automatic enrolment found that 79% remember seeing or hearing at least one of the campaign adverts.[81]

[75] Hardcastle (2012) p.13
[76] PPI (2015)
[77] Benartzi & Thaler (2007) p.82
[78] DWP (2014) p.5
[79] tPR (2016a) p.3
[80] tPR (2016a) p.3
[81] tPR (2016b)

Automatic enrolment has, so far, been effective in increasing retirement saving, both in numbers of participants and the amount being saved overall

Opt-out rates are significantly lower than the original expectation of around a third (28%).[82] The actual opt-out rate is around 9%.[83] The government has revised its projected opt-out rate down to an average of 15% by 2019.

Although people are entitled to opt-out of automatic enrolment, there is only a one month period in which this can be done. After this time they will remain enrolled within the scheme whether they continue to contribute or not. This means that the number of individuals who are enrolled within a pension scheme may not accurately reflect the number who are actively contributing into the scheme.[84]

It remains to be seen whether opt-out rates will increase as the number of smaller employers who have gone through the automatic enrolment process increases. Planned contribution rate increases could also prompt higher opt-out rates in the future.

Automatic enrolment uses procrastination and inertia to increase participation in pensions, but it does not increase active engagement, though over time the associated changes in social norms could lead to higher levels of engagement

Automatic enrolment sees increased numbers of people passively engaging with pensions in general, but not actively engaging with pension decision-making. There are still questions around whether people who need to be automatically enrolled in order to save at all are likely to make considered and informed decisions about their savings behaviour,[85] particularly in regards to contribution decisions. An increasing number of people are defaulted into the first part of the decision-making process, but there could still be problems further through the process. If these issues cannot be solved through engagement, then compulsion or increased use of defaults may be options worth exploring.

How much should I save? Despite automatic enrolment, present-bias and time inconsistent preferences are keeping contribution rates low

Contribution decisions are becoming increasingly relevant as more and more people participate in Defined Contribution (DC) pension schemes, rather than Defined Benefit (DB) schemes which tend to set a required contribution level in return for pension income of a certain proportion of average or final salary.

[82] DWP (2012) p.32
[83] DWP (2016) p.21
[84] FT Adviser (2017)
[85] Tapia & Yermo (2007) p.4

Inertia and framing effects could mean that auto-enrolled individuals are less likely to engage[86]

In the US, some of the benefits of increased participation rates brought about by automatic enrolment have been somewhat offset by the large proportion of new participants who do not change from default contribution rates or investment choices. New participants engaged through automatic enrolment are more likely to save at the default rate than participants who enrolled voluntarily prior to automatic enrolment[87].

People who are automatically enrolled into workplace pension schemes may be less likely to actively engage with contribution decisions

Default contribution rates for automatically enrolled employees are typically low. The minimum contribution rate is currently 2%, of which at least 1% must be paid by the employer. This is set to rise to 5% (with 2% employer contribution) in April 2018, and then again to 8% (with 3% employer contribution) from April 2019. If people remain at these default saving rates they are unlikely to have a sufficient level of income replacement in retirement.[88] But there is a possibility that opt-out rates could increase as contribution rates increase. There may be a trade-off between trying to get as many people saving for retirement as possible and encouraging those who are saving to accumulate larger pots through higher contribution rates.

8% minimum is not necessarily sufficient to achieve an acceptable standard of living in retirement. Even if a median earner contributes *8%* of band earnings into a pension scheme every year from age *22* until State Pension age, they only have *50%* chance of achieving the same standard of living in retirement that they experienced in working life (using private and State Pension income) and assuming that the State Pension is uprated in line with the triple-lock.[89] In many cases, people will not contribute steadily for their entire working life and would require a higher percentage of contribution to achieve a *50%* likelihood of replicating working life living standards.[90]

PPI modelling indicates that a median earner might need to contribute between *11%* and *14%* of band earnings to have a *2/3* chance of replicating working life living standards if contributing between age 22 and State Pension age. For people who begin contributing later or who take career breaks, contribution levels needed to have a *2/3* chance of replicating working life living standards could be as high as *27%*.[91]

[86] Hardcastle (2012) p.17
[87] Madrian & Shea (2001)
[88] Benartzi & Thaler (2007) p.2
[89] Uprated by the greater of earnings, CPI or 2.5% each year
[90] PPI (2013)
[91] PPI (2013)

The framing effect that follows from defaults could also explain why people are sometimes hesitant to amend their contribution rates

People have a tendency to believe that defaults have been carefully chosen and represent the optimal choice. In this way, defaults are sometimes viewed as recommendations,[92] particularly when they are set by a trusted source such as the government. In the government's MINDSPACE framework, the messenger (who is conveying the message) is recognised as an important factor in the way that people react to the message. This does, however, mean that contribution rates could perhaps be increased in the future in much the same way, although there are other factors which might discourage some individuals from increasing contribution rates regardless.

Policy-makers are considering taking advantage of inertia and removing barriers created by the endowment effect to increase contributions in the future

There is already a policy discussion around raising minimum contribution levels in the future using behavioural methods. One such approach is the Save More Tomorrow (SMarT) programme which schedules increases in contribution rates to coincide with pay rises. This approach utilises two behavioural biases in particular:

- Procrastination and inertia
- Endowment effect

Some people recognise that their savings rates are too low

There is sometimes a gap between how much people think they should be saving and how much they actually do save.[93] But there are many factors which can act as barriers to narrowing this gap, in particular procrastination and present-bias.

Not just behavioural but structural and economic barriers can also affect outcomes

Not just mortgages, car payments, and saving a deposit to purchase a house, but increasingly other financial commitments, such as phone and television contracts, are placing greater demands on people's finances. Student loans can also discourage people from saving for retirement, as they may feel that it is counterintuitive to save when they have debts to be paid. The real impact of student debt on ability to save can sometimes be overplayed, given that the amount to be paid back is determined by the government and comes out of salary automatically. Many people use mental accounting to determine how much money they have available to spend in particular areas. Often when they have estimated how much money they must set aside to cover their various other financial commitments, people do not think they are able to contribute to retirement savings or increase their contribution rate.

[92] Mitchell & Utkus (2003) p.9
[93] Laibson, Repetto & Tobacman (1998) p.95

Inaccurate estimations of the level of retirement income likely to be generated by current saving levels suggest that many people are not actively engaging with pension decision-making. In large part this appears to be a result of overconfidence, but it may also be because younger generations currently saving for retirement lack accurate reference points to guide their savings behaviour.

People often learn through experience, but limited personal experience of pensions can be a barrier to engagement

Trial and feedback can often be a powerful tool in helping people to modify their behaviour appropriately to lead to optimal outcomes. The nature of pensions means that people often don't get much meaningful feedback about their savings behaviour until they reach retirement, by which time it is too late. People might be able to learn by observing others, such as older generations who have already reached retirement. But, while this sort of feedback might be useful, it also has some issues:

- The pensions saving problem is not the same across generations. This is becoming increasingly apparent with issues associated with increasing longevity, as well as the shift of workplace pension provision away from Defined Benefit (DB) towards Defined Contribution (DC) schemes. This means there may be reduced read-across from older generations' saving experience to younger generations.
- Generally, people are more responsive to feedback that comes directly from their own experience, rather than the experiences of others. This means that even where they may be useful lessons to learn from older generations' pensions saving behaviour, younger generations may not recognise such lessons as applicable to their own behaviour.[94]

Where should I save? Decisions about which saving vehicle to use can significantly affect the value of retirement income

While the traditional form of retirement saving is a pension scheme (either DB or DC), other saving vehicles which may be used include:

- Housing equity - using property as a source of wealth and a financial safety net, as well as a place to live[95]
- Other savings and assets
- Individual Savings Accounts (ISAs)
- Lifetime ISAs (from April 2017)

These alternative saving vehicles may offer some people a better way to save than within a pension fund. For example, someone who 'tax rate climbs' (pays a higher level of tax in retirement than in working life) may benefit from saving in an ISA rather than a pension fund.[96] Similarly, someone who has need for early

[94] Beshears, Choi, Laibson & Madrian (2008) p.1791
[95] Strauss (2008) p.2-3
[96] Blundell, Emmerson & Wakefield (2006) p.16-17

access to retirement savings could benefit from saving outside of a pension scheme so they do not incur the costs resulting from 'unauthorised withdrawals' prior to age 50. But for many people, choosing to save for retirement outside of a pension fund can have a negative impact on retirement income as it means foregoing employer contributions, as well as the tax exemptions which apply to pension funds but not to other saving vehicles.

Determining the benefits of differing saving vehicles and the level of value they have the potential to add to retirement wealth requires a thorough understanding of taxation, as well as complex mathematical calculations. Understanding which to save in may be beyond the financial capability of most people. Even for those with advanced financial capability it would require a great deal of time and effort, which may deter them from carrying out the necessary calculations. As the complexity of financial instruments increases, individuals face greater pressure and cognitive cost in making decisions for retirement.[97] The assumption of conventional economic theory is that 'households have the cognitive ability to solve the necessary optimisation problem',[98] but because of the many systematic biases identified by behavioural theories, this is likely not the case.

Even after a saving vehicle has been selected, there may still be complex decisions to be made

Most DC schemes offer their members a choice as to where their contributions will be invested, while offering a default fund for members who are unable or unwilling to make active investment decisions. The majority of individuals will invest in this default fund as it is the 'path of least resistance'.[99]

There are several behavioural factors which may be barriers to effective investment decisions:

- Inertia or status quo bias: people often avoid making difficult decisions.
- Representativeness and availability heuristics: people may rely heavily on past fund performance, ignoring expected future returns and risk factors.
- Choice and information overload: investment decisions often involve a large number of options and vast amounts of complex financial information.
- Risk aversion: some people may feel that the risk of making a loss is lesser if they invest in the default fund, rather than relying on their own knowledge.[100]

These barriers can lead to an overreliance on default funds. Default funds often are the best option for scheme members, particularly if they have been designed with scheme members' needs and risk tolerance in mind.[101] But they will

[97] Lusardi (2008) p.2
[98] Benartzi & Thaler (2007) p.1
[99] Choi, Laibson, Madrian & Metrick (2002)
[100] EIOPA (2015) p.10-12
[101] Byrne, Blake, Cairns & Dowd (2007) p.1

generally not be the best option for all members, particularly those with higher levels of financial capability. This suggests that different levels of engagement may be appropriate for different individuals, in order to deliver the best outcomes for them.

In order to reflect the differing needs of scheme members, some pension scheme providers encourage members to select a level of engagement which is most appropriate to their needs and capabilities. Aon, for example, developed three categories of investor:

- 'Do it for me investor': members who lack the time, ability or simply the desire to make investment decisions for themselves.
- 'Help me do it investor': members who want to be involved in investment decisions but require some guidance.
- 'Give me full control investor': members who want full control over their investment decisions.[102]

Categorising scheme members in this way makes it more likely that they will engage to the most appropriate level. Redesigning the choice architecture of investment decisions, so that individuals who are less capable or have less of a desire to be actively engaged can make a decision about the level of engagement they feel is right for them personally, simplifies the choice process and can result in better outcomes.

How should I access my retirement savings? People must make complex decisions about when and how to access their retirement savings

In order to make an informed decision about accessing DC savings and structuring income in retirement people need to be able to understand economic factors such as inflation, market-based risks and longevity risk. Therefore, people may struggle more with complex decisions regarding using DC savings to support themselves in retirement than those with DB savings who can make an informed decision based on a more limited understanding (as scheme rules generally protect members against inflation, market based risks and longevity risk).

Decisions about accessing DC savings became more complex since April 2015 when the requirement to use a recognised retirement income product was removed. Retirement income products such as annuities and income drawdown previously had some safeguards against market-based and longevity risks built into them, and many, such as lifetime annuities, continue to do so. However, people who choose not to purchase a retirement income product which protects against risk with some or all of their DC saving after April 2015 will have to make decisions about how to protect themselves against

[102] Aon

risks, many of which are not predictable (such as inflation risk and longevity risk). The 76% reduction in annuity purchases since 2014 indicates that far fewer annuities will be purchased by people with DC savings in future, and that their funds may therefore be exposed to these greater levels of risk.[103]

Levels of numeracy in particular have been found to have correlations with ability to understand pension arrangements. However, having DC savings and no DB entitlement is associated with lower levels of numeracy. People with DC savings and no DB entitlement will also be more dependent on using their DC savings to provide themselves with an income in retirement than those who have some DB entitlement to fall back on but may also have more difficulty making a fully informed decision about accessing their DC savings.

Though many people with DC savings (between 70%-80%) receive information from their scheme or provider, people report finding scheme communications confusing and difficult to understand. Natural tendencies towards inertia can be further exacerbated by complexity, uncertainty and a lack of understanding. Therefore, scheme communications, without significant redesign, are unlikely to fill the gap in knowledge or provide the support that people with DC savings might need to make complex decisions, particularly once people over the minimum pension age are allowed complete flexibility to access DC pension savings.

Decisions about accessing DC savings are likely to be very difficult for people to make without assistance. However, regulated financial advice has an upfront cost attached to it which might make it appear inaccessible to people with small amounts of DC savings. Regulated advice may not be unaffordable in practice in comparison to the sale of non-advised products which often have a commission attached.

While behavioural interventions could play a role in helping people to navigate decisions at and during retirement, these techniques are unlikely to compensate for the lack of financial capability and support that many people will encounter. Therefore, other policy levers such as compulsion, defaults, and safety nets are likely to continue to play a strong role in helping people to achieve positive outcomes from pension saving and access.

Digital technology offers new possibilities for engagement

As well as behavioural techniques, new channels for engagement are presenting new possibilities to improve outcomes. Rapid changes in communications technology may lead to different forms of engagement in retirement decision-making in the future.

[103] PPI (2016) p.33

Digital channels are very different to traditional methods of consumer engagement. On the one hand, digital engagement lacks the face-to-face customer service experience of traditional transactions. This could potentially make it more difficult for companies to instigate brand loyalty in customers.[104]

Digital channels can improve how people engage in a number of ways:

- Continuous access - not constrained by distance or opening hours[105]
- Access to a larger amount of information
- The ability to contrast and compare different alternatives
- Increased scope for personalisation[106]

This can create new points of engagement which were previously difficult to reach. For retirement savings decisions, this could mean engaging with people when they spend rather than only when they intend to save. Engaging with people at different touchpoints and in new ways could help to make the decision-making process easier.

Some of the options being explored to engage people in saving during spending include:

- 'Penny scraping': when people make transactions using debit cards the 'change' is transferred from their current account to a savings account. For example, if they spend £3.49 on a coffee, 51p would be transferred to their savings account.
- 'Apps' which allow people to set a certain amount which will be transferred to their savings account each time they spend on a particular thing. For example, they may decide that each time they purchase a cup of coffee, they want £1 to be transferred to their savings account.

Both of these options would likely produce only small savings pots, but they could help to change the way that people engage with and think about spending and saving.

The increase in digital transactions has also led to an increasingly important role for creating emotional links with consumers.[107] In the absence of face-to-face customer services, brands must engage the consumer in other ways in order to encourage repeated transactions.[108] For retirement savings decisions, this could involve focusing an engagement strategy on the emotional side of retirement savings decisions and helping people to better connect with their future self, which could encourage them to save at higher levels.

[104] Rowley (2006) p.341
[105] Straker, Wrigley & Rosemann (2015) p.136
[106] Breit & Salomon (2015) p.300-301
[107] Morrison & Crane (2007) p.410
[108] Edelman (2010)

Although emotion has an important role to play in digital engagement, it is likely to be harder to engage emotion in this way. Digital channels of engagement, such as robo-advice, may be effective in providing a good source of standardised information, but they are unlikely to be able to provide advice which recognises the complex emotions associated with retirement decisions in the same way that a financial advisor could take these factors into consideration and offer advice accordingly.

While digital engagement offers new possibilities, it also presents new challenges. There are several requirements for effective digital engagement:

- Interest
- Access
- Comprehension
- Reflection
- Support[109]

People are unlikely to engage with digital saving platforms if they are disinterested and do not value the importance of saving

If people are not interested in savings decisions, they are unlikely to have the motivation to actively engage or seek out further information.

Access to digital platforms can refer to physical access to digital devices, but it can also refer to digital capabilities which allow people to access the benefits of digital engagement[110]

Levels of interest in retirement saving are likely to be higher among older people, but digital capabilities which allow effective access to the benefits of digital engagement are likely to be lower among this age group. This may be a cohort issue, as younger generations will continue to be more digitally capable as they move into old age. However, as technology evolves relatively quickly, younger generations may be similarly ill-equipped to deal with the latest technological advancements when they reach retirement.

Difficulties with comprehension are potentially the most significant barrier to digital engagement

While digital channels can provide vast amounts of information, the responsibility of understanding that information, and the risk of making poorly informed decisions if it is not understood, generally falls upon the individual.[111] Saving decisions made on digital platforms may be more susceptible to influences from the individual's characteristics, in particular their financial capability, than decisions made using face-to-face engagement in which a financial advisor can explain relevant information and assist understanding.

[109] Breit & Salomon (2015) p.300
[110] Breit & Salomon (2015) p.306
[111] Breit & Salomon (2015) p.301

Reflection and support require that individuals have the capability and the necessary guidance to give decisions the proper consideration

While increased use of digital platforms allows for easier access without restriction, it may also increase the likelihood that individuals will make less optimal decisions as a result of insufficient guidance. Robo-advice may go some way to mitigate this effect, but it may be that digital platforms will continue to be most effective when offered in conjunction with traditional face-to-face guidance.

Robo-advice has the potential to offer a wide range of impartial guidance that can be accessed easily, particularly by those who might otherwise not have access to any formal financial guidance. However, there are some aspects relating to the decision-making process that look set to remain best catered for by human advisors, including:

- Explaining complex and confusing topics (and ensuring that customers have understood them)
- Offering reassurance and support
- Persuading customers to action[112]

As with behavioural techniques, the improved outcomes that could be offered by increased use of digital engagement, are likely to be most successful if they sit alongside other methods of engagement and policy levers.

[112] Accenture – *The Rise of Robo-Advice: Changing the Concept of Wealth Management*

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