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Behavioural Economics and Public Policy-Making

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Abstract

In recent years, insights from behavioural economics have increasingly been used to inform public policymaking. This has been underpinned by an appreciation of the ways in which human decision-making can be influenced by psychological biases and cognitive limitations that have the potential to lead individuals to costly and systematic errors in all facets of life, including in relation to financial products. In response, many public authorities are now seeking to design the instruments of policy to better fit the behavioural realities of the people they are designed to serve, in an effort to remediate adverse consumer and systemic outcomes, and to enhance policy effectiveness. This Article reviews the recent growth in the application of behavioural insights, the ways in which biases can impact decision making, specifically in the financial domain, and why it matters for policymakers, including the Central Bank.

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1. Introduction

Recent years have seen an increase in public awareness of the core ideas of behavioural economics and the promise that it offers in both explaining and addressing some of the most difficult challenges in public policy. Reflecting (and driving) this growth has been an increase in the number of public authorities embedding teams within their organisations, dedicated to the application of insights from behavioural economics to help inform and design more effective policies. The benefits have been felt widely, ranging from improved attendance at after-school programmes in South Africa (OECD, 2017), for example, to better designed and more consumer friendly price comparison websites for financial products in the United Kingdom (Smart, 2016), to more recently informing our understanding of the risks posed by COVID-19 and the design of effective policy responses (Lunn et al., 2020).

Underpinning these efforts is the simple but paradigm-shifting idea that people do not always make decisions in a perfectly rational way, weighing up all available information in order to arrive at a decision that maximises their own wellbeing. Instead, we take cognitive shortcuts and follow rules of thumb in order to manage complexity in our everyday lives. While these shortcuts (or 'heuristics') can provide an effective means for navigating the many and varied decisions that confront us each day, they may also lead us into costly and predictable errors, owing to the systematic intrusion of behavioural biases.

While many of these errors may be relatively inconsequential in terms of welfare costs, others can lead to significant and lasting detriment both at the level of the individual and the wider community. It is this latter category of 'behavioural market failures' that have caught the attention of public authorities who have sought to apply simple insights from behavioural economics to remediate their negative effects. At its core, this response has amounted to an effort to design instruments of public policy to better fit the behavioural realities of human decision-making.

In this article, we offer a perspective on how behavioural economics can provide valuable insights for public policy in the financial domain. In Section 2 we introduce the concept of behavioural biases and how they can affect the decision-making process. In Section 3 we explore

the impact of behavioural biases in the financial domain. We review the rapid growth in the application of behavioural insights that has taken place across diverse public policy settings in Section 4. Section 5 focuses on the research toolkit available to policymakers to identify and remediate behavioural risks. Section 6 concludes.

2. Behavioural biases and decision-making

How does behaviour influence decision-making?

Behavioural biases occur when normal human thought systematically departs from being fully rational in very specific ways. Biases can be unconscious and emotional, causing people to take action based on their feelings instead of the facts. They can cause people to be inconsistent in their choices, for example, changing their minds when the same decision is presented in a different way, or causing people to misjudge important information. In other words, when making decisions, our thought processes can sometimes lead us to make errors, and these errors can be predictable.

Nobel Laureate Daniel Kahneman provides a useful conceptual framework for thinking about how behavioural biases can arise (Kahneman, 2011). He draws attention to the dichotomy between the brain's fast, instinctive, and emotional processor (referred to as System 1), and the slower, more rational, and deliberative mental processor (System 2). Behavioural biases are said to arise from the dominance of System 1 in certain decision-making processes, forcing an individual's decision to deviate from their true underlying preference, often in ways that can be to the detriment of the decision-maker.

Traditional microeconomic models tended to assume that individuals operated in a perfectly rational way, making decisions based on all available information for the purpose of maximising own welfare. A broad body of evidence now shows that people can make mistakes when faced with a decision, not always opting for the welfare maximising option nor the one that meets their own stated preferences. Furthermore, errors can be systematically related to the context in which they are made – implying that individuals who design the context in which options are presented (the "choice architecture") can influence the decisions that people make (Thaler and Sunstein, 2008). Behavioural economics brings a richer

psychological perspective to economic thinking, helping to understand how and why people make particular decisions. Insights from behavioural economics are thus now widely used to assist public-policy making across a range of policy areas (discussed further in Section 4).

Why does it matter?

Behavioural biases tend to be systematic, which means they can be detectable and predictable. They can cause people to be susceptible to manipulation and influence, in ways which can further undermine a person's welfare (by way of so-called 'negative nudges').² For example, several studies find evidence of the framing effect – when our decisions are influenced by the way that information is presented (Kahneman and Tversky, 1979). Similarly, studies show that individuals often stick with default options, even if better alternatives are available.³

As well as causing harm at the individual level, behavioural biases can also have consequences for the wider community. An important lesson for post-crisis financial regulation has been the increased recognition that systems can be much more than the sum of their parts (Lautenschläger, 2018). This is true also in the domain of harms arising from behavioural biases. An individual decision making error can carry with it an 'externality', or spillover cost that is not directly incurred by the decision maker. Indeed, Lunn (2014) finds evidence that the roots of the Irish 2008 / 2009 financial crisis were linked, among other things, to behavioural factors whereby the inability of individuals in financial markets to make sound decisions had wider implications on financial stability.

Finally, the presence of behavioural biases can mean that instruments of public policy aimed at informing and engaging consumers may not be as effective in achieving their objectives as they could be, if they do not account for the realities and complexities of human decision-making.

² As outlined by Thaler and Sunstein (2008), a nudge is any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives.

³ Keys et al. (2016) show households can lose out on substantial savings by sticking with existing mortgage products and failing to refinance when interest rates decline.

3. Behavioural biases in the financial domain

While behavioural biases can affect all types of decisions, their impact in the financial domain can be particularly acute. Modern financial decisions have become increasingly complex, with diverse options to choose from and novel platforms over which to make decisions. In addition to decisions relating to traditional financial products such as savings accounts and mortgages, for example, households today are presented with a growing array of new financial technology, and innovative product options, relating for instance to payment solutions, investment, or retirement planning. For many consumers, these decisions represent ‘one-shot’ games, where the stakes are high, where choices are typically not revisited after a decision is made, and where the opportunities for adaptive learning from repeated interactions are limited.

At every stage of the financial product life cycle, there is the potential for behavioural obstacles to impair household financial management and to expose consumers, institutions, and the broader financial system to risks. The kind of products we choose, and when we choose them, can be influenced not only by objective suitability but also by behavioural characteristics. These include characteristics like a tendency towards procrastination, so that we push out an action that could be completed today, or by impulsivity, where we sign up to a product on impulse, perhaps without doing a thorough evaluation of its appropriateness for our needs. How and whether we engage with a financial provider or advisor can also be influenced by characteristics such as inertia, short-sightedness, and other psychological barriers as much as by rationality.⁴ Similarly, how we manage our financial products after we have chosen them - the way we repay our credit card debt; whether we switch provider; and how we allocate investment portfolios, - for example, are all decisions that are vulnerable to the costly intrusion of behavioural biases. We provide extra detail on five specific types of bias with respect to individual’s financial decisions in Table 1, with reference to specific examples from the behavioural economics literature.

⁴ Inertia can be defined as the tendency to stick with a previous decision regardless of the outcome. Short-sightedness is an inability to view long term implications, opting to focus on short-term outcomes.

Table 1: Behavioural biases in the financial domain, select examples

Bias	Description	Financial Product Example
Status Quo	<p>This is the tendency to stick with the status quo, even when doing so may be financially disadvantageous if rationally weighed against alternative options. Consumers may stay in financial situations that are sub-optimal, or even damaging to their welfare, as a result. Status quo bias may apply, for example, when a consumer does not switch away from their current financial provider or product, even if it would be advantageous to do so. Central Bank research by Byrne et al. (2020) shows low switching activity in the Irish mortgage market, despite the significant savings available to consumers if they were to switch^{5,6}. The Central Bank's recent review of differential pricing in insurance markets illustrated that loyalty to a provider can be penalised by 'price walking' over time. The study found that a year 9 renewal customer paid, on average, 32 per cent more for home insurance than a year 1 renewal with the same cost of service (Central Bank, 2021). Kempf and Ruenzi (2006) illustrate the presence of status quo bias in the US mutual funds industry. They show how the tendency for individuals to choose a previously selected option increases in line with the number of options available even when it is not the optimal choice (the effect if there are more than 100 alternatives is three times as large as if there are only less than 25 alternatives).</p>	<ul style="list-style-type: none"> • Switching financial products / providers • Pension auto enrolment
Present Bias	<p>This is when we attach a disproportionate importance to payoffs that occur sooner when compared to those that occur in the future. The design of products such as payday loans can exploit present-biased preferences in borrowers. Research has shown that this form of high-cost borrowing is used despite the availability of cheaper credit (Agarwal et al. 2009). King and Singh (2018) show that present biased consumers are more likely to choose costly cashback mortgages.</p>	<ul style="list-style-type: none"> • Payday loans • Pension contributions • Savings • Teaser rates
Loss aversion	<p>Loss aversion refers to the tendency to weigh more heavily the cost of a given loss as against the benefit of an equivalent gain. It has been shown to affect decisions in the insurance domain, where, for example, Sydnor (2010) finds a high level of risk aversion to low-level financial loss in the home insurance market. On average, consumers who are only required to pay small amounts toward an insured loss paid five times more in additional premiums than what the actual insurance was worth. Consumer perception of the chance of experiencing financial loss can be biased by rare events, resulting in a willingness to pay a higher premium for the security that insurance provides. Loss aversion also helps to explain the disposition effect, where investors tend to hold on too long to assets that have lost value, reluctant to realise the loss, while having a greater likelihood of selling 'winners' (demonstrated for instance by Weber and Camerer (1998)).</p>	<ul style="list-style-type: none"> • Insurance Products • Investment Holdings

⁵ The research shows that three in every five eligible mortgages stand to save over €1,000 within the first year if they switch, and more than €10,000 over their remaining term.

⁶ In limited circumstances, status quo bias can be used to positive effect. Madrian and Shea (2001), for example, showed participation rates in pension plans for newly hired workers in the US increased by 37 per cent when employees were automatically opted-in to pension plans.

Framing	<p>Framing refers to the act of influencing decisions by the manner in which options are presented. While traditional economic theory assumes consumers are able to process complex financial information, evidence shows that they experience difficulty in assessing the benefits and risks associated with certain products (Barr et al, 2009). As consumers appear to have limited attentiveness with which to review information, the manner in which information is presented can dictate consumer choice. Consumers can be misled, giving institutions a motivation to manipulate this bias by concealing the true cost of a product. One US study showed that credit card companies targeted less-educated customers with letter designs to encourage more back-loaded fees (e.g., lower introductory rates but higher late and over-limit fees) compared with letters sent to better educated customers (Ru and Schoar, 2016). In another context, FCA (2014) show how presenting annuities and other pension pot drawdown strategies under different frames can significantly influence relative preferences for these retirement income products.</p>	<ul style="list-style-type: none"> • Credit card repayments • Teaser rates • Cashback offers
Overconfidence	<p>This is when the feeling of confidence in our ability or in a particular outcome is excessive relative to our actual ability or the true probability of outcome occurrence. It can emerge when estimating the probability of positive outcomes taking place and the ability to deliver the correct outcome across challenging decisions. This can be observed in stock investment behaviour when traders attribute poor performance to being unlucky and good performance to skill. Research shows that individual investors are inclined toward this behavioural bias and as a result make trading mistakes (Chen et al. 2007). This evidence highlights that not only do investors trade too often but they also hold under-diversified portfolios, exposing themselves to market volatility. In a study among Dutch retail investors, Kramer (2016) shows that confidence in one's own financial literacy is negatively associated with asking for financial advice, in a manner that is not related to actual underlying expertise.</p>	<ul style="list-style-type: none"> • Investment portfolio selection • Financial advice

The examples listed above represent just some of the common behavioural biases that can pose risk within the domain of financial decision-making. The impact of these biases can compound the effect of more traditional impediments such as a lack of transparency, lack of experience, knowledge or financial literacy on the part of a consumer. More broadly, the interaction of these behavioural biases with complex features of financial products can make it difficult to successfully navigate the financial landscape, and easy to incur losses (Lunn et al., 2016). It is clear that, despite advances in the field, further analysis is required to address the predictable behavioural pitfalls that lead consumers systematically into costly errors.

4. Global applications of behavioural insights

Scale and range

Today, the OECD puts at 202 the growing number of institutions around the world that are applying behavioural insights to public

policy (OECD, 2021).⁷ The application has been broad across sectors - as well as its application to financial regulation, lessons from behavioural economics have also been applied to enhance health, education, energy, and environmental policy and outcomes. In addition to this horizontal spread across sectors, behavioural insights are now permeating vertically by their adoption at all levels of public administration, from supranational to local levels of governance. These initiatives have typically involved simple targeted interventions aimed at helping people to overcome identified behavioural obstacles and to avoid predictable and costly decision-making errors.

Behavioural initiatives within government

Reflecting the accumulation of a large body of evidence speaking to the ability of behaviourally-informed policy responses to deliver meaningful impacts in addressing challenges in public policy, more and more government departments and public authorities around the world are embedding their own behavioural units to inform effective policy and deliver better outcomes.

Most notably, the UK Government established the Behavioural Insights Team (BIT) in 2010 with a mandate to make public services more cost-effective and easier for citizens to use, improving outcomes by introducing a more realistic model of human behaviour to policy, enabling people to make 'better choices for themselves' (HM Government, 2010). By the end of 2018, the BIT had run more than 780 projects in dozens of countries (BIT, 2019).

Similarly, in 2015, President Obama used an Executive Order to direct federal agencies to integrate behavioural insights into their programmes, and established the Social and Behavioural Sciences Team (SBST).⁸ Within its first year, the SBST had built 12 behaviourally-informed projects to improve existing federal programmes ranging from college access to criminal justice reform (Thaler, 2015; SBST, 2016).

The Behavioural Economics Team of the Australian Government (BETA) was established in 2016 with a mandate to apply and

⁷ In 2016, the European Commission undertook a survey of cases across 32 countries in Europe and collected over 200 initiatives where behavioural insights were applied to policymaking.

⁸ [Executive Order 13707](#)

rigorously evaluate behavioural insights for public policy and administration. Since its establishment, BETA has completed 16 behavioural trials, worked with more than 30 partners, and delivering an estimated AUS\$25 million in direct benefits to the government each year (BETA, 2019).

Similar behavioural insights units are now a normal part of central government and the delivery of public services in many other countries around the world, including, for example, France, Germany, Denmark, the Netherlands, Canada, Singapore, and Peru (Afif et al., 2018).

Behavioural insights have also been applied in the financial regulation domain, with the Financial Conduct Authority (FCA) in the UK at the forefront of delivery (Erta et al, 2013). The FCA has implemented and published results from a range of behaviourally-informed projects designed to test remedies to identified harms arising in regulated product markets, including savings accounts, credit cards, home and car insurance and retirement annuities, for example. Other financial regulators have followed suit, seeing merit in using behavioural economics to help them better discharge their statutory responsibilities. These include the Dutch Authority for Financial Markets (AFM), the Australian Securities and Investments Commission (ASIC), the Italian financial markets regulator (CONSOB), and Spain's National Securities Exchange Commission (CNMV).

The range of noted examples illustrates the broad and successful integration across jurisdictions and mandates of behavioural insights within the ordinary course of public policymaking.

Notable examples in the financial domain

'Save More Tomorrow' represents one such case in the United States, aimed at helping people to overcome problems in self-control, present bias and procrastination, which weigh against adequate financial provisioning for retirement over their working lives. Through this initiative, participants voluntarily pre-commit to incrementally increasing their pension contributions with each future pay rise. The participant experiences no drop in take-home pay today, but a reduction in future take-home pay, which is less acutely felt. While participants are free to opt out, a tendency to stick

with the default (Status Quo bias) in this case facilitates the automatic fulfilment of the retirement savings plan and the avoidance of ongoing mental effort costs. The core design features of the scheme were incorporated into US law in 2006 as part of the Pension Protection Act. The scheme is estimated to have already helped over 15 million Americans to significantly boost their savings rate.⁹

Regulatory reform in Australia adopted in 2011, similarly sought to apply lessons from behavioural economics to ensure more effective regulation of consumer credit. A series of measures was adopted to assist households to better manage their credit card debt. These included a ban on providers contacting borrowers to offer unsolicited credit limit increases, in an effort to counter self-control problems as well as optimism-bias on the part of the borrower in relation to their capacity to repay extra debt in the future (Ali et al., 2012). Additionally, providers were required to ‘unbundle’ complex pricing structures designed to attract new customers with temporarily low introductory interest rates, thereby targeting the present bias that may induce borrowers to choose products that represent poor value for money over the longer-term.

Irish applications

In Ireland, behavioural economics has also established a firm footing in the public policymaking process. In 2016, the Irish Government Economic Evaluation Service documented 13 separate behavioural economics projects undertaken by seven government departments in areas ranging from health, social protection, and agriculture, to justice, foreign affairs and revenue (Purcell, 2016). The challenges addressed have included the reduction of non-attendance at group information sessions, closing the completion gap of land registration in Ireland, increasing filings from late income tax returns, and encouraging farmers to meet nitrate emission regulations. Separately, the Economic and Social Research Institute (ESRI) and its dedicated Behavioural Research Unit has been instrumental in driving forward the application of behavioural science to policymaking in Ireland over the past decade. A broad range of techniques have been used across these projects, including, for example, the personalisation and simplification of communications to

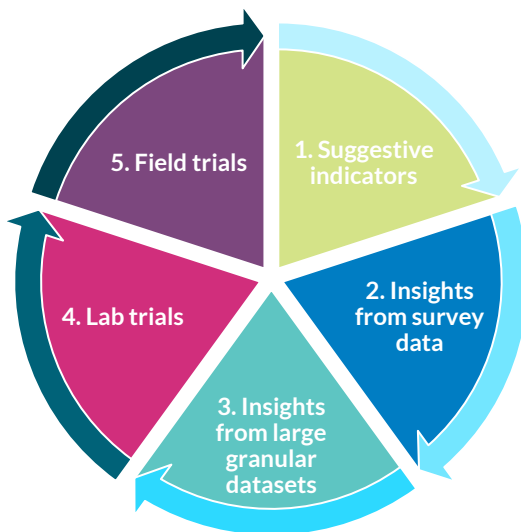
⁹ <http://www.shlomobenartzi.com/save-more-tomorrow>

elicit greater consumer engagement, increasing the salience of certain features to draw attention to the most pertinent aspects of a decision, changing the way in which options are framed and the use of reminders.¹⁰

5. Toolkit for behaviourally-informed policymaking

Policy challenges can stem from a variety of causes, which may interact in complex ways. Policymakers seeking to apply techniques from behavioural economics to address a policy challenge must first isolate the behavioural component of the problem, as distinct from other explanatory factors, insofar as is possible. To do this, and to address, if appropriate, problems that arise from the impact of behavioural biases, policymakers have a range of tools at their disposal. Figure 1 provides an overview.

Figure 1: Toolkit to diagnose and address behavioural effects



In the first instance, the impact of behavioural biases on a particular outcome could be suggested by data points or indicators. These include, for example, cases where consumers report confusion or misunderstanding in relation to products, where they report regret in

¹⁰ For instance, in a trial, which randomly assigned 15 per cent of intended recipients of a mailed survey to a group whose letter contained an additional personalised post-it note, the Office of Revenue Commissioners found that they could lift response rates from 22 per cent to 42 per cent after 35 days (Kennedy, 2013).

relation to advertised services and realised outcomes, or where consumers exhibit behaviour that is manifestly at odds with common sense, contradictory relative to other choices, or inconsistent over time (Campbell et al, 2011). These factors are not exhaustive, and they do not provide conclusive evidence of the presence of behavioural biases. They are, however, examples of the kinds of observable indicators that could indicate the presence of consumer risks that might warrant closer investigation.

Further, and more targeted, insights can be gathered through household / consumer surveys. A vast array of simple and sophisticated methods now exist for the elicitation of behavioural characteristics by survey. Using these methods, it is possible to associate a tendency to behavioural biases to particular decisions and outcomes. In so doing, surveys can help to confirm the behavioural dimension of an issue as distinct from other contributory factors that may be at work.¹¹

The analysis of granular datasets can provide another option for policymakers to locate and diagnose issues that arise in regulated markets from behavioural biases. While not providing the same depth of insight that may be possible through direct surveys, regularised and structured datasets can facilitate consistent monitoring of markets, identification of emergent patterns and problems, and crucially, they can assist in estimating the scale of adverse impacts. In one example, Hastings and Shapiro (2018) combined administrative and transaction-level data from a large grocery retailer to observe evidence of mental accounting among recipients of nutritional benefit vouchers in Rhode Island – the behavioural phenomenon whereby people treat money differently depending on its origin and intended use, rather than thinking of it as fungible. Mental accounting also helps to explain why people exhibit a greater willingness to pay for products and services when payment is by credit card rather than by cash (Prelec and Simester, 2001), or the ‘co-holding puzzle’, whereby individuals neglect to pay off high-interest credit card debt while simultaneously holding deposits in low-interest yielding savings accounts (Gathergood and Weber, 2014).

¹¹ For a useful review of survey-based elicitation of 17 behavioural factors, see Stango et al. (2017).

However, randomised controlled trials (RCTs) are the most powerful tool at the disposal of policymakers wishing to gain insight into the drivers of individual behaviour, and to obtain reliable evidence in relation to the relative effectiveness of alternative potential policy remedies. RCTs are carried out with a sample of people making decisions in the particular population of interest. They directly test whether proposed remedies actually work, but equally, are the most effective tool to help policy makers understand which interventions do not work.

In RCTs, participants are divided into two or more groups, with one group (the control group) receiving the standard treatment and so acting as an analytical benchmark. The other group (the treatment group) receives a new intervention. The groups are chosen to be similar prior to the intervention so that any observed difference in behaviour after the intervention can be precisely attributed to the intervention being tested. RCTs are thus considered the strongest method to provide causal evidence on how policy interventions will affect consumer behaviour (Haynes et al., 2012).

RCTs can be conducted in the lab (i.e. with volunteering participants in an artificial environment with a controlled set of information and rules), or in the field (i.e. with a sample of participants making decisions in real life). Each format has its own advantages and disadvantages, and which method is preferable will always depend on the particular context and question under evaluation. Lab trials offer the capacity to test specific mechanisms in a controlled, closely observed environment, usually at a smaller scale and more quickly than can be achieved in the field. However, lab trials can be less reliable in terms of their external validity (i.e. providing an evidential basis for what might be observed in a real-world environment). Field trials, by contrast, generally offer the most realistic and robust basis to evaluate how a proposed intervention actually works in the real world, but typically require a greater investment of resources, and as such, may not always be the most suitable tool to apply in a given circumstance.

Behaviourally-informed trials can be used to pre-test policy options, essentially producing evidence on the likely impact of a policy prior to its roll-out. Of 159 OECD surveyed cases where behavioural insights were applied to policymaking, well over half involved an

RCT, pilot test, laboratory experiment, or online experiment (OECD, 2017). Of the over 780 behaviourally-informed projects run to date by the Behavioural Insights Team, 400 have involved an RCT (BIT, 2019). This method of pre-testing allows policymakers to first obtain empirical evidence to demonstrate whether a ‘positive nudge’ intervention is likely to be effective before rolling it out for the target population at large, and also to understand what precise version might be most effective.

One powerful example that demonstrates how pre-testing of policy solutions using an RCT can be particularly fruitful comes from the FCA. The FCA sought to identify the most effective means of encouraging customers to seek redress for mis-sold financial products. Working with a firm that was writing to 200,000 customers inviting customers to claim redress, the FCA designed seven amendments to the standard customer letter. These amendments included an urgency message (urging recipients to ‘act quickly’), reducing the amount of text by 40 per cent, using salient bullet points for key information, and the issuance of a reminder. Results of the trial found that the most effective approach involved combining salient bullet points with a reminder, increasing response rates by 800 per cent relative to the control group (equivalent to an additional 20,000 customers claiming redress due). This exercise provided valuable insights to the FCA in stipulating the shape of future redress schemes, to more effectively vindicate the interests of consumers (Adams et al, 2013; OECD, 2017).

Conclusion

It is now widely recognised that human behaviour deviates frequently and systematically from an assumed rational state. Far from the traditional depiction of fully rational utility maximisation, our decision-making can be driven equally by emotional and psychological factors, features of our choice environment and cognitive shortcuts. While these influences are not necessarily wholly negative, in some settings they can lead us into systematic and costly errors.

Since the influence of behavioural biases is systematic, their impact can also be predictable, and because of the helpful insights available from the large and growing literature on behavioural economics, they can also be remediable. This recognition has prompted an increasing

number of public authorities to incorporate the lessons of behavioural economics for more effective policymaking. These applications support the principle of evidence-based policymaking, but more importantly, reflect the reality of human decision-making in the public policy sphere.

In the financial domain, behavioural insights offer great potential to give a richer understanding of how people navigate an increasingly complex product landscape. The Central Bank has recently published its new Strategy document outlining the core strategic theme of being a future-focused organisation¹². Insights from behavioural economics can be used to advance our capabilities in analysis and research on economic and financial issues through innovation in our ways of working. To this end, the Central Bank has established a small team, dedicated to the uses of behavioural economic insights and techniques to better understand how and why people make financial choices, with a clear focus on the role of behavioural factors. Initial work by the team has explored mortgage switching (Byrne et al, 2020) and differential pricing (Byrne and McCarthy, 2020). Looking forward, the unit will focus on selected areas, and where appropriate, use the latest techniques available within the behavioural toolkit to help provide evidence for effective policy design while complementing other analytical approaches.

¹² <https://www.centralbank.ie/docs/default-source/publications/corporate-reports/strategic-plan/our-strategy/central-bank-of-ireland-our-strategy.pdf?sfvrsn=4>

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