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# Behavioural economics and financial market regulation: practical policy, rigorous methods

**Behavioural economics helps us to understand how consumers make choices and why they make choices that are not in their best interests. This allows firms and regulators to diagnose behavioural problems in markets and to design and test solutions. Stefan Hunt and Darragh Kelly, of the Behavioural Economics and Data Science Unit at the UK Financial Conduct Authority (FCA), discuss how the FCA is using innovative methods to build real evidence on consumer behaviour into policymaking and make financial regulation more effective**

Consumers—i.e. all of us—are 'predictably irrational'.[1] It follows that we make mistakes when choosing and using financial products, and may suffer considerable losses as a result. This is sometimes caused by how firms, intentionally or otherwise, design their product or present it to us. Behavioural economics brings insights from psychology and other behavioural sciences into an economic framework to explain why consumers behave the way they do. Consumers may sometimes misjudge important facts or make choices that are predictably mistaken, for example by sticking to a default setting if they are opted in to a specific product feature.[2] By using behavioural economics, we can understand how these decisions arise, why they persist, and what we can do to ameliorate them.

Choosing the right financial product may sometimes be difficult because of the complex and risky nature of financial products and the limited scope to learn from experience. For example, choosing a retirement income product is often a one-off decision with consequences revealed only after a long delay. This raises the prospect of firms designing business models that do not work well for consumers.[3] Importantly, market forces left to themselves may not work to protect consumers from adverse outcomes, opening a potential role for active consumer protection policies.[4] A recent example of such a business model that did not work well for consumers was that involving payment protection insurance (PPI), as summarised in the box.

Behavioural economics offers new perspectives on regulatory interventions. These include 'nudges', which are small prompts that, if designed well, have low costs and can lead to better decisions by consumers without restricting choice.[5] Providing information and changing the choice environment can be nudges. As these less interventionist measures do not constrain consumer choice, they are preferable to other means of regulation if they are effective in helping consumers. Consumer psychology is nuanced, however, and specific interventions can succeed or fail based on small details. Interventions should therefore ideally be tested in practice before implementation, although this may not always be possible.

**Example: payment protection insurance**

Firms were able to earn large profits on PPI products because many buyers misunderstood PPI pricing and did not shop around for better offers at the point of sale. High PPI prices allowed sellers to attract more customers by offering credit at cheaper rates (which consumers focused on when shopping around). As a result, no firm had an incentive to advertise that PPI was a poor product for many people and charge appropriate interest rates and PPI prices. This would have made the firm's credit more expensive and the firm uncompetitive. Intervention was needed to solve this problem.

For more details on the behavioural economics literature and what it means for retail financial regulation, see Erta, Hunt, Iscenko and Brambley (2013).[6]

## Randomised controlled trials at the FCA

Diagnosing behavioural issues naturally requires evidence and analysis. This evidence could include a combination of theory, existing empirical evidence and creating new empirical evidence, for example by using randomised controlled trials (RCTs). In RCTs, individuals are randomly assigned to a 'control' group that is then compared with a

'treatment' group. The causal effect of a treatment can be accurately estimated without bias by comparing outcomes in the two groups. An RCT can deliver clear and unambiguous results, which makes it a valuable regulatory tool for diagnosing behavioural problems in financial markets and for testing which interventions will work in practice. A recent example of an RCT conducted at the FCA tested the effects of reminding savers to act when high introductory interest rates ended, as described in the box below.

RCTs can also provide insights into how different types of consumer react to treatments. In some cases, the firms we worked with conducted large-scale trials that allowed for analysis of heterogeneous treatment effects—i.e. different treatment effect sizes for different consumer sub-populations.[7] The next steps could include using 'machine-learning methods'—a data-driven approach—for estimating heterogeneous treatment effects to better understand which types of intervention resonate with different consumers.[8]

The FCA Occasional Paper series in part contributes to a programmatic effort to establish real evidence on consumer behaviour across financial markets. The increasing evidence base acquired by using RCTs en masse can be directly drawn on to solve behavioural problems. The FCA spearheads the use of RCTs as tools to establish empirical evidence on real consumer responses to financial regulation.

**Example: reminding savers to act when rates decrease**

In January 2015, an FCA Market Study found that a significant amount of consumers' savings balances were held in old accounts that paid low interest rates compared with new accounts. Consumers who take out savings accounts with high introductory interest rates often do not switch when the rates end, despite an initial desire to do so. Using an RCT, the FCA worked with a firm to test the effects of sending different reminder letters to encourage consumers to switch savings accounts when high introductory interest rates ended. They found that sending reminders had a marked impact: it caused switching to increase by 5.6 to 7.9 percentage points 20 weeks after the rate decreased. The timing of the reminder had an effect on the type of switching: those who received a reminder before the rate decrease were more likely to switch 'externally' (to a product offered by another provider) whereas those who received a reminder after the rate decrease were more likely to switch 'internally' (to a different product offered by their current provider). The research indicates that improved disclosure can encourage consumers to act when it is beneficial to do so, which can also have positive implications for competition. The full results of the trial can be found in Adams, Hunt, Vale and Zaliauskas (2015).[1]

[1] Adams, P., Hunt, S., Vale, L. and Zaliauskas, R. (2015), 'Stimulating Interest: Reminding Savers to Act when Rates Decrease', FCA Occasional Paper 7.

## Rigorous methods in practice

Although using RCTs is often desirable, they may not always be practical to implement or produce results that are externally valid. For example, they may have limitations when it comes to directly analysing the broader context of the market, including how firms compete, what other market and regulatory failures are present, and how consumer behaviour interacts with these factors.

There are many other methods for gathering empirical evidence on consumer behaviour. Under certain conditions, data on consumer choices can be directly used to infer causation from previous regulatory initiatives or other events without the need for a controlled experiment. By identifying naturally occurring sources of variation where the outcome of interest is changed while other factors are held constant, impacts can be accurately estimated. These methods include regression discontinuity (see the FCA's technical annexes on setting the price cap on payday lending in 2015),[9] difference-in-differences analysis (see the example in the box below), surveys[10] and lab trials,[11] and may increasingly include data science techniques. These approaches can also be of benefit to firms seeking to design sustainable products and processes that help consumers make good decisions.

**Example: the impact of annual summaries, text messages and mobile banking apps**

In the context of a potential Competition and Markets Authority (CMA) market investigation into personal current accounts, the FCA wanted to understand the impact of previous initiatives that were designed to help consumers manage their personal current account. Using a natural experiment with data from two large banks, including granular data on 500,000 customers from one bank, the research showed that annual summaries had no effect on consumer behaviour in terms of them incurring overdraft charges, altering balance levels or switching to other current account providers. In contrast, signing up to text alerts or mobile banking apps reduced the amount of unarranged overdraft charges incurred by 5 to 8 percentage points, and signing up to both services has an additional effect, resulting in a total reduction of 24 percentage points. The additional impact of the combination of both services shows the benefit of receiving information upon automatic triggers, without having to actively acquire it, as well as having the facility to act quickly upon receiving information. The full results of the trial can be found in Hunt, Kelly and Garavito (2015).[1]

[1] Hunt, S., Kelly, D. and Garavito, F. (2015), 'Message Received? The Impact of Annual Summaries, Text Messages and Mobile Apps on Consumer Banking Behaviour', FCA Occasional Paper 10.

## Conclusion

When analysing markets, it is important to use carefully designed analysis of the underlying drivers of consumer demand and firms' supply-side reactions. A variety of tools can build rigorous evidence on consumer choices in financial markets, including RCTs, natural experiments, and potentially data science techniques. The FCA has made significant headway in building rigorous evidence on consumer behaviour in the last few years, but there is still much scope for further research that will ultimately lead to better outcomes for consumers in financial markets.

**Stefan Hunt and Darragh Kelly**

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The views in this article are those of the authors and do not necessarily represent those of the FCA.

[1] Ariely, D. (2009), *Predictably Irrational: The Hidden Forces that Shape Our Decisions*, HarperCollins.

[2] Thaler, R. and Sunstein, C. (2008), *Nudge: Improving Decisions about Health, Wealth, and Happiness*, Yale University Press.

[3] DellaVigna, S. and Malmendier, U. (2006), 'Paying Not to Go to the Gym', *American Economic Review*, **96**:3, pp. 694–719. Gabaix, X. and Laibson, D. (2006), 'Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets', *Quarterly Journal of Economics*, **121**:2, pp. 505–40. Heidhues, P. and Kőszegi, B. (2010), 'Exploiting Naïvete about Self-Control in the Credit Market', *American Economic Review*, **100**:5, pp. 2279–303.

[4] Heidhues, P., Kőszegi, B. and Murooka, T. (2012), 'Deception and Consumer Protection in Competitive Markets', Konkurrensverket.

[5] Thaler, R. and Sunstein, C. (2008), *Nudge: Improving Decisions about Health, Wealth, and Happiness*, Yale University Press.

[6] Erta, K., Hunt, S., Iscenko, Z. and Brambley, W. (2013), 'Applying Behavioural Economics at the Financial Conduct Authority', FCA Occasional Paper 1.

[7] The large sample sizes grant sufficient statistical power to analyse heterogeneous treatment effects.

[8] Athey, S. and Imbens, G. (forthcoming), 'Machine Learning Methods for Estimating Hetergeneous Causal Effects'.

[9] See Financial Conduct Authority (2014), 'Technical Annexes: Supplement to CP14/10', July.

[10] Hunt, S., Stewart, N. and Zaliauskas, Z. (2015), 'Two Plus Two Makes Five? Survey Evidence that Investors Overvalue Structured Deposits', FCA Occasional Paper 9.

[11] Iscenko, Z., Duke, C., Huck, S. and Wallace, B. (2014), 'How Does Selling Insurance as an Add-on Affect Consumer Decisions?', FCA Occasional Paper 3.