

# **Applying behavioural economics at the Regulatory Conduct Authority**

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## Foreword

Quis custodiet ipsos custodes: who regulates the regulators? The answer is: the Regulatory Conduct Authority (RCA).

A rapidly growing literature on behavioural economics shows that some errors made by consumers are persistent and predictable. Regulators have drawn the conclusion that behavioural economics enables them to intervene in markets more effectively, and in new ways, to secure better outcomes for consumers.

The same literature shows also that some errors made by regulators are persistent and predictable. Behavioural economics therefore enables the RCA to intervene in regulation more effectively, and in new ways, to secure better outcomes for regulators. The RCA commends this Paper to regulators and policy makers in the UK and elsewhere.

### Acknowledgement

This Occasional Paper from the RCA takes its lead, quite literally, from

Kristine Erta, Stefan Hunt, Zanna Iscenko, Will Brambley, *Applying behavioural economics at the Financial Conduct Authority*, Occasional Paper No. 1, April 2013, available at <http://www.fca.org.uk/static/documents/occasional-papers/occasional-paper-1.pdf>

We are grateful to Professor Stephen Littlechild, former Director General of Electricity Supply, for assistance in editing this Paper.

### What others are saying

"The RCA is to be congratulated on this Paper, which should be on the desk of every regulator. If only I had known all this when appointed to Ofwat." Sir Ian Byatt, former Director General of Water Supply.

"In this important year for Scotland, the RCA's Paper offers an interesting way forward for regulation." Alan Sutherland, Chief Executive, Water Industry Commission for Scotland.

"There is a lot of wisdom in this RCA Paper, the Treasury should study it carefully." Sir Steve Robson, former Second Permanent Secretary, HM Treasury.

"This RCA Paper provides important lessons for Australia, especially at this time when economic regulation is subject to extensive review." Ed Willett, former member ACCC.

"This RCA Paper perfectly complements the Regulator Audit Framework proposed by Australia's Productivity Commission." Alan Moran, Director, Deregulation Unit, Institute of Public Affairs, Melbourne.

"US regulation has a lot to learn from this fascinating RCA Paper." Dr Mark Jamison, Director, Public Utility Research Center (PURC), University of Florida.

"An expanded toolkit with 'nudges' to prevent regulatory bias is a revelation. As enlightening as the Northern Lights!" Gaétan Caron, Chair & CEO, National Energy Board, Canada.

"All regulators should read this profound Paper from the RCA – it's a gas!" Clare Spottiswoode CBE, former Director General of Gas Supply.

"Incroyable! Plus ça change, et plus c'est la même chose...." Professor Jean-Michel Glachant, Director of the Florence School of Regulation.

## Executive summary

Regulators often make errors when choosing and implementing policies, and can suffer considerably as a result. Using behavioural economics we can understand how these errors arise, why they persist, and what we can do to ameliorate them.

Behavioural economics uses insights from psychology to explain why regulators behave the way they do. Regulators do not always make choices in a rational and calculated way. In fact, most human decision-making uses thought processes that are intuitive and automatic rather than deliberative and controlled.

Academic literature identifies ‘behavioural biases’—specific ways in which normal human thought systematically departs from being fully rational. Biases can cause regulators to misjudge important facts or to be inconsistent, for example changing their choices for the worse when essentially the same decision is presented in a different way. In other words, our normal human thought processes can lead us to make choices that are predictably mistaken.

Regulators left to themselves will often not work to reduce these mistakes, so supervision of regulation may be needed. While it is common sense that people make mistakes, behavioural economics takes us beyond intuition and helps us be precise in detecting, understanding, and remedying problems that arise from regulatory mistakes. Integrating behavioural economics into regulation can therefore help regulators be more effective.

This paper has two parts. In Part I we summarise the main lessons from behavioural economics for regulation:

- how regulators make predictable mistakes when choosing and implementing policies;
- how firms respond to these mistakes, and
- how behavioural biases can lead regulators to regulate in ways that are not in their interests.

In Part II we describe how behavioural economics can, and should, be used in regulation.

## Part I: Lessons from behavioural economics

### Why are there more behavioural problems in retail regulation?

For a number of reasons, regulation of retail products and services is particularly prone to errors:

- **Retail products are inherently complex for most regulators.** Retail products are sometimes abstract and intangible and often have many features and complex charging structures. This contrasts with more basic products, such as provided by networks, where regulators can easily understand what they are doing and the product has a single, simple price. Faced with complexity, regulators can simplify decisions in ways that lead to errors, such as focusing only on prices and neglecting product and process innovation.
- **Many products involve trade-offs between the present and the future.** Often regulators make decisions against their long-term interest because of self-control problems.
- **Decisions may require assessing risk and uncertainty.** Regulators are generally bad (even terrible) intuitive statisticians and are prone to making systematic errors in decisions involving uncertainty. So they often misjudge probabilities and make poor decisions about investments.
- **Decisions can be emotional.** Stress, anxiety, fear of losses and regret, rather than the costs and benefits of the choices, can drive decisions.
- **Some products permit little learning from past mistakes.** Some decisions, such as setting a price control, are made infrequently, with little learning from others, and with consequences revealed only after a long delay.

### Which biases affect regulatory decisions?

To identify and correct mistakes we need to be able to detect biases. The table below lists the most relevant biases for retail regulation, categorising biases according to how they affect decisions:

- **preferences** (what regulators want);
- **beliefs** (what regulators believe are the facts about their situation and options); and
- **decision-making** (which option gets regulators closest to what they want, given their beliefs).

**Ten behavioural biases and effects in retail regulation**

<p>Our <b>preferences</b> are influenced by emotions and psychological experiences</p>	<p>Rules of thumb can lead to incorrect <b>beliefs</b></p>	<p>We use <b>decision-making</b> short-cuts when assessing available information</p>
<p><b>Present bias</b> e.g. introducing a new regulation for immediate gratification</p> <p><b>Reference dependence and loss aversion</b> e.g. believing that an additional obligation added on to an existing regulation is not costly because the existing regulation is very extensive</p> <p><b>Regret and other emotions</b> e.g. over-specifying regulatory requirements for peace of mind</p>	<p><b>Overconfidence</b> e.g. excessive belief in one's ability to identify errors that companies have made, and to specify products that customers want</p> <p><b>Over-extrapolation</b> e.g. extrapolating from just a few years of their own regulatory experience to the future</p> <p><b>Projection bias</b> e.g. imposing a price reduction without considering revenue difficulties that may arise in the future</p>	<p><b>Framing, salience and limited attention</b> e.g. overestimating the value of a regulatory policy because it is presented in a particularly attractive way</p> <p><b>Mental accounting and narrow framing</b> e.g. price control decisions may be made issue-by-issue rather than considering the company's business plan as a whole</p> <p><b>Decision-making rules of thumb</b> e.g. overhead costs may be split equally across all a regulated company's products, rather than making a careful allocation decision reflecting relative strengths of market demand</p> <p><b>Persuasion and social influence</b> e.g. following political advice because a minister would like that</p>

Categorising biases like this helps us consider whether regulators are making mistakes. Errors in beliefs or decision-making can often be clear-cut. For example, regulators may have beliefs about the likelihood of an event that contradict objective probabilities.

But if regulators' preferences are inconsistent (and so not fully rational), it can be difficult to say that these preferences are wrong; they are after all what regulators want, at least at the time. If regulators are not making mistakes, intervening to prevent them from acting on these preferences can make them worse-off.

**How do biases affect the strategies of firms, competition and other problems?**

Firms play a crucial role in shaping regulatory choices. Product design, marketing or sales processes can exacerbate the effects of regulatory biases and cause problems. Firms can respond to the different biases in specific ways. One important response is that firms will tend to increase non-salient prices and decrease salient prices. For example, if regulators tend to under-estimate how much their policies will cost in the future (because of projection bias or overconfidence), firms have an incentive to offer variable price terms instead of fixed price products. Another important response is that firms will tend to withdraw products that regulators find unattractive, even though they might be appealing to customers.

Regulatory biases thus affect competition. They can lead firms to compete in ways that are not in consumer interests, e.g. by offering products that appeal to the regulator because they play to regulatory biases. By restricting and coordinating firm strategies, regulatory biases can also create de facto market power in markets that might appear competitive based on the number of firms alone.

We must be mindful, however, that sometimes firms might not know that their regulators are making mistakes. What looks like deliberate exploitation may actually just be firms responding to observed regulatory demand without realising that it is driven by biases. Regardless of what firms know, in badly functioning markets bias exploitation may be the only way for firms to attract and retain regulatory support and therefore to stay in business.

Behavioural biases can also interact with other regulatory failures like information asymmetries or externalities. They can exacerbate other problems or make regulatory interventions aimed at addressing problems ineffective or even harmful.

## Part II: Applying behavioural economics at the RCA

We have already begun to put behavioural economics into practice, but change will not be instantaneous. Behavioural economics raises important issues for all steps of the regulatory supervision process.

### Figure: Applying behavioural analysis

<b>Questions addressed</b>	
<b>Step 1: Identify and prioritise risks caused by regulators</b>	<ul style="list-style-type: none"> <li>• How can we spot risks of regulatory detriment caused by biases?</li> <li>• How can we prioritise these risks?</li> </ul>
<b>Step 2: Understand root causes of problems</b>	<ul style="list-style-type: none"> <li>• Could regulators be choosing reasonably?</li> <li>• If regulators are biased, what do they truly want and need?</li> <li>• How should we analyse firm-specific issues?</li> <li>• How should we analyse economy-wide issues?</li> </ul>
<b>Step 3: Design effective interventions</b>	<ul style="list-style-type: none"> <li>• What interventions are available to protect customers from regulators?</li> <li>• Should we intervene and, if so, how?</li> <li>• How can we assess the impact of interventions?</li> </ul>

### Step 1: Identifying and prioritising issues

#### How can we spot potential regulatory detriment caused by biases?

Biases are rarely directly observable. Based on evidence on the common mistakes regulators make, we suggest a set of indicators that can help identify where regulatory detriment from mistakes may be particularly high. The indicators highlight potentially problematic regulatory behaviours and policy features. A complementary approach to detecting issues is to identify the true economic function of a policy and then evaluate whether regulators actually adopt the policy for this function, or for another reason.

## How can we prioritise these risks?

We will prioritise risks arising from behavioural biases as with other issues. Size of the problem will obviously drive priority. Behavioural problems can cause less sophisticated regulators to intervene less effectively than others, effectively bringing the more sophisticated regulators into disrepute, so prioritisation also needs to consider these distributional effects.

## Step 2: Understanding root causes of problems

### Could regulators be choosing reasonably? If regulators are biased, what do they truly want and need?

When analysing problems we need to develop possible explanations as to the underlying cause and then build evidence. We must investigate whether regulators are making mistakes, and if so which biases may be the cause. Crucial evidence includes how regulators choose in different settings (e.g. do regulators choose differently as they gain experience?), their awareness of essential policy information and their self-reported needs and objectives.

### How should we analyse regulator-specific issues?

For regulator-specific issues, behavioural insights can inform what dialogue to have with, and what information to gather from the regulator. Qualitative information may be enough, though data on regulatory behaviour may be needed. Establishing whether the policy feature or practice is common to many regulators or economy-wide is important.

### How should we analyse economy-wide issues?

Diagnosing economy-wide issues naturally requires a greater level of evidence. This may include collecting first-hand data using regulatory research, laboratory experiments or field experiments (also called randomised controlled trials, or RCTs). Analysis must consider the broad context of the economy, including how regulators compare, what other market and regulatory failures are present and how regulatory biases interact with these factors.

## Step 3: Designing effective interventions

### What interventions are available to protect regulators?

Behavioural economics offers new perspectives on interventions that the RCA could use, for behavioural and other problems in the market. Ordered from least to most interventionist, there are four ways in which the RCA could solve behavioural problems:

1. **Provide information.** Require regulators to provide information in a specific way or prohibit specific regulatory practices.

**2. Change the choice environment.** Adjust how choices are presented to regulators.

**3. Control policy dissemination.** Require policies to be promoted only through particular channels or only to certain types of licensees.

**4. Control policies.** Ban specific policy features or whole policies that appear designed to exploit, or require policies to contain specific features.

We could expand our toolkit by using more ‘nudges’ — small prompts that, if designed well, have low costs and can lead to better decisions by biased regulators without restricting choice. Providing information or changing the choice environment can be nudges. As these less interventionist measures do not constrain regulatory choice, they are preferable, if they are effective in preventing regulatory mistakes.

Understanding how regulators make decisions can also improve the effectiveness of traditional remedies, such as disclosure.

Regulatory 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, possibly using RCTs. Often regulatory biases are just one part of a problem, and a package of economy-wide measures will be required.

### **Should we intervene and, if so, how? How can we assess the impact of interventions?**

Applying behavioural economics also brings additional challenges. We will have to tackle difficult questions like: what is in regulators’ best interests, where should the limits to regulatory responsibility lie, and how effective are less interventionist measures, such as nudges, or more interventionist measures, such as policy banning?

When choosing between different measures, or no intervention at all, we need to assess their costs and benefits, to the extent that this is practically possible. A wide variety of factors should be considered including (i) whether regulators can circumvent the measure, (ii) negative and positive impacts on innovation, (iii) transfers between different groups of regulators, e.g. the more and the less sophisticated, (iv) the impact on regulators’ incentives to learn and (v) whether the problem is one for the RCA or best left to the Government.

Traditional impact assessment approaches, for example, for estimating benefits to regulators, may need to be adapted when biases are present.

### **Conclusion**

Integrating insights from behavioural economics with traditional market and regulatory failure analysis has much scope for helping the RCA choose the best interventions. Behavioural insights have implications for many functions of the organisation:

- policy – i.e. creating our rules and guidance;
- analysing regulators’ behaviour and policies, and our own behaviour and policies when authorising or supervising regulators;
- building evidence for enforcement cases; and
- shaping RCA and firm communications with regulators.

We believe that the challenges are surmountable and this paper contributes to the foundations for the RCA to undertake wide-ranging, integrated analysis of regulation and then act on the results.