Part I

# Integrating Behavioural Sciences into EU Law-Making

# 2

# *Behavioural Sciences in Practice: Lessons for EU Rulemakers*

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## I. INTRODUCTION

INSIGHTS FROM COGNITIVE sciences may become a turning point for rule-making theory and practice.[1] By showing how people actually make choices, cognitive sciences enable the formulation of rules that may better address the public interest that they intend to pursue. Therefore, cognitive sciences may contribute to rulemaking by reducing the risk of regulatory failure induced by a lack of consideration of behavioural limitations.[2]

According to this approach, this chapter suggests that in regulatory discourse it is preferable to refer to 'cognitive and behavioural limitations' instead of cognitive errors, and to 'unresponsive behaviours' instead of irrationality and bounded rationality. 'Unresponsive behaviours' indicate behaviours that are 'unresponsive' to traditional regulatory interventions, in the sense that they differ from what regulators expect.[3] These behaviours may be due to 'cognitive and behavioural

* This chapter has been conceived and structured in common. However, Sections II, III, III.A, IV.B, and V.A were written by Nicoletta Rangone, and Sections III.B, IV.A, IV.C, and V.B were written by Fabiana Di Porto. Both authors drafted Section I.

[1] Rule-making as employed here is to be understood as referring to sources of law approved at political level, as well as administrative provisions adopted by public administrations through discretionary or technical powers and self-regulation, whenever it is delegated by public powers. What interests us here (what is of interest here) is the regulatory 'content', meaning the ability of rules to directly affect regulatees' activity, production, or organisation. Therefore, rule-making includes both legislation-making and (secondary, implementing) regulation-making.

[2] Although we support the idea that behavioural limitations may give rise to some market failures, we do not agree with R Bubb and RH Pildes, 'How Behavioural Economics Trims Its Sails and Why' (2014) 127 *Harvard Law Review* 1603, in qualifying behavioural limitations themselves as a new category of market failure justifying alone regulatory intervention (see also below in text at section II, C).

[3] ibid. Somehow departing from mainstream behavioural economics, we contend that reactions to rules are difficult to predict and identify even when rulemakers are aware of cognitive and behavioural limitations, because of complexity (several different psychological mechanisms can be at work, not all biases and heuristics are equally spread among the population, etc).

limitations', which in turn are not due to irrationality, in the sense that they are part of the normal behaviour of real people, as determined by brain activity and conditioned by heuristics and biases, personal attitudes, emotional and social contexts, culture, morals, institutional environment, and the interactions among them.

This is why insights from cognitive sciences are so relevant for rulemakers. Our contention is that incorporating insights from cognitive sciences into rulemaking should imply that the context of human learning and individual decision-making should be investigated in order to assess the need for a regulatory intervention in the first place.

Moreover, cognitive insights should be taken into account when designing a regulatory response in a particular context. This may require revisiting traditional regulatory tools (to make rulemakers more aware of possible unresponsive behaviours), as well as creating new strategies, that are therefore named 'cognitive-based'. The latter include two typologies: 'nudging' and 'empowerment'. Although both are based on similar cognitive insights, we contend that while 'nudging' is meant to 'exploit' individual emotional responses, 'empowerment' is aimed at enhancing people's capacity to manage and overcome their emotional responses, in order to adopt deliberately conscious decisions.

Moreover, in order to assess future compliance, it is essential to know what reactions any newly introduced regulation will probably trigger in the real world. And this is all the more true in times of economic distress, when regulators can no longer afford regulatory failure, either economically or socially.

The chapter is organised as follows. First (section II), it establishes how the regulatory process should change in order to allow evidence from cognitive sciences to emerge and then use it. Second (section III), it discusses the impact of cognitive sciences on the regulatory toolkit and sets out the emergence of two regulatory strategies that incorporate cognitive insights, namely 'nudging' and 'empowerment'. Sections IV and V describe in greater detail the characteristics of such strategies by providing typologies and examples. Strengths and weaknesses of both strategies are the core focus of section IV; while we conclude (at section V) by providing some guidelines to rulemakers as far as the choice among different regulatory options is concerned.

## II. COGNITIVE-BASED APPROACH TO THE REGULATORY PROCESS

Cognitive findings about unresponsive behaviours constitute a turning point for rulemaking. As a result, the latter is expected to change in order to let cognitive and behavioural limitations emerge, to use findings about them to avoid regulatory failures and, more generally, to adopt more effective regulations. A cognitive-based approach to regulation imposes a radical change in the rulemaking process and consequently an increase in costs and time. Therefore, these changes should be justified (and necessary) only where there is a 'behavioural element' to a regulated

area,[4] and where such an element is relevant (eg considering the number of people involved or the magnitude of consequences of their limited cognitive capacity). A behavioural element can be said to exist, and cognitive findings are crucial, in two cases: first, whenever the main objective of regulation is a change of individual behaviour (such as food or energy consumption practices, household-waste recycling, transport habits, etc); second, anytime people's behavioural response might hinder the effectiveness of a given regulation (eg information disclosure mandates in stock market regulations are often implemented through long prospectuses that individual investors hardly process or understand).

That said, for the regulatory process to improve, an effort should be made to incorporate cognitive insights into almost all of its phases. Elaborating on the Organisation for Economic Cooperation and Development's (OECD) guidance[5] and on the life-cycle doctrine on policy-making and rulemaking,[6] we suggest the following comprehensive phases for rulemaking: definition of the problem; analysis of the baseline;[7] identification of the objectives; definition of alternative and feasible policy options; evaluation of potential impacts of different policy options (eventually assessed through an RIA); collection of information; reason giving; enforcement; and maintenance (monitoring and revision or abrogation) of the adopted regulation. In the following, we discuss those phases where we deem it useful for regulators to incorporate cognitive findings in the rulemaking process.

### A. Problem Definition

At the earliest stage, the 'definition of the problem' phase is where cognitive insights are crucial. In this phase regulators might want to question whether an existing regulation (the baseline, eg regulation mandating banks to assess customers' risk profiles before investing in securities) did not attain its goals and have led to unresponsive behaviours (eg low income low risk investors keep authorising banks to invest in risky activities), because of regulatees' cognitive and behavioural limitations. In an unregulated area, where there is no baseline, rule-makers might still take advantage of knowing to what extent individuals' cognitive and behavioural limitations affect a given social problem, before deciding whether to intervene or not.

[4] See also R van Bavel et al, *Applying Behavioural Sciences to EU Policy-Making*, JRC Scientific and Policy Reports (Luxenbourg, Publications Office of the European Union, 2013) 6.

[5] See OECD, *Reference Checklist for Regulatory Decision-Making* (Paris, 1995); OECD, *Guiding Principles for Regulatory Quality and Performance* (Paris, 2005); OECD, *Recommendation of the Council on Regulatory Policy and Governance* (Paris, 2012).

[6] M Howlett and M Ramesh, *Studying Public Policy: Policy Cycles and Policy Subsystems* (Oxford, Oxford University Press, 1995); A La Spina and G Majone, *Lo Stato regolatore* (Bologna, Il Mulino, 2000) 103.

[7] Meaning how the defined problem is likely to develop in the future if no new regulation is adopted.

### B. Analysis of the Baseline

Then, when 'analysing the baseline' in regulated areas, the socio-cultural-emotional context of the target population should also be considered. Here, a cognitive-based approach (such as behavioural or neuroscience experiments) would be of special help to clarify how to draft a new regulation (if at all necessary). Where a regulation already exists, such an approach could be useful to understand what went wrong, so as to segment the target population and tease out the groups that were unresponsive to the regulatory intervention. This analysis should be preceded by a literature review on end-users' habits, needs and feelings, characteristics (eg whether they are firms or individuals, expert or naïf, etc) and the social context, a preliminary phase which might help to understand the target population and contribute to the better design of a cognitive experiment.

### C. Objectives

The 'identification of the objectives' that regulators want to attain is a step that should remain their prerogative. By this, we mean that the public interest regulation grasps should never coincide with the aim of preventing or avoiding unresponsive behaviours themselves; or, put in other words, the very presence of such limitations should not per se constitute a market failure justifying regulatory intervention. It follows that only if limitations are so widespread in the target population, that they can cause regulation to fail achieving its goals, can rulemakers give room to cognitive and behavioural considerations.

### D. Policy Options

The 'definition of alternative and feasible policy options', that is the phase where rulemakers identify possible strategies to tackle the problem (including the option not to intervene), might also benefit from a cognitive approach. These options might consist of traditional regulatory tools (such as command and control, disclosure, 'public tutoring' and incentive regulation),[8] which might be 'revisited' to include consideration for cognitive and behavioural limitations. However, these options might also include two new strategies, which bear a 'cognitive DNA' (as will be discussed later, section III).

[8] On this point, see further F Di Porto and N Rangone, 'Cognitive-Based Regulation: New Challenges for Regulators?' (2013) 20 *federalismi.it* 6.

## E. Evaluation of Potential Impacts

In a smart regulatory process, the impacts of different policy options should always be considered and assessed in a specific regulatory impact assessment (RIA), or analysed without it (see below at F). Indeed, targeting RIA precisely to evaluate in advance the potential impacts of rules, knowledge about cognitive and decisional processes of regulatees should improve rulemakers' knowledge.

Moreover, the comparison between different policy options and the doing nothing option[9] might be useful in order to avoid any over-estimation of the costs of unresponsive behaviours[10] and the resulting need to correct them through regulation (which, according to some critics, could end up justifying over-regulation).[11] Such a comparison might also avoid any under-estimation of the costs of a cognitive-based regulation in terms, for instance, of individual liberty limitation.[12] However, in order to fulfil this role, RIA should evolve both in terms of information gathering and of evaluating the impacts of rules. Indeed, when based on a cost-benefit analysis, RIA tends to assume that end-users are rational self-interested maximisers. Otherwise, an analysis should be used, which assesses end-users' biases or unexpected behaviours in terms of probability and effects. The result of such an assessment could help rulemakers decide whether or not to deal with biases through regulation, and to identify a 'minimum threshold' which justifies regulatory intervention.[13] This threshold of course does not correspond to the simple presence of the risk of unresponsive behaviours, but to those risks that regulators had considered as unacceptable.[14]

[9] See ch 6, CA Dunlop and CM Radaelli, 'Overcoming Illusions of Control: How to Nudge and Teach Regulatory Humility', in this volume.

[10] According to JD Wright and DH Ginsburg, 'Behavioral Law and Economics: Its Origins, Fatal Flaws, and Implications for Liberty' (2012) 106 *Northwestern University Law Review* 1033, 1041, behavioural law and economics scholars would have failed to consider that regulation has its own costs, that might overcome the benefit produced in a reduction in the rate of errors. In the authors' view, these scholars tend to overestimate the social costs of errors and therefore are urged to intervene through regulation by the mere identification of systematic decision errors. Moreover, such scholars would tend to ignore the social benefit of errors, meaning the knowledge derived from experience, which in the long run could generate a reduction in errors.

[11] On Obama's 're-regulation' of the financial sector following the crisis, see eg A Ferguson, 'Nudge Nudge, Wink Wink. Behavioral Economics—The Governing Theory of Obama's Nanny State' 105 *The Weekly Standard*, 19 April 2010.

[12] Wright and Ginsburg, 'Behavioral Law and Economics' (n 10) 1041.

[13] H Pildes and CR Sunstein, 'Reinventing the Regulatory State' (1995) 62 *University of Chicago Law Review* 43.

[14] Although evidence shows that most minors are affected by conformism that encourages them to start smoking, regulators should not intervene on this ground, but rather only if their goal is to reduce smoking among the youngest. On the difficulties to find the relevant threshold, see CR Sunstein, 'The Real World of Cost-Benefit: Thirty-Six Questions (and Almost as Many Answers)' (2013) 13 Harvard Public Law Working Paper 2; for discussion on the right selection of biases to assess, see R Baldwin, M Cave, and M Lodge, *Understanding Regulation. Theory, Strategy, and Practice*, 2nd edn (Oxford, Oxford University Press, 2012) 283ff.

A comparison between the status quo and a cognitive-based rule should always be performed in rulemaking, even when RIA is not used. Indeed, using a randomly assigned control group (RCT) might partially compensate for the lack of RIA.[15] RCT is intended to measure the effectiveness of a given regulatory option by testing it on a 'treatment group' of the target population. Its results are then compared with what happened to a control group, which has not been treated (corresponding to the 'doing-nothing option' in RIA jargon).[16]

## F. Collection of Information

One of the most important challenges for cognitive-based rulemaking is to enrich the way information is collected. Where there is a 'behavioural element' to a regulated area, the information gathering might start through a literature review on emotional reactions to a given issue, on social norms, or other environmental elements which might shape individual decision-making. This step could help in the design of more effective consultations (through surveys, notices and comments, panels, semi-structured interviews, and focus groups). Indeed, stakeholders' consultations should be organised in such a way as to pinpoint potential unresponsive behaviours and (where necessary) carried out with the help of behavioural science experts. For instance, in order to evaluate the role of inertia and procrastination in the low switching rate in energy retail markets,[17] those consulted could be consumers and not suppliers. For example, the former should be asked about their knowledge of their own consumption rates and related costs; if they have ever switched providers in other markets (if they have saved money, and if they have then checked the continuing benefit of this choice); if they are aware of alternative offers and how they heard of them, etc.

If literature reviews and consultations do not provide sound information about the risks of unresponsiveness, a cognitive experiment (with or without a randomised control trial),[18] could be conducted in order to gain a better understanding of how people act, think or feel. A number of different types of experiments might be used. The most commonly used in rulemaking are behavioural experiments

[15] While RIA, as known, compares the foreseen effects of all feasible policy alternatives, RCT is used to assess the potential effectiveness of one regulatory intervention at a time. Therefore, RCT may be less complete and provide limited empirical evidence than RIA; however, it may still help to improve the empirical robustness of an impact assessment whenever RIA is not performed for any reasons.

[16] L Haynes et al, *Test, Learn, Adapt: Developing Public Policies with Randomised Control Trials*, Cabinet Office Behavioural Insights Team (2012). See also van Bavel et al, *Applying Behavioural Sciences* (n 4) 14ff.

[17] OFGEM (Office of Gas and Electricity Markets), *What Can Behavioural Economics Say about GB Energy Consumers?* (21 March 2011).

[18] Haynes et al (n 12) 4; M Abramowicz, I Ayres, and Y Listokin, 'Randomizing Law' (2011) 159 *University of Pennsylvania Law Review* 929.

(laboratory or online), where the behaviour of two groups of people are compared, only one of which being exposed to a given regulatory option. Otherwise, the behaviour of the same group of people might be measured at two points in time, before and after being exposed to such an intervention. As far as neuroscience experiments are concerned, brain imaging methods (eg magnetic resonance imagining or eye-tracking) could also be used in rulemaking.[19]

### G. Reason Giving

Where cognitive-based experiments have been performed to inform the regulatory process, regulations should give reasons for why they took into account (or not) the results of experiments that were conducted. For instance, this should include the type of experiment and choice made during the experiment (sample, number of 'treatments',[20] reasons why an RCT has been used or not). All of this information and the gathered scientific evidence might also be mentioned in a non-technical summary, in order to be thoroughly accessible. However, this information and behavioural studies are not *the final decision* and they are only intended to enrich evidence for a more effective final decision,[21] while regulators should justify any inconsistency with such evidence.

### H. Maintenance

Finally, the monitoring and ex post evaluation of regulation should enable rulemakers to check if a given cognitive-based rule was really justified, and if it was the result of a good balance between the aim either to overcome or deal with end-users' limited cognitive capacity, and individuals' freedom.

So far, we have discussed how the rulemaking process should change in order to include evidence of cognitive and behavioural limitations and of unresponsive behaviours. The section has shown that most phases of this process would benefit a lot from considering behavioural evidence, with the notable exception of the regulatory objectives, the definition of which should only barely be affected. Now we move on to consider how cognitive insights impact on the regulatory strategies. Once regulation is the selected mode of policy intervention, we claim

[19] On the contribution that neuroscientific insights might provide to public policies in the context of consumer and health protection, see Centre d'Analyse Stratégique, *Improving Public Health Prevention with Behavioural, Cognitive and Neuroscience* (supervised by O Oullier and S Sauneron) (Paris, 2010).

[20] Meaning the regulatory options that are tested throughout the experiment.

[21] On the issue of generalisation of findings of a non-representative sample, see van Bavel et al, *Applying Behavioural Sciences* (n 4) 19.

that cognitive-based strategies should also be included in the regulatory toolkit as viable alternatives.

## III. COGNITIVE-BASED STRATEGIES

The bursting onto the scene of cognitive sciences has contributed to the emergence of new regulatory strategies, that we suggest to name 'cognitive-based', provided that consideration is given to biases and heuristics, emotional and socio-cultural contexts, and neuroscientific insights into behaviour.

A caveat. So far and in the following pages, we have dealt and will only deal with 'regulatory' cognitive-based strategies. This means that we only analyse tools aimed at modifying individuals' behaviour which have been introduced by rules (irrespective of the source, which can be the law, governmental decisions or administrative regulation), thus excluding other public policies, such as choice architecture, that are not introduced through rules.

This rather recent form of regulatory action, includes 'nudging' and 'empowerment'. Although they have some features in common, for example neither is based on financial incentives,[22] both are said to leave freedom of choice untouched and not to be too expensive; nevertheless, we suggest that they should be distinguished. On the one hand, only cognitive-based regulatory strategies, which are meant to exploit, often in an undisclosed manner, the emotional responses of individuals should count as 'true' nudging.[23] On the other hand, empowerment tools are aimed at enhancing people's capacity to manage emotional responses and to adopt deliberately conscious decisions.[24] Therefore, nudge strategies are bias-preserving, while empowerment tools are truly de-biasing techniques.

The difference between nudging and empowerment might be clearer considering the two pictures below (Figure 1). An example of a nudge towards more physical activity (and ultimately, better health) could be a rule which obliges builders to make stairs in public buildings more attractive, over the escalators or elevators, for instance by transforming them into a piano keyboard which plays when stepped on (left picture in Figure 1).[25]

[22] See also L Bovens, 'Real Nudge' (2012) 1 *European Journal of Risk Regulation* 43.

[23] In the same vein is L Bovens' qualification of nudge (as opposed, in his work, to social advertisement) where 'some pattern of irrationality is being exploited'. This is why this tool typically works better in the dark: L Bovens, 'The Ethics of Nudge' in T Grune-Yanoff and SO Hansson, *Preference Change: Approaches from Philosophy, Economics and Psychology* (Berlin and New York, Springer, 2008) 207. See also below (section VI, A).

[24] See also ch 13, Y Feldman and O Lobel, 'Behavioural Trade-offs: Beyond the Land of Nudges Spans the World of Law and Psychology', in this volume.

[25] The experiment shown in the picture was performed, among others, in Odenplan metro station in Stockholm in 2009: see www.thefuntheory.com/piano-staircase.


**Figure 1:** ***Nudging v empowerment***

Differently from the piano staircase, the picture on the right-hand side shows a poster providing a quite similar message: 'Stairs. Music for your health'. Therefore, both tools are aimed at achieving the same goal that is, let more people use stairs instead of lifts.[26] However, the poster (an example of empowerment) simplifies medical information about healthy activities and, unlike the former nudge, requires people to read and to engage in an effort of self-education to overcome laziness, procrastination and inertia.

We now move onto examining the characters of each of the two strategies.

## A. Nudging

Below, nudge strategies are classified in three main categories and exemplified through implementation in different fields.

### *i. Default Rules*

'A default rule … specifies the outcome in a given situation if people make no choice at all'.[27] Where opt-out is simple and essentially costless, this strategy can

[26] The second figure shows a (Ministry of Health-sponsored) poster displayed at the bottom of stairs and escalators of all Italian hospitals in the Emilia Romagna Region.

[27] Office of Information and Regulatory Affairs (OIRA), *Disclosure and Simplification as Regulatory Tools* (18 June 2010) 9.

have a significant effect on behaviour[28] and can make regulation effective in many regulated areas (such as health care, consumer protection, the availability of human organs,[29] energy use and environmental protection,[30] mortgages, savings, and many other topics).[31]

The great potential effectiveness of this tool is threefold. First, defaults exploit inertia in order to nudge people to choose something considered better for them. Secondly, it creates an implicit endorsement over a given choice, which people tend to consider to be selected because helpful or appropriate.[32] Thirdly, where the potential gains or losses of making a choice are unclear, accepting the default is often the preferred option, because it costs nothing in time and effort.[33]

Therefore, in some contexts the default rule can promote automatic compliance with the regulation,[34] though not always, nor in every situation. In order to make regulation more effective, it is not sufficient to consider the existence of inertia or to introduce an easy and costless opt-out system: cognitive response is not universal and should be verified in a specific relevant market and in relation to different individual preferences.[35]

### *ii. Smart Information Nudging*

Using knowledge about framing and salience, rulemakers can draft smart information nudge strategies. In such schemes, data is provided in a 'relational' way, as it includes comparisons and unspoken assessments in order to orientate behaviours by leveraging the emotional spheres of end-users (ie the 'tell people what others are doing' strategy). For instance, in many North American cities, energy saving has significantly increased by sending out personalised statements about energy use, rating people on their energy use compared with that of neighbours in 100 homes of similar size where the same heating fuel was used, and also compared with the 20 neighbours who were especially energy efficient (see Figure 2).[36]

[28] For an application in retirement savings plans, see S Benartzi and R Thaler, 'Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving' (2004) 112 *Journal of Political Economy* S164.

[29] EJ Johnson and D Goldstein, 'Do Default Save Lives?' (2003) 302 *Science* 1338.

[30] D Pichert and KV Katsikopoulos, 'Green Defaults: Information Presentation and Pro-Environmental Behavior' (2008) 28 *Journal of Environmental Psychology* 63.

[31] CR Sunstein, 'Impersonal Default Rules vs Active Choices vs Personalized Default Rules: A Triptych' (2012) 17 Regulatory Policy Program Working Paper 11.

[32] OIRA, *Disclosure* (n 27) 9.

[33] Sunstein, 'Impersonal Default Rules' (n 31).

[34] CR Sunstein, 'Empirically Informed Regulation' (2011) 78 *University of Chicago Law Review* 1349, 1398.

[35] Moreover, on this ground, differentiated default rules (ie based on different abilities to opt-out, eventually grouped by geographical areas or people's past choices) might be taken into consideration by rulemakers (see Sunstein, 'Impersonal Default Rules' (n 31)).

[36] Tax collection provides a similar example. An experiment performed in the UK involving 100,000 taxpayers with overdue bills, half of whom received letters where the request for payment was accompanied by other messages, the most effective of which turned out to be that the recipient who had not yet paid was in the minority ('Lessons from Behavioural Economics Can Boost Tax Compliance', *The Economist*, 24 May 2014).

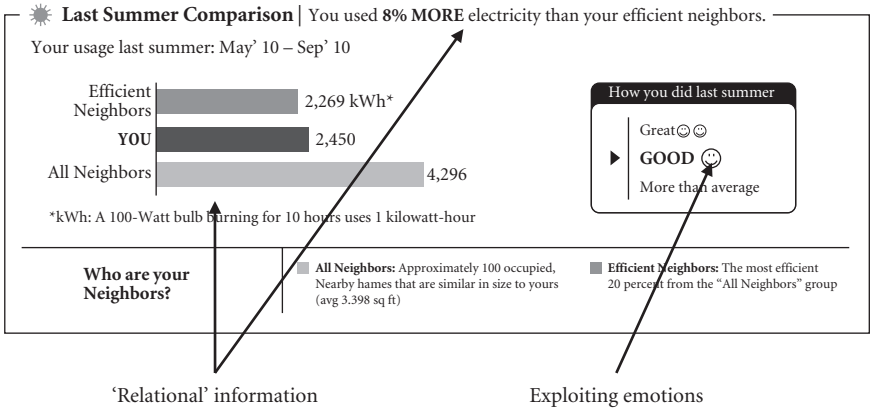


**Figure 2: An example of smart information nudging**
Source: Opower, City of Pasadena 2014.

Here, social influence (or the perceived behaviour of peers) is used to push householders to consume less energy (making people envious of their neighbours' energy consumption rates),[37] as it has been proven that perception of the norm in the pertinent community can affect human behaviour more than traditional regulation.[38] This tool is not intended just to over-simplify information given to consumers (as with empowerment, on which see below section III.B.i); rather, the data provided is limited to what can be used to influence behaviour. In the energy bill example, only the information about peers (ie the social proof) represents a nudge, because it is empirically demonstrated that this piece of information (and not other) can modify one's habits by exploiting his/her conformism. Moreover, by the use of coloured columns in Figure 2 to compare one's energy consumption with that of others, data is not only simplified and standardised, so as to let consumers understand what their consumption rates are (as in empowerment), but also framed to be salient and eye-catching in order to reinforce the 'do what others are doing' effect. Many are the examples of this kind showing that nudging—unlike empowerment—relies on one bias (conformism in the energy letter example)[39] to 'offset' other biases (eg procrastination or inertia).[40]

The main benefit of this strategy is that it requires nearly no effort in terms of enforcement, while usually ensuring high rates of compliance.[41] However, special attention must be given to designing such nudge strategies, as they might produce

[37] L Kaufman, 'Utilities Turn Their Customers Green, With Envy', *The New York Times*, 31 January 2012.

[38] RB Cialdini, *Influence. Science and Practice*, 5th edn (Boston, Pearson, 2008) 109.

[39] PW Schultz et al, 'The Constructive, Destructive and Reconstructive Power of Social Norms' (2007) 18 *Psychological Science* 429.

[40] R Korobkin, 'Libertarian Welfarism' (2009) 97 *California Law Review* 1676 and AE Carlson, 'Recycling Norms' (2001) 89 *California Law Review* 1231.

[41] Sunstein, 'Empirically Informed Regulation' (n 34) 1349.

a 'boomerang effect', in terms of undesirable reactions of people who have already adopted the desired behaviour above the average (eg people who save energy above the average might start to 'let their use creep up above the average').[42] Behavioural insights show that this effect can be neutralised by adding a message indicating social approval or disapproval (eg through a positive or negative emoticon, as in the right side of Figure 2).[43]

Another possible 'boomerang effect' in designing a nudge is to highlight the behaviour regulators want to prevent or limit. For instance, the attempt to mobilise action against a problem (tax evasion) may suggest drafting a message which depicts it as regrettably frequent and in so doing regulators end up communicating that 'many people *are* doing this'. In other words, the behaviour, which is to be curtailed is in fact being highlighted inducing salience and imitation).[44]

### *iii. Exploiting/Neutralising Emotional Responses*

Another nudge strategy seeks to influence end-users' choices by exploiting their emotional responses (sometimes by neutralising them, as in the 'plain package' example explained below) in order to achieve effects on individual behaviour.

The Framework Convention on Tobacco Control (FCTC) suggests a standardisation of tobacco product packaging (the so-called plain or generic packaging) with the only remaining possibility being to print brand and product names (displayed in a standard colour and font style), the quantity of the product, health warnings and other mandatory information.[45] This nudge towards lower consumption works by neutralising tobacco's appeal through a standardisation of the appearance of all cigarette boxes.[46] At the same time, the cigarette box surface can be used in another way to nudge, that is, by exploiting emotional responses through the use of macabre images of sick people[47] (as experimented in Australia since 2012).

[42] S Rahim, 'Finding the "Weapons" of Persuasion to Save Energy', *The New York Times*, 21 June 2010.

[43] Schultz et al, 'The Constructive, Destructive' (n 39) 429ff.

[44] RB Cialdini, 'Crafting Normative Messages to Protect the Environment' (2003) 12 *Current Direction in Psycological Science* 105.

[45] World Health Organization (WHO), *Guidelines for Implementation of Article 11 of the Framework Convention on Tobacco Control, Packaging and Labeling of Tobacco Products* (November 2008) pnt 46. In Europe, see DG SANCO's Impact Assessment, *Assessing the Impacts of Revising the Tobacco Products Directive (No 2001/37/EC )* (September 2010). For comments, see A Alemanno and E Bonadio, 'Do You Mind My Smoking? Plain Packaging of Cigarettes under TRIPS Agreement' (2011) 10 *John Marshall Review of Intellectual Property Law* 451.

[46] On the drawbacks of using nudging in anti-tobacco policies, see A Alemanno, 'Nudging Smokers. The Behavioural Turn of Tobacco Risk Regulation' (2012) 3 *European Journal of Risk Regulation* 32.

[47] According to R Baldwin, 'From Regulation to Behaviour Change: Giving Nudge the Third Degree' (2014) *MLR* (forthcoming) 6, this nudge makes 'use of the level of emotional power' to manipulate regulatees' actions by substituting their preferences with those of the regulator.

While plain package is a nudge that *neutralises* the emotional response attached to a brand[48] (it is a social norm to buy cigarettes because their branded boxes are perceived as 'cool' or 'sophisticated'),[49] pictorial warnings are nudges that *exploit* fear and emotional responses to induce healthy behaviours.[50]

### B. Empowerment

Empowerment[51] uses rules to tackle cognitive limitations in an aim to prevent or help individuals overcoming biases, so as to allow them to take considerate decisions. It does so by framing information in a standardised[52] or super-simplified way (subsections i and ii), or by using targeted education (subsection iii), or by simplifying individuals' choice itself (subsection iv), or by helping end-users to override their emotional responses (subsection v).[53]

Empowerment tools are to be included among cognitive-based strategies in that they are based on empirical evidence of substantial and diffused cognitive and behavioural limitations that have led traditional regulation to fail. For instance, in healthcare, 'informed consent' has been replaced by 'patient empowerment', based

[48] On the importance of brands and the emotional responses attached to them, see SM McClure et al, 'Neural Correlates of Behavioral Preference for Culturally Familiar Drinks' (2004) 44 *Neuron* 379, and N Dawar and PM Parker, 'Marketing Universals: Consumers' Use of Brand Name, Price, Physical Appearance and Retailer Reputation as Signals of Product Quality' (1995) 58 *Journal of Marketing* 81.

[49] In Bovens' words ('Real Nudge' (n 22) 44) 'social norm enforcement through conformity' is a nudge that exploits 'the common psychological disposition to conform to social norms'.

[50] In this we dissent from Bovens (ibid, 43) who sees 'scare tactics' as 'nannying intervention' and not as nudging.

[51] J Geller et al, 'A National Survey of Consumer Empowerment at the State Level' (1998) 49 *Psychiatric Services* 498; M Nardo et al, *The Consumer Empowerment Index. A Measure of Skills, Awareness and Engagement of European Consumers*, JRC Scientific and Technical Reports, no EUR 24791 EN (11 June 2011).

[52] Empowerment tools based on information differ from traditional disclosure mandates in that they are based on evidence about cognitive and behavioural limitations (as discussed further in the text). Therefore, standardisation is an empowerment tool anytime its introduction is preceded by an analysis of individuals' decisional capabilities, and these insights are used in order to tease the 'really informative' piece of information to be standardised. This happened, eg in the Commission, 'Report on Consumer Decision-Making in Retail Investment Services: A Behavioural Economics Perspective' (November 2010) (ec.europa.eu/consumers/strategy/docs/final_report_en.pdf). Of course, this does not say much about the ability of standardisation to empower investors or consumers to take the most deliberately conscious decisions.

[53] Empowerment, as we define it, can be largely assimilated to 'second degree nudge' identified by R Baldwin, 'From Regulation to Behaviour Change: Giving Nudge the Third Degree' (n 51). Feldman and Lobel, 'Behavioral Tradeoffs' (n 26) would probably include empowerment in tools aimed at 'shifting decision-making from System 2 to System 1', ie in encouraging deliberation to correct intuitive decisions. We prefer not to refer to the simplistic vision of a 'System 1 vs System 2' way of functioning of our brain, provided that the latter has been recently challenged by cognitive psychologists and neuroscientists providing a more complex model, where partitions are more than just two and a set of interactions is possible, shaping our decision-making and behavioural processes. See SM Kosslyn and GW Miller, *Top Brain, Bottom Brain: Surprising Insights into How You Think* (New York, Simon & Schuster, 2013).

on the inability of the former to attain better self-selected health choices;[54] in some newly liberalised markets, codes of commercial conduct and their disclosure obligations failed to increase consumers' activism;[55] complexity in long-lasting financial relationships has made clear the failure of many of the existing disclosure mandates;[56] energy efficient purchasing behaviour is still far from being reached, despite the many information campaigns run by the state.[57]

Empowerment rests on the idea that individuals depart from considered choices because they are not aware, informed, or educated enough to act reasonably. Biases leading to misjudgements can be overcome and regulation (based on empirical evidence) be used in order to select what information should be provided (and how it should be presented), as well as how education to raise awareness and, possibly, reasonable action should be structured.

The theory on which empowerment strategies rest is therefore still attached to the accounts of rational choice, which *do* accept violations of, or deviations from conventional rationality, and assume that decisionmakers *can learn to overcome and correct* such deviations, by giving them the right opportunities, information and data.[58] Because empowerment tools are aimed at overcoming cognitive and behavioural limitations,[59] they, rather than nudging tools, can be understood as 'true' *de-biasing techniques*,[60] as opposed to nudge strategies that exploit biases.[61]

[54] On this issue, see subsection iii below.

[55] See, eg OFGEM, *The Retail Market Review—Implementation of Simpler Tariff Choices and Clearer Information* (27 August 2013) discussing the poor performance of existing disclosure regulation; and OFGEM, *What Can Behavioural Economics Say about GB Energy Consumers?* (n 19) analysing biases affecting UK energy consumers' behaviour, and how regulation should deal with them.

[56] See Commission, 'Report on Consumer Decision-Making in Retail Investment Services' (n 52).

[57] See, eg UK Behavioural Insights Team, *Behaviour Change and Energy Use* (6 July 2011) 19, discussing how, in relation to energy consumption, 'providing people with information does not necessarily encourage them to change their behaviour'; and endorsing the 'drawing on insights from behavioural economics and psychology' to 'convey information to consumers in ways that enable them to save energy and money'.

[58] A Tversky and D Kahneman, 'The Framing of Decisions and the Psychology of Choice' (1981) 211 *Science* 453.

[59] They are aimed at correcting what O Amir and O Lobel in, 'Stumble, Predict, Nudge: How Behavioral Economics Informs Law and Policy' (2008) 108 *Columbia Law Review* 2098, 2110 call 'Type 1 biases' (ie 'biases caused by intuitive/reflexive reactions').

[60] Recalling, though diverging from, C Jolls and CR Sunstein, 'Debiasing through Law' (2006) 35 *Journal of Legal Studies* 199.

[61] According to Amir and Lobel, 'Stumble, Predict, Nudge' (n 59), 'correction [of Type 1 biases], in fact, may rely simply on asking people to think carefully or allowing them time to do so … By contrast, biases that are caused by controlled processes generated through System 2 ("Type 2 biases") may not be as easy to correct … In the latter cases, it might be simpler to consider "rebiasing choices", i.e., manipulating outcomes without eliminating (but rather using) the source of the bias, if a more appropriate direction is agreed upon'.

*i. Simplification of Information*

Empirical studies have shown that reducing and standardising information[62] on, for example, financial products[63] and energy bills[64] (though there may be more examples) have a greater effect on the choices of investors and consumers[65] than an increased amount of information, given that attention is a scarce resource and information overload might consume it.[66] Thus, the easiest and most popular way to facilitate people's choices is through the *simplification of information to be given to individuals.*[67] The latter is to be understood primarily as a quantitative reduction of the amount of information given, but also as a smart (ie cognitive-based) selection of the 'really informative' data to be provided (ie the data that would effectively lead to a change in regulatees' behaviour). Indeed, not all information is relevant to help make good decisions: selecting the right information to be given to consumers could increase their ability to overcome cognitive and behavioural limitations.

For instance, compelling utilities to inform consumers about how much they have been spending over time (not just in the current month), or about better deals made available by their provider (including how much consumers may save by switching to the proposed tariff),[68] could be a good strategy to overcome consumers' inertia and attain, for instance, higher switching rates. Adding personalised communications and tips in monthly energy reports, that is telling consumers how much they could save if some suggested behaviours (eg using energy-saving light bulbs, installing timers for air-con, etc) were adopted, as did the Guantanamo Bay Housing Department's energy report,[69] is another way to induce virtuous behaviour. Lastly, in order to ease consumer switching, regulators should make sure to mandate provision not only of 'product attribute information' (eg the characteristics of a cell phone), but also of 'product

[62] See OIRA, *Disclosure* (n 27).

[63] EC Commission, 'Consumer Decision-Making in Retail Investment Services' (n 52).

[64] EC Commission Working Group, 'Report on Transparency in EU Retail Energy Markets' (13–14 November 2012).

[65] On lack of evidence of such effect O Ben-Shahar and CE Schneider, 'The Futility of Cost Benefit Analysis in Financial Disclosure Regulation' (2014) 14-008 University of Michigan Law School, Law and Economics Research Paper Series. Working Paper 2.

[66] 'A wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it': HA Simon, 'Designing Organizations for an Information-Rich World' in M Greenberger (ed), *Computers, Communication, and the Public Interest* (Baltimore, Johns Hopkins Press, 1971) 40.

[67] See F Marotta-Wurgler, 'Will Increased Disclosure Help? Evaluating the Recommendations of the ALI's "Principles of the Law of Software Contracts"' (2011) 78 *University of Chicago Law Review* 165; CR Sunstein, 'Humanizing Cost-Benefit Analysis' (2011) 1 *European Journal of Risk Regulation* 3.

[68] OFGEM, *The Retail Market Review—Implementation of Simpler Tariff Choices and Clearer Information* (n 55) 28.

[69] See the Naval Station of Guantanamo Bay's Energy Report (media.miamiherald.com/smedia/2011/12/10/17/22/IOUof.So.56.pdf).

use information' (ie what use that particular consumer made of a cell phone or phone service).[70]

A variation of this strategy is the simplification of information *asked of consumers* (make it easy).[71] For instance, if the target population is extensively affected by inertia, the switching from one supplier to another could be made simpler by using forms which have been pre-filled[72] by the traditional supplier and that contain information about the consumers and the use they make of a service. By mandating the circulation of such information, regulators are ultimately simplifying consumers' choice (see below subsection iv).

### *ii. Framing of Information*

Inducing a desired behaviour may depend not only on the selection of the right items of data or the reduction of the information provided, but also, and especially, on *how* it is presented (framed). Unlike simplification, framing of information refers to the *format* in which the informative content is given.

The framing of acts, contingencies, or outcomes might change regulatees' perception of the desirability of an option[73] and thus influence their choice (known as 'framing effect' bias).[74] Framing information can be a powerful de-biasing empowerment technique.[75]

Empirical evidence suggests that consumers are not necessarily able to assess compound interest, or that they are likely to underestimate the overall costs of their loans[76] and mortgages.[77] This may be due to 'the practice of acting on the most readily available frame',[78] which can lead disclosure regulation to fail.[79]

In the context of household appliance labelling, for instance, it has been proven that 'relative information' (like scales) is more motivating, better understood and more effective in facilitating choice about energy efficient products, than is information presented in technical or statistical formats.[80] Thus, facing regulatees

[70] O Bar-Gill, *Seduction by Contract* (Oxford, Oxford University Press, 2012) 13, and O Bar-Gill and O Board, 'Product-Use Information and the Limits of Voluntary Disclosure' (2012) 14 *American Law and Economics Review* 235.

[71] UK Behavioural Insights Team, *Applying Behavioural Insights to Reduce Fraud, Error and Debt* (2012) 8. See also International SCM Network, *International Standard Costs Model Manual* (August 2004).

[72] ibid, 4.

[73] Tversky and Kahneman, 'The Framing' (n 58) 458.

[74] For discussion of 'inattention' see P Lunn, *Regulatory Policy and Behavioural Economics* (Paris, OECD, 2014) 47.

[75] EC Commission Working Group, 'Report on Transparency in EU Retail Energy Markets' (n 68) 18.

[76] See A Lusardi, 'Americans' Financial Capability' Report Prepared for the Financial Crisis Inquiry Commission (26 February 2010).

[77] Bar-Gill, *Seduction by Contract* (n 70) 22.

[78] Tversky and Kahneman, 'The Framing' (n 58) 458.

[79] See Australian Government, *Influencing Consumer Behaviour: Improving Regulatory Design* (18 December 2012).

[80] Ipsos MORI, London Economics and AEA, *Research on EU Product Labelling Options and Consumer Understanding*, delivered for the European Commission (October 2012) 68. See Sunstein,

affected by inertia or over-discounting of future energy costs, in other words consumers who will hardly ever invest in energy efficiency today to make savings on their bill tomorrow, regulators might frame the design of labels for household appliances accordingly, for example, by replacing technical data (kWh consumed per year) with more eye-catching and 'relative' information (ie equating the absolute amount of kWh consumed per year to a meaningful amount of Euro spent per year). Figure 3 below shows an imaginary restyling of refrigerator labels as harmonised by the Energy Labelling Directive (2010/30/EU).[81]

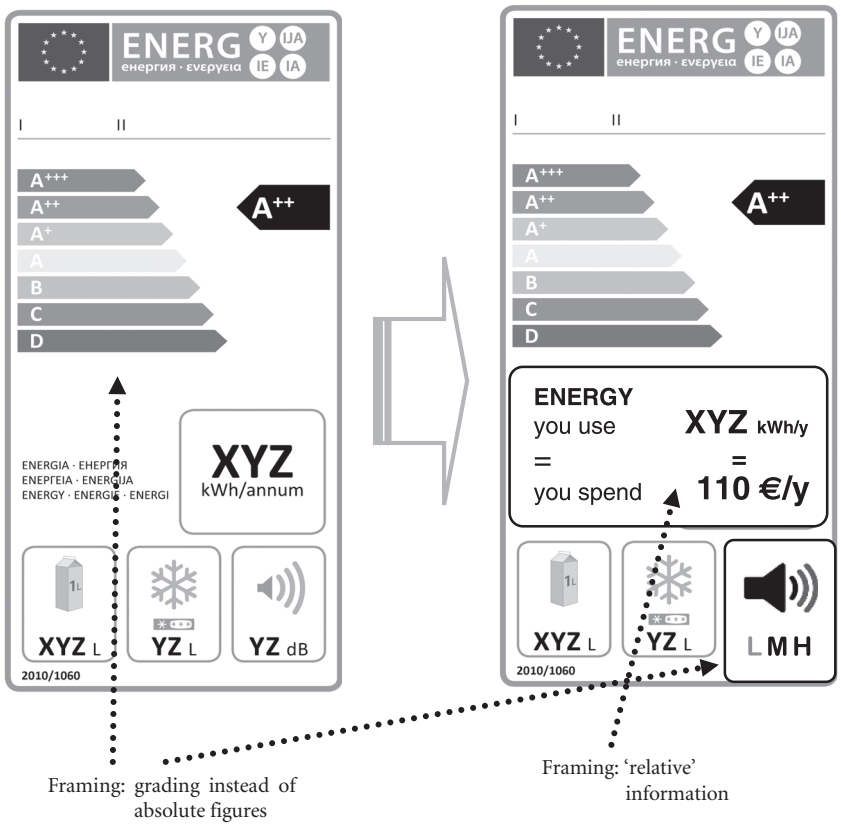


**Figure 3: An imaginary restyling of refrigerators' label**

'Empirically Informed Regulation' (n 37) 1354; RE Nisbett et al, 'Popular Induction: Information Is Not Necessarily Informative' in D Kahneman, P Slovic, and A Tversky (eds), *Judgment under Uncertainty: Heuristics and Biases* (Cambridge, Cambridge University Press, 1982) 112.

[81] Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products [2010] OJ L153/1.

Other framing effects have been observed in the context of anti-tobacco and the energy efficiency labelling regulations, suggesting that EU and national regulators should emphasise successful stories (inspiring ex-smokers) or potential losses (deriving from not moving from a B to an A-rated product), as they appear to be more motivating (in quitting smoking or buying efficient appliances) than reporting negative data (X per cent of lung cancer related deaths) or gains (to be made from shifting from B to A-rated products).[82]

### *iii. Targeted Education*

In the area of health care, traditional information disclosure has proven insufficient to change one's habits, especially if the patient is affected by *unrealistic optimism* when assessing adverse outcomes associated with risky activities (such as smoking). These findings explain the shift from an 'informed consent' strategy, characterised by mere information disclosure about disease and foreseen treatment,[83] to 'patient empowerment' strategies.[84] Under such a scheme, the care-giver could be required by regulation to undertake education activities (communication, dialogue and decision aids), to provide information (leaflets, videos, group presentations, etc) but also to teach self-management and problem-solving skills to patients so as to help them understand their illness, make informed choices about their health and affect lasting changes in their lives.[85]

The real efficacy of targeted education, however, is far from having been ascertained and no agreement exists as far as its ability to overcome cognitive limitations.[86] For example, in retail financial investment decisions, some contend that it could worsen the incidence of some biases, like overconfidence.[87] Also, as highlighted above, targeted education may negatively affect the efficacy of other strategies, such as default rules (eg in the realm of organ donation).[88]

[82] For the EU-wide campaign 'Ex-Smokers are Unstoppable' (2011–13), see EC Commission's Staff Working Document, 'Report on Consumer Policy (July 2010–December 2011)' COM(2012) 225 final, 22 March 2012, 14. See also the UK Department for Environment, Food and Rural Affairs (Defra), *Behavioural Economics in Defra: Applying Theory to Policy* (July 2013) 9.

[83] D Doumont and I Aujoulat, *L'empowerment et l'éducation du patient* (Louvain, UCL–RESO, dossier technique, 18 August 2002).

[84] I Aujoulat, W d'Hoore and A Deccache, 'Patient Empowerment in Theory and Practice: Polysemy or Cacophony?' (2007) 66 *Patient Education and Counseling* 13. See also I Holmström and M Röing, 'The Relation between Patient-Centeredness and Patient Empowerment: A Discussion on Concepts' (2010) 79 *Patient Education and Counselling* 167; C Feste and RM Anderson, 'Empowerment: From Philosophy to Practice' (1995) 26 *Patient Education and Counselling* 139.

[85] Holmström and Röing, ibid, 170.

[86] See J Garcia and GL Cohen, 'A Social Psychological Approach to Educational Intervention' in E Shafir (ed), *The Behavioural Foundations of Public Policy* (Princeton NJ, Princeton University Press, 2012) 329.

[87] See, eg LE Wills, 'Against Consumer Financial Literacy Education' (2008) 94 *Iowa Law Review* 12.

[88] Wright and Ginsburg, 'Behavioural Law and Economics' (n 10) 1048 underline how the framing effect might be reduced if the addressee is made aware of what he is doing through targeted education. For further comments on this issue, see below at section V.B.

*iv. Simplifying Choices*

Other empowerment tools aim at facilitating people's choices by making comparison among products or services easier.[89] 'Pro-choice' web applications (making use of RECAP[90] schemes) are frequently employed in the area of utilities, securities, bank, and insurance services,[91] where choices are particularly complex and contractual relationships often long-lasting. The adoption of such applications could be required of the private sector by public authorities, or run directly by the latter, to ensure truly independent comparisons.[92] By allowing consumers to save search costs and by providing them with easy comparisons of existing commercial offers, these tools may prove effective in overcoming inertia and status quo biases, thus increasing the consumers' ability to make good choices. In order for such tools to reach their goal, information provided should be complete (although super-simplified and framed according to the gathered cognitive insights), relevant and comprehensible.

Recently, 'open data' initiatives have been undertaken in the US (MyData),[93] the UK (Midata)[94] and at European level[95] mandating public administrations and the private sector to disclose data (eg in utilities) in machine-readable format so that private and, we suggest, also the public sector develop applications that may help consumers to make comparisons. This strategy might help consumers overcome their cognitive limitations when facing complex choices in domains such as health, education, energy and personal finance. However, in order to be effective they should ensure the widest transparency and independence (eg through the adoption of codes of conduct) when provided by private intermediaries.[96]

[89] G Dworkin, *The Theory and Practice of Autonomy* (Cambridge, Cambridge University Press, 1988) 48ff.

[90] Acronym for Record, Evaluate, and Compare Alternative Prices, put forward by CR Sunstein and RH Thaler, *Nudge: Improving Decisions about Health, Wealth, and Happiness* (New Haven, Yale University Press, CT, 2008) ch 5; see also RH Thaler and W Tucker, 'Smarter Information, Smarter Consumers' (2013) 3 *Harvard Business Review* 7.

[91] On Price and Quality Comparison Websites (PQCWs) see the Commission, 'Report on the Application of Directive 2005/29 (Unfair Commercial Practices Directive)' COM(2013) 139 final, 14 March 2013, para 3.4.2. On the benefits of RECAP see RH Thaler, CR Sunstein and JP Balz, 'Choice Architecture' in E Shafir (ed), *The Behavioural Foundations of Public Policy* (Princeton, Princeton University Press, 2013) 435.

[92] For price comparison web applications accessible on the regulator's portal in Italy, see Istituto per la Competitività (I-Com), *Rapporto sui consumatori* (Rome, April 2014) 103ff.

[93] For details on 'data.gov' see: Executive Office of the President National Science and Technology Council, *Smart Disclosure and Consumer Decision Making: Report of the Task Force on Smart Disclosure* (30 May 2013).

[94] See Midata Government response to 2012 consultation, of 19 November 2012 and US National Science and Technology Council, Task Force on Smart Disclosure, 7. See also the Executive Order, 'Making Open and Machine Readable the New Default for Government Information' (9 May 2013).

[95] See Commission Communication, 'Towards a Thriving Data-driven Economy' COM (2014) 442 final, 2 July 2014, and the accompanying 'Report on the Implementation of the Communication "Unleashing the Potential of Cloud Computing in Europe"' SWD(2014) 214 final, 2 July 2014.

[96] See Commission, 'Report on the Application of Directive No 2005/29' (n 91) 23, underlying that 'the information provided to consumers through information intermediaries, such as [Price Comparison Websites, or] PCWs, is frequently partial and sometimes misleading and incorrect, especially in relation to the price, whether the retailer has paid to have its product listed, the criteria for ranking the offers, or delivery costs'.

Once the deal has been made, and is hopefully a good one, consumers may still be unable to use the service in a way that is consistent with their interest, because, for example, of their inability to discount future gains or losses, or due to optimistic forecasts on their consumption. So for instance, if consumers are mainly unable to stop using their mobile phone over their flat rates, despite wishing to do so (*optimistic bias*), telephone companies may be compelled to send personalised texts warning that a consumption threshold is about to be overcome, or to stop the connection if the threshold is overcome.

*v. Overcoming Emotional Responses*

Another operational empowerment strategy is represented by *cooling off* or 'timing of choice' rules.[97] These are intended to help people make considered choices and overcome emotional responses, based on a waiting period being imposed by the regulator before a final decision (eg to buy) is made.[98] A *cooling off* rule, eventually supported by empowerment through simplification of requested information, could be a good strategy to help those who, having misjudged commercial offers, changed their provider and ended up paying more.[99] However, as with other empowerment tools analysed so far, evidence of the efficacy of cooling off rules is still controversial. Some contend that there is hardly any statistical data indicating how many consumers actually make use of their withdrawal right.[100] Also, even though a cooling off period allows deliberation, it does not necessarily, as such, prompt it.

## IV. STRENGTHS AND WEAKNESSES OF COGNITIVE-BASED REGULATORY TOOLS

### A. A General Overview

Cognitive-based strategies have strong points as well as weaknesses. Despite being expensive to design (ie experiments are time and resource consuming), they

[97] Here we dissent from those authors who classify the cooling off rule among nudging tools (see, eg Korobkin, 'Libertarian Welfarism' (n 43) 1664.

[98] See Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on consumer rights, amending Council Directive 93/13/EEC and Directive 1999/44/EC of the European Parliament and of the Council and repealing Council Directive 85/577/EEC and Directive 97/7/EC of the European Parliament and of the Council [2011] OJ L304/64 (Consumer Rights Directive).

[99] C Wilson and C Waddams Price, 'Do Consumers Switch for the Best Supplier?' (2010) 62 *Oxford Economic Papers* 657.

[100] See EM Tscherner, 'Consumer Contract Law and Behavioural Sciences' (Nudging in Europe: What can EU Law Learn from Behavioural Sciences? conference, University of Liège, 12 December 2013).

should allow savings as far as enforcement is concerned.[101] Furthermore, they are innovative approaches worth considering in areas where traditional regulatory tools have not satisfactorily addressed regulatory needs.

Cognitive-based tools can be used in combination with traditional regulation, eventually helping increase the overall compliance with it, and thus leading to greater adhesion to public decisions.[102] For instance, compliance with obligations on product information, as set forth in the Unfair Commercial Practices Directive,[103] could be increased if product comparison websites (an example of empowerment) were introduced by the regulator to discourage cheating by the industry.

Also, such tools can help advance competition. Indeed, while increasing market transparency and reducing information asymmetry, they foster competition among service providers, either because they make choice easier (empowerment)[104] or because they strengthen the disciplining effect on competition of, for example, opt-out nudging default rules for class actions.

At the same time, they are not without limitations. For instance, the debate around nudging has highlighted the risk of limiting and, in the worst case, manipulating regulatees' choices. Therefore, a general criticism concerns transparency. The latter regards mainly nudging, as empowerment is a fully transparent tool, and keeps autonomy intact. Nudge strategies are less identifiable than empowerment and than those connected to 'traditional' paternalism.[105] For this reason, nudging is usually a strategy where end-users have neither participated nor shared.[106] However, as we have argued above (section II), critical points referring to transparency might (at least partially) be settled in an open and transparent rulemaking process. Decisionmakers should make an effort towards greater transparency and participation,[107] for instance, by explaining the expected effects of a default option

[101] See Korobkin, 'Libertarian Welfarism' (n 40) 1684, discussing greater enforcement costs associated with command and control as compared to libertarian tools in the context of strategies to induce increased recycling behaviours.

[102] Sunstein, 'Empirically Informed Regulation' (n 34) 1351.

[103] Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005, concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council [2005] L 149/22.

[104] For instance, by strengthening individuals' ability to exploit market possibilities, empowerment serves by rebalancing the demand vis-à-vis the supply side.

[105] Bubb and Pildes, 'How Behavioural Economics Trims Its Sails and Why' (n 2) 1605.

[106] A Alemanno and A Spina, 'Nudging Legally. On the Checks and Balances of Behavioural Regulation' (2013) 6 NYU School of Law—Jean Monnet Working Papers; Feldman and Lobel, 'Behavioral Tradeoffs' (n 26). On expressive law theory, see R Cooter, 'Expressive Law and Economics' (June 1998) 27 Journal of Legal Studies 585 and CR Sunstein, 'On the Expressive Function of the Law' (1996) 144 *University of Pennsylvania Law Review* 2021, 2045.

[107] As suggested by Feldman and Lobel, 'Behavioral Tradeoffs' (n 26), participation in deliberative processes might increase not only adhesion but also the sustainability overtime of a given cognitive-based regulation. However, because nudge strategies work better in the dark, extensive awareness could hardly be their main characteristic.

during the consultation process,[108] or through a well-designed justification of the final decision. However, it cannot be forgotten that 'the more actual token interference we demand, the less effective these [nudging] techniques are'.[109]

Empowerment tools might be less prone to criticism of manipulation than of nudging, in that they tend to preserve individual choice by easing it. Indeed, they do not frame the environment choice in an attempt to *exploit* biases; rather, they are meant to help individuals *overcome* their emotional responses and automatic choices without directly favouring any given behaviour. Moreover, empowerment might also be less exposed to criticism of paternalism than nudging, because it assumes, as argued above (at section III.B), that cognitive and behavioural limitations can be overcome, thus positioning itself in line with the liberal 'consumer sovereignty' paradigm.

Another critical point concerns the ability of cognitive-based tools to promote the public interest. Because we support the idea that such strategies could be used where cognitive and behavioural limitations are detected within a target population, which requires the definition of a threshold of intervention, one might contend that by using nudge and empowerment regulators end up fostering the welfare of a limited group (ie those affected by a bias), and not that of everyone. However, although we recognise the difficulties of identifying the target group and of setting a threshold for intervention, we contend that by using cognitive-based regulation that targets *also* those that are affected by some cognitive limitations (ie the target population *and* the others), a greater protection of the overall public interest may result. For instance, if empowerment pro-choice tools are used that help people affected by inertia to become proactive in the market, the resulting effect might be an increase in competition, which is, in the end, the final public interest such a regulation is intended to pursue.

Of course, the identification of the public interest may be difficult when there is a high degree of uncertainty about public goals (eg regarding which new energy technologies or renewable energy sources are to be incentivised), and impossible when there is a wide variety of needs to be satisfied.[110]

Other criticisms pertain to costs. Cognitive-based tools can be more expensive (eg than command and control strategies) to design because they may require repeated experiments to be conducted and prior identification of groups in the relevant market that suffer from specific biases to be made.

Furthermore, cognitive-based regulation being still relatively recent, its effects and outcomes are far from being fully assessed.[111] Moreover, the efficacy of

[108] P John et al, *Nudge, Nudge, Think, Think: Using Experiments to Change Civic behavior* (London, Bloomsbury Academic, 2011).

[109] Bovens, 'The Ethics of Nudge' (n 23) ch 10.

[110] Korobkin, 'Libertarian Welfarism' (n 40) 1665ff.

[111] For an assessment of information about peers, see J Alm, KM Bloomquist and M McKee, 'When You Know Your Neighbor Pays Taxes: Information, Peer Effects, and Tax Compliance' (2013) 22 Appalachian State University—Department of Economics, Working Papers.

cognitive-based tools utterly depends on whether the same mental mechanism will occur everywhere in the relevant market and for all in the targeted group.[112] Therefore, maintenance overtime of both nudging and empowerment regulations, especially those based on framing, is urged. Due to the continuous changing of individual preferences, cognitive-based strategies might require constant maintenance to check whether they are still consistent with the cognitive and behavioural limitations on which basis they were adopted. For instance, pictorial warnings and shocking images on cigarette packages—as has been suggested—should be changed on a regular basis in order to avoid inurement.[113]

### B. Drawbacks Specific to Nudging

Other critical points relate to single nudge tools.

Default rule is usually considered the most effective and least expensive (for regulators); however, whether effective or not, it is also the most controversial of the nudge strategies. The most widespread and well-founded criticisms concern its libertarian nature, and are basically connected to the ease of opting-out (ie for default rules to overcome inertia in a libertarian way, opting-out must be easy). Opting-out risks being overturned if it proves to be problematic, for any reason (eg because it incurs costs—time or monetary—or if the opt-out possibility is not clear).[114] Moreover, default rule might act as command and control for many regulatees.[115] Lastly, policy defaults may not be as effective in increasing welfare as many have hoped, in at least two respects. First, defaults…are not always sticky and can even be slippery. Second, those who opt-out are not consistently the ones who are better off outside of the default.[116]

As regards 'smart information' and 'exploiting/neutralising the emotional response' to nudge strategies, a risk might exist that they prove insufficiently effective because the adoption of a new or different behaviour (eg a new consumption model) could take years in order to bear fruit. In general, it is also difficult to measure the level of efficacy of these two strategies, due to the fact that they are not usually the only regulatory strategy employed. For instance, even if plain packaging is adopted for cigarettes, health-relevant information must always be available;[117] in addition, the advertising ban and the prohibition of sales to minors

[112] UK Behavioural Insights Team, *Applying Behavioural Insights to Reduce* (n 71) 17.

[113] Centre d'Analyse Stratégique, *Improving Public Health Prevention with Behavioural, Cognitive and Neuroscience* (n 19) 87.

[114] On the feasibility of opting-out R Baldwin, 'The New Scholarship: Celebrating the "I" in Ideas' (2012) 5 LSE Law, Society and Economy Working Papers 12; see also Baldwin, Cave and Lodge, *Understanding Regulation* (n 14) 123ff.

[115] Bubb and Pildes, 'How Behavioural Economics Trims Its Sails and Why' (n 2) 1619.

[116] LE Willis, 'When Nudges Fail: Slippery Defaults' (2013) 80 *University of Chicago Law Review* 1155, 1159. See also ch 7, E Carolan and A Spina, 'Behavioural Sciences and EU Data Protection Law: Challenges and Opportunities in this volume.

[117] Alemanno, 'Nudging Smokers. The Behavioural Turn of Tobacco Risk Regulation' (n 46).

must remain in force. There are other nudge tools used along with the plain packaging (such as the shock images of diseases caused by smoking printed on plain packages in Australia) which could counterbalance the potential efficacy of the former.[118] Indeed, the optimism bias and availability heuristics might lead us not to consider the possibility that these events could concern us.

### C. Drawbacks Specific to Empowerment

Despite the many advantages highlighted above, some empowerment strategies are subject to limitations.

Empowerment can be time and resource-demanding. For instance, in healthcare it may require patients and physicians to engage in continuous relations and training activities to improve patients' medical literacy and healthcare experience. Although the public health system could avoid part of these costs by encouraging 'big data-inspired' initiatives (eg requiring information on illnesses and treatments to be exchanged among patients and doctors on web platforms),[119] nonetheless, some public oversight or funding may still be needed to avoid the risk of shifting the responsibility of healthier choices or the burden of costs solely onto individuals and the private sector.

Another weak point is the risk of *aversion to be empowered*. Sometimes patients do not wish to take an active role in decisions about their healthcare; and the same may happen with utilities or consumers of financial services, whose willingness to engage in costly self-education activities may be very feeble compared to the potential gains.[120]

Tools based on the 'big data' philosophy (such as RECAP or the requirement to release personal information) can increase one's ability to make good choices (eg comparing and selecting the best mortgages, insurance, healthcare, or telecom services; or applying to certain public programmes such as grants or funding projects); however, they may nonetheless disadvantage vulnerable people, such as the elderly, who are less 'internet literate'.[121] A first trade-off regulators might face is between information completeness and simplicity (ie between being fully or better informed). Furthermore, a trade-off might also arise between simplicity and

[118] The dissuasive effect of plain packaging could be overcome by the concomitant use of shocking images. The latter may induce a denial reaction ('lung cancer would not happen to me'), making smokers persist. For further details on this boomerang effect see Centre d'Analyse Stratégique, *Improving Public Health Prevention with Behavioural, Cognitive and Neuroscience* (n 19).

[119] Like in the CureTogether.com platform, created in 2008 (and acquired by 23andMe in 2012) as a platform to allow patients to share information about their health symptoms and treatments so that users could see what treatments worked for people with similar symptoms, comorbidities, or demographic parameters: B Prainsack, 'The Powers of Participatory Medicine' (2014) 12 *PLOS Biology* 1.

[120] B Carlin, S Gervais and G Manso, 'Libertarian Paternalism, Information Production and Financial Decision Making' (2013) 26 *Review of Financial Studies* 2205.

[121] See Lunn, *Regulatory Policy and Behavioural Economics* (n 74) 43.

accessibility of information (where access to big-data/my data applications is not available to many).[122]

Further, in order to be correctly processed, meaningful and useful in helping to make the right choice, smart information should always be kept updated, and be as accurate and reusable as possible. This raises the question of who, between the information uploader or the processing institution (be it public or private), should bear the costs. Another question is whether the platform owner or the readily accessible information processor should be allowed to make profits out of individuals' voluntarily uploaded data.[123]

Empowerment through framing or simplification may fail if regulators, for instance, highlight the wrong piece of information thus obfuscating the one that is more motivating to help people make reasonable choices.

Finally, if not cognitive-based, too much targeting may endanger the efficacy of empowerment as, for instance, consumers may decide to invest less and less in self-education, ending up being disempowered. Also, empowerment through information simplification may limit product differentiation, which is based on consumers' accumulation of knowledge about the products, as well as technological innovation.[124]

## V. LESSON DRAWING FOR RULEMAKERS

### A. Regulatory Strategies in Relation to Unresponsive Behaviours

This chapter has demonstrated that cognitive and behavioural limitations offer crucial information to rulemakers on the reactions of end-users, thus enabling the reduction of the risk of unresponsive behaviours (which can cause regulation to fail). Anytime there is a relevant 'behavioural element' to a regulation, incorporating cognitive insights requires a re-thinking of the regulatory process, the development of new regulatory tools, and the use of more differentiated rules.

In order for the regulatory process to become cognitive-based, consultations should be made more apt to gather information about individuals' cognitive and behavioural limitations. Experiments, combined with surveys and a review of cognitive sciences literature, could be the right answer. The justification of regulation should therefore be enriched not only by mentioning the cognitive-based studies performed and their results, but also by justifying the main methodological choices.

[122] O Bar-Gill, *Seduction by Contract* (n 70).

[123] This point has received much attention in the '23andMe/CureTogether.com saga' See B Prainsack, '23andMe's "Designer Baby" Patent: When Corporate Governance and Open Science Collide' (2013) *Genomes Unzipped*.

[124] See X Gabaix et al, *La protection du consommateur: rationalité limitée et régulation*, Conseil d'Analyse Economique (Paris, La documentation française, 2012) 9.

The output of a cognitive-based regulatory process, besides providing stronger evidence as to when and why a regulation is not needed (eg because free markets provide significant protection against such cognitive and behavioural limitations), could be: the enrichment of traditional tools (such as command and control, incentive-based, and disclosure regulation), and the emergence of new regulatory tools (such as empowerment and nudging).

Table 1 below summarises what we mean by grafting cognitive evidence into a traditional strategy and how to design cognitive-based empowerment and nudge tools, as well as their weaknesses and strengths.

As far as the choice of the most suitable strategy is concerned, one should bear in mind that the very presence of cognitive or behavioural limitations, even if recurrent in given relevant markets and in various groups of the target population, does not (and we think that should not) per se justify the recourse to regulation (as an alternative to the free market and individual liberty). In addition, it should be clear that a cognitive-based approach to regulation does not justify any automatic connection between evidence of a given reaction of end-users (possibly due to a bias) and a specific regulatory tool (eg a public campaign should prove to be preferable). Nor should it justify the preference for one tool among the many in the toolkit.[125]

Our contention is that many if not most regulatory tools could benefit from adopting a cognitive-based approach to the rulemaking process. So, while nudging and empowerment have a cognitive built-in element, more traditional regulatory strategies are not necessarily attentive to cognitive and behavioural limitations. However, we contend that applying a cognitive-based approach to the latter might help to reduce some of their weak points. For instance, in order to address conflicts of interest affecting a financial advisor, a prohibition on negotiating (command and control) might prove more effective than a smart disclosure duty if it is established (through experiments) that a substantial portion of the target population in the relevant market is affected by overconfidence, and lack of any financial education.

Our claim is that the selection of a regulatory strategy must be made on a case-by-case basis: possibly following experiments, regulatory intervention should regard the specific relevant market and the relevant goals (public interests) to be pursued.

### B. How to Choose among Different Regulatory Options?

More specific findings of the chapter are now summarised so as to provide some indications that might prove useful for regulators.

[125] As argued also by Bubb and Pildes, 'How Behavioural Economics Trims Its Sails and Why' (n 2) 1638 'a full comparison of advantage and disadvantages of different regulatory instruments' is needed.

**Table 1: Traditional and behaviourally-informed regulatory tools**

| STRATEGY | REGULATORY TOOL | CHARACTERS | PROS | CONS |
|---|---|---|---|---|
| | | IN RELATION TO COGNITIVE AND BEHAVIOURAL LIMITATIONS | | |
| Command and Control | Bans, duties, standards (eg seat belts) | Intended to avoid risk of unresponsive behaviours; General rules that apply to everyone (irrespective of biases, emotional or social context) | Low cost design (except for standards that are very costly to define) and implementation; Can help reducing creative compliance | Paternalism; Risk of biases by the rulemaker; Over-regulation and excessive limitations on those not affected by unresponsive behaviours |
| Disclosure regulation | Ex ante information disclosure duties (eg informed consent); Ex post (control of) prohibitions of false information; misleading advertising, unfair commercial practices | Neutral with regard to individual preferences and cognitive context | Preserves autonomy | Does not ensure effective comprehension; Can exacerbate information asymmetry (information overload) |
| Public tutoring* | *Ex officio* powers by public bodies to co-enforce individual rights; Class actions, collective redress; | Aims at avoiding risk of unresponsive behaviours; Assumes weakness of regulatees (disregarding cognitive context) | Strengthens deterrent effect of private enforcement; Does not limit private autonomy | Heavily paternalistic (complements individual autonomy with public intervention); Lacks delegation; |

* Public tutoring occurs when the public powers are made responsible for supporting or easing the exercise of private rights, no matter whether individuals are effectively in need of protection or if they are actually affected by some cognitive or behavioural limitations.

*(continued)*

**Table 1:** ***(continued)***

| STRATEGY | REGULATORY TOOL | CHARACTERS | PROS | CONS |
|---|---|---|---|---|
| | | **IN RELATION TO COGNITIVE AND BEHAVIOURAL LIMITATIONS** | | |
| | Simplification of litigation (Alternative Dispute Resolutions) | | | Stuck to notional (average) consumer |
| Incentive Regulation | Economic incentives;<br>Differentiated tax regimes;<br>Subsidies (eg benefits for energy savers; higher taxes for polluters) | Assumes rationality of regulatees;<br>General rules that apply to everyone (disregarding cognitive context) | Preserves autonomy;<br>Easy to enforce | Can be costly to define;<br>Disregards importance of motivations other than the economic one |
| Empowerment | Simplification of information and smart disclosure;<br>Framing;<br>Simplification of choice tools (eg price comparison apps);<br>Targeted education;<br>Overcoming emotional responses (eg cooling-off rules) | Aims at avoiding or overcoming unresponsive behaviours (truly de-biasing techniques);<br>Emphasis on education, information simplification, overcoming emotional responses | Preserves autonomy;<br>Reduces information asymmetry;<br>Strengthens demand vis-à-vis the supply;<br>Can promote competition;<br>Can increase compliance with the law and participation in public programs<br>Can save enforcement costs | Can be costly to design;<br>Possible aversion to be empowered;<br>Efficacy not assessed yet |
| Nudging | Default rules;<br>Smart information nudge;<br>Exploiting emotional responses | Is not aimed at avoiding or overcoming unresponsive behaviours;<br>Exploits bias, emotional and social context | Libertarian (paternalism) approach<br>Potentially successful in changing behaviours where other tools fail<br>Can save enforcement costs | Can be costly to design;<br>Risk of manipulation;<br>Lack of transparency;<br>Low coercion, but still limits autonomy<br>Efficacy not assessed yet |

Sometimes a single regulatory strategy may have limited efficacy and a *combination of different strategies* could be suggested to regulators. Such a solution may, of course, combine either various cognitive-based regulations or both the latter and traditional regulation. For instance, default rules may be coupled with rules mandating a certain framing of information (an example of empowerment) regarding opt-out, in order to increase its ease and thus reduce the risk of excessive paternalism.

Similarly, nudges which tend to 'exploit or neutralise' emotional responses could be matched (as is often the case) with other—traditional—regulations. For instance, if the public interest to be protected is of particular importance, such as health, strategies like plain packaging and pictorial warnings may be coupled with a general obligation on tobacco producers to provide basic information about health effects, or with ban of sales to minors.

Sometimes tools belonging to different strategies may be used 'incrementally' to raise the effectiveness of regulatory intervention gradually. So, for instance, default rules can operate to complement regulatory requirements in order to increase compliance.[126] Also, 'smart information nudging' could increase the efficacy of both traditional disclosure regulation and information simplification empowerment. As is known, traditional disclosure tends to increase the amount of data provided, causing an adverse reaction of real people to complex information (information overload), who, consequently, will go in the opposite direction of the desired behaviour (eg people will hold on to risky investments, or they will not save energy). If it is proven that the effect of having too much information is equal to not being informed (about financial risks and potential savings), then some empowerment tools, such as framing or targeted education, could be justified to strengthen the efficacy of traditional regulation based on information.

Even the 'simplification of choice' tool could be more effective (eg to prompt switching provider) if coupled with 'targeted education'. However, if a feedback of ineffectiveness of regulation persists (eg low switching rates in a newly liberalised market), regulators could consider overcoming inertia by using 'smart or relational information nudging'. In other words, they could exploit one social norm (eg emulation within a group) and emphasise positive models in the community (eg those who switched are better off) so as to create new habits. Of course, since the efficacy of such nudging tools utterly depends on whether the same mental mechanism will occur everywhere in the relevant market and for everyone in the targeted group, targeting education might help cope with specificities of different social contexts.

However, a regulatory mix of strategies might not always be the best solution, because undesirable effects may arise that reduce (instead of reinforcing) the overall efficacy of the combined strategies. For instance, where the organ donation

[126] Sunstein, 'Empirically Informed Regulation' (n 34) 1398–99.

default option (an example of nudging) is combined with targeted education (an empowerment tool), the latter might 'caus[e] people to consider the decision more carefully and perhaps to consult their families, a reactive effect may [thus] emerge and the donation rate may not increase to the desired level'.[127] Therefore, regulators should also take into consideration possible boomerang effects associated with the use of a mix of strategies.

Once a cognitive-based regulatory answer proves to be justified, we claim that in selecting the best one, a crucial question is whether rules may help individuals to adopt deliberately conscious decisions (if empowerment is used) or to choose what is best for them (in case nudging is employed). We argue that to establish the efficacy of rules in inducing the desired behaviour, regulators should engage in the difficult task of establishing whether cognitive and behavioural limitations (and the resulting unresponsiveness of behaviours) *can be overcome or not*, in the first place. We claim that a yes–no answer to the problem of establishing whether biases can be overcome through empowerment rules is not given.

Yet, only a cognitive-based regulatory process, which is informed—where necessary—by cognitive experiments, could help to detect this.[128] Where evidence is gathered in the rulemaking process that cognitive and behavioural limitations can be avoided or overcome, we would suggest favouring empowerment regulation (aimed at increasing people's cognitive and behavioural capabilities), because it is more transparent than nudging and preserves regulatees' autonomy.

If, despite empowerment, biases and behavioural limitations persist, regulators might go for nudging (which exploits, often in an undisclosed manner, heuristics and biases while preserving regulatees' choice). In other words, we suggest that empowerment and nudging could be used sequentially to increase the chances that the pursued behaviour occurs. This could be done through experiments helping regulators to assess the effectiveness of empowerment rules in inducing deliberation and subsequent due course of action; and to further assess the feasibility of using nudging as a 'last resort' to help push people towards the desired behaviour. However, we should caution that nudging might not be the best option when the protected values are particularly sensitive, such as health, safety or the environment, and need a strengthened answer, in which circumstances more traditional regulations, such as command and control, might be preferable. Indeed, using nudging as a last resort strategy may be a source of serious consequences: if not effective, nudge strategies risk leaving the public interest they are intended to satisfy without adequate protection.

[127] Amir and Lobel, 'Stumble, Predict, Nudge' (n 59). See also Bovens, 'The Ethics of Nudge' (n 23) and John et al, *Nudge, Nudge, Think, Think* (n 108) 121–22.

[128] Correcting biases may rely simply on asking people to think carefully or allowing them time to do so: Amir and Lobel, 'Stumble, Predict, Nudge' (n 59).

To sum up, choosing the right regulatory tool should be the result of a omparison between all feasible regulatory options, which should include both traditional tools, eventually revisited in a cognitive vein, and the new ones, already cognitive-inspired, nudging and empowerment. Such a comparison should be based on empirical evidence of the possible effectiveness of all different options. In turn, gathering such empirical evidence might require the performance of experiments. Of the use of experiments, of their results and of the reason for taking the latter into account or not, traces should be found in the motivation of regulation.