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POTENTIAL SCOPE AND CHALLENGES OF BEHAVIOURALLY INFORMED REGULATION

IMPLICATIONS FOR MODERN REGULATORY RISK MANAGEMENT

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Introduction

This paper looks at how behavioural sciences and the relevant knowledge can be applied by public authorities to design, test and implement interventions that help society and consumers make choices that are both sustainable and to their well-being while remaining compatible with legitimate collective decision-making. Used in the context of comprehensive risk governance, behavioural insight (here abbreviated as BI) is valuable and useful in helping define a problem in the first instance and providing an understanding of the risks and shortfalls before any designing regulation even begins. More specifically, this paper addresses the possibility of intervening in individual or group behaviour, and discusses effectiveness and legality. The legitimacy of such interventions is derived from the overall governance process that recommends a democratic and inclusive selection rule for choosing a specific transformation path over other alternatives. If such a legitimate decision has been made, then it is morally and politically justified for collective actors to shape human behaviour through interventions. However, it is essential that such approaches are fully transparent and open to public scrutiny and critique.

The literature on shaping human behaviour describes five generic intervention strategies: direct legal prescriptions (laws); economic incentives (subsidies, certificates, taxes, tariffs); informational and educational material (labelling, certification, training, communication); influencing choice architecture ('nudging') and changing institutional contexts (facilitating or impeding specific behavioural options). Each scientific community has established its own methods and published dedicated scientific journals. There is a fair degree of competition between the communities as far as the relevance for explaining people's behaviour is concerned and the legitimacy of each approach with respect to democratic or ethical principles. It is important to bridge the gaps

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between these communities and to consider all five intervention methods as appropriate and effective depending on the context and situation. No one method should be favoured over another. The respective potential of each needs to be defined together with its limits and drawbacks, while emphasising that effective behavioural change is most likely to be achieved through a combination of interventions.

There is much interest in choice architecture as a type of intervention that is complementary to others such as information and educational material, economic incentives, or contextual and institutional changes. Direct legal prescriptions will not be discussed in this paper as most analysts agree that this is more or less a last resort when any other (more voluntary) incentive fails or is inappropriate. Indeed, in certain circumstances direct legal prescriptions are required and constitute the correct form of intervention. In this case, behavioural scientists can provide insights on their implementation. However, many of the other interventions depend, at least to a certain extent, on the legal framework allowing these interventions to become effective. Finally, all five intervention options have to be seen as partially complimentary and partially substitutive. The most interesting aspect with respect to transformative science (see Box 1) is the effect that various combinations of all intervention strategies and their potential interactions have jointly.

Box 1: Transformative science

Transformative science involves new and innovative approaches to generating and using scientific expertise in policymaking. This is often required when public authorities need to encourage new types of well-being or development. Transformation requires a three-step scientific process of knowledge production and transfer. The first step is to *develop knowledge of systemic interactions* between scientific and technological development, organisational changes, governance structures and human behaviour. Human actions are considered to be the main current drivers of natural and cultural evolution. The new role of society as co-creator of evolution necessitates a better and more intimate understanding of the interconnections between nature, technology and society. By investigating the systemic connections between these three major elements, systems knowledge is created. Such systemic knowledge is needed to understand a system as a whole before one attempts to change it.

The second stage in knowledge generation and utilisation is the *creation of orientation science*. Orientation implies providing guidance about the goals or objectives one intends to achieve. This requires both knowledge about the likely outcome of taking one option as opposed to another and understanding how desirable or ethical the consequences of each option will be seen by decision-makers and the public concerned. Hence, this step includes two major objectives. The first is to develop a normative framework for the objectives and goals (of sustainability) that human interventions into the network of technology, nature and society are to pursue. Sustainability is a deeply normative concept that needs to be specified in terms of medium and long-term objectives, including the selected endpoints of development and the legitimate means and instruments necessary to reach these goals. In line with the aim of IRGC to help develop inclusive governance, this normative exercise requires input from various stakeholders, plural publics and individuals concerned. The second aspect of orientation is to develop scenarios that help understand the transitions that are necessary to reach the normative goals that have been negotiated through participatory processes. These scenarios help decision-makers, as well as the populations affected, to understand the necessary trade-offs between conflicting goals and to understand the potential risks and side effects that are associated with each scenario.[1]

The third and final step is to *design, implement and test interventions* that can help guide society into following the general direction that the most favoured scenario suggests. These interventions are, in an ideal case, enlightened by the consensus that this specific scenario is to be preferred over a set of alternative scenarios. They also require a governance process that is able to facilitate the transition towards the implementation of this preferred scenario. The main goal here is to define, investigate and monitor policy interventions according to the main evaluative criteria such as efficiency, effectiveness, fairness and resilience.

Interventions based on insights gathered from BI are expected to improve social well-being by changing the way policy is being designed and implemented, in combination with economic incentives, context variation and regulatory measures, i.e. public authority prescriptions. This paper reviews the overall scope and challenges of interventions directed at changing individual behaviour. The starting point and rationale for this paper results from the gaps in regulatory efficacy and efficiency. Questions that regulators are invited to consider include: How can behavioural sciences help improve regulatory effectiveness? Can regulators influence fundamental and lasting behaviour change? What can they do when industry reacts in sectors where freedom of consumption choice is protected by law? Can public intervention based on behavioural insights substitute, or complement regulation? Is it always legal or ethical? If not, how can it be made legal and ethical?

This paper is organised into four sections. Section 1 looks at the contribution of behavioural sciences to risk governance where national authorities are concerned. Section 2 discusses the scope of application of behavioural insights. Section 3 looks at the challenges: issues of effectiveness, legality and acceptability. Section 4 proposes general recommendations for implementation. Additional references and notes have also been provided for further reading on specific topics.

1. Contribution of behavioural sciences to risk governance

The work of social scientists is to understand and interpret human decisions and actions. It can explain people's behaviour with regard to activities that incur risks, whether to themselves or to others. Peer-to-peer persuasion and using subconscious factors or other such emotionally driven interventions can be valuable approaches for managing risk.

1.1 Behavioural sciences

Behavioural sciences study human behaviour. Scholars in this field are researching the motives and drivers behind people's behaviour and, based on these insights, looking for relevant opportunities and limitations of influence. Their interest is in designing interventions and policies in ways that are cognisant of and informed by insights of empirical behaviour observation.

- Behavioural economists recognise that people do not act merely out of self-interest or strict cost-benefit analyses. They stress the importance of symbolic (suggesting positive ideas or qualities) or monetary incentives for sustaining or changing behaviour.
- Behavioural psychologists are interested in studying human behaviour that is often conditioned by routines and tradition. They stress the importance of both salient information and choice architecture to make people more cognisant and ready to change their behaviour.

- Behavioural social scientists stress the importance of context factors and institutional constraints such as social recognition; social norms; and situational constraints that shape the conditions for individuals considering or choosing alternative options for their own actions.

Especially in view of the prevalence of heterogeneous consumer segments, for example in the energy sector – a new field of interest, it is essential to integrate these three traditions in behavioural research if final energy consumption is to be modified in line with energy policy objectives.[2]

Psychology and other social sciences offer new insights that help regulators ameliorate the effectiveness of the economic instruments governments use in their broad regulatory function. This includes those to remedy market failures, redistribute income, and collect tax revenue. Some generic findings of behavioural sciences are useful for policy makers and regulators. For example, people work with 'mental models'[3] as their psychological representations of real, hypothetical, or imaginary situations. This helps them anticipate events, reason, decide and provide explanation. Mental models may not be accurate or scientific representations of reality. They are influenced by a number of factors, including social norms[4], i.e. unwritten rules about how people behave in social contexts at a particular time or 'decision point'. The existence of social norms explains that peer-pressure is important in triggering change. What others think, expect and do influences our preferences and decisions. However, different people may have varying reasons or motives for their behaviour (beyond their opinion or attitude). There are various types of rationality, which behavioural scientists aim to explore, understand and analyse, often with a view to provide recommendations for intervention.

The concepts of 'expected' utility, symbolic gratification and a multitude of subjective rationalities, rather than a single instrumental rationality, are central to this debate. Theoreticians will explain why certain behaviour seems irrational, according to the classic economic theory (that people tend to maximise their profit), and behavioural economists have greatly contributed in sharing the understanding that what may not appear 'rational', according to the principle of maximising utility, may in fact be rational with respect to the objectives of the decider in the light of his or her own logic. For example, following social norms is a rational behaviour in its own domain, although this may not lead to perfect economic optimisation.

1.2 Cognitive biases

Behavioural insights can be extremely useful in understanding the predispositions that affect how people take decisions and then build on those biases to help obtain a better outcome. Biases and intuitive heuristics relate to processing information on risk aspects such as exposure, probability or uncertainty. Biases that individuals often apply to judge risks or to draw inferences from probabilistic information[5] include[6]:

- **Availability**: Events that come to people's mind immediately (e.g. events highlighted in the mass media) are rated as more probable than events that

are less in their thoughts. In food consumption behaviour, if people have a tendency to grab the first food they see (due to the availability heuristic or satisficing choice strategies), then it is recommended that they see the healthy food first.

- **Status quo or choice avoidance**: people have a tendency not to change their behaviour. If their inclination is to stick with the default retirement plan that is proposed to them, then authorities need to make sure that the default retirement plan is the one that is best for them.
- **Anchoring effect**: Probabilities are not adjusted sufficiently taking into account new information when it becomes available. People retain the perceived significance of the initial information so that, for example, if they associate eating fish with heavy metal contamination, they are likely to ignore that eating fish, even lightly contaminated, is still healthier than eating red meat.
- **Personal experience**: Single events either experienced directly by people, or in associated circumstances, are considered more typical than the information related to the actual frequencies of those events. People who, by chance, have observed that woman drivers were involved in the last two accidents they witnessed are likely to infer that women cause more accidents (which, in fact, is not true).
- **Avoidance of cognitive dissonance**: In an attempt to attenuate cognitive dissonance, information which challenges perceived probabilities that are already part of a belief system will either be ignored or minimised, in an attempt to attenuate cognitive dissonance. Autonomous cars are perceived to be less safe than others because the overriding belief is that humans are better drivers than machines, even though experts demonstrate that, in general, machines cause fewer accidents than humans. In the case of autonomous vehicles, industry and regulators will need to campaign more to explain why they can be safer than conventional ones.

1.3
Use of behavioural sciences in governmental organisations

Behavioural sciences involve a new type of systemic thinking about old problems, especially when there are difficult trade-offs to be made such as those involving freedom and privacy or efficacy and efficiency. Indeed, interventions based on behavioural insights require embeddedness in appropriate political agendas and support. According to the reckoning of certain leading international organisations however, these interventions are worth the effort it takes to make them work effectively and legally. In their guide for policy-makers entitled “Applying behavioural sciences to EU policy making”, the European Commission concluded that “well-designed behavioural studies can offer useful insights to policy-makers by generating the evidence required to improve policies”[7]. Back in 2010, the OECD Consumer Policy Toolkit[8] (a roadmap for policy choices) recommended governments consider studies by social scientists. The OECD provided further endorsements in a 2014 publication, “Regulatory Policy and Behavioural Economics”, which included a review of numerous country trials[9]. The World Bank also demonstrated its interest in tools to help advance a new set of development approaches based on a fuller consideration of psychological and social influences[10].

In governments, interest in BI goes in pair with a desire to change public authority culture and regulation. Vocabulary used includes 'team' in the UK[11], 'initiative' in the US[12] or 'network' in the Netherlands[13] (to foster the impression of an operating net of various department teams), terms that are not frequently associated with public administration. Communication is aimed at people on a personal level (e.g. 'you and your neighbours'). Beyond improving the performance of regulatory effectiveness and triggering individual behaviour, this approach demonstrates a sense of individual responsibility toward risk (which is expected to result in reducing the burden of risk management costs on governments). The aim is to develop a new way of enhancing mutual trust between authorities and citizens.

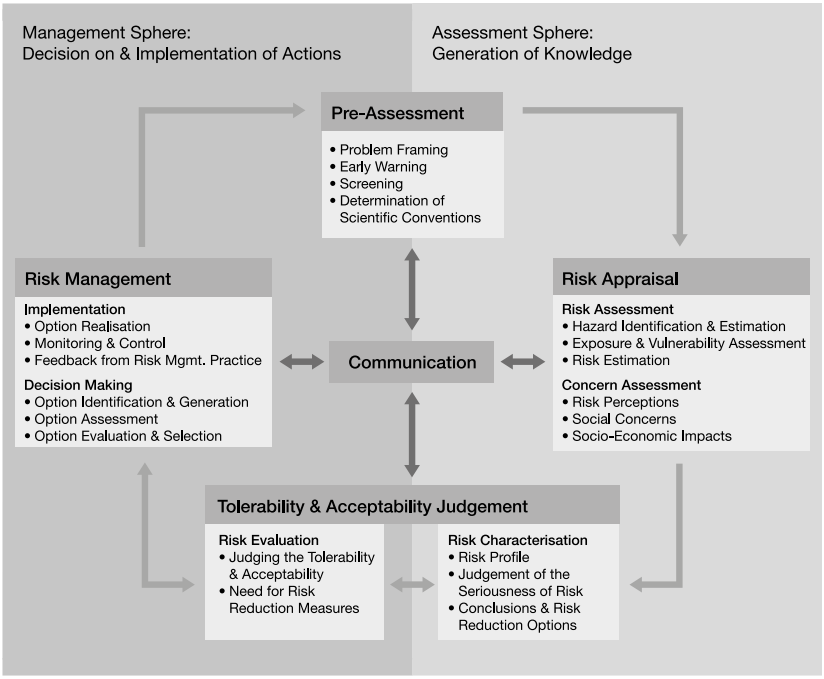

Figure 1: IRGC risk governance framework

1.4 Use of behavioural sciences in the broad context of risk governance

Risk governance implies taking a holistic approach to assessment and management. It requires: careful scientific appraisal and weighing how people perceive risk; evaluating the acceptability of risk in order to decide whether or not, as well as how, risk needs to be managed in a particular context; considering various management options before selecting a single one or several; and, finally, placing risk communication at the centre of the process. The whole process aims to establish dialogue, transparency and confidence. Figure 1 illustrates the IRGC risk governance framework[14] (IRGC, 2005).

Risk governance takes a multi-disciplinary approach aimed at including all stakeholders in the management decision about the risk issue. Knowledge gained from behavioural sciences is thus useful at various stages in the process and can contribute to its success:

- By helping develop a more complex but complete picture of the risk at hand and understanding the importance of frames when risk problems are defined in a pluralistic society. Framing provides an image of the problem which explains the expectations that different groups and individuals associate with a risk.
- As a source of information for assessing concern as an integral part of the risk appraisal: Concerns underlie the behavioural responses of people when making judgements about risks and their impacts. Concerns do not determine behavioural reactions but do influence them.
- For making trade-offs when evaluating tolerability or the acceptability of a risk. Trade-offs are manifestations of people's preferences and

values. Regulatory trade-offs may or may not coincide with individual or group-preferences. If the gap between public and individual trade-offs is particularly broad, one can expect protest movements or civil disobedience.

- For evaluating various risk management options aimed at dealing with the source of the risk or its impact on the parties affected and the consequences. For example, for risk matters that are not regulated by law, insurance companies involved in developing risk transfer mechanisms are segmenting their client base using behaviour (such as smoking or the regular practice of a physical activity) as a determinant of coverage or pricing conditions.

2. Scope of the application of behavioural insights

For risk management there are three broad types of application where BI can improve the effectiveness of public intervention: implementing regulation, changing behaviour beyond the scope of regulation and changing the design of regulation[15].

2.1 Implementing regulation

Improving regulatory implementation, thus refining compliance with laws and regulation, is the first objective of those governments applying BI. Examples include making people pay their taxes on time, or recycling waste in an appropriate manner. The aim is to improve the effectiveness of regulation and its cost efficiency[16]. BI helps regulators implement and enforce regulation in a way that corresponds well with people's spontaneous behaviour. Those who enforce regulation will help those who are regulated to comply with specific requirements, by demonstrating how it is (or could be) to their benefit, instead of blaming or punishing them. The OECD report on "Regulatory Policy and Behavioural Economics"[17] provides numerous examples of how applying behavioural economics to policy can improve regulatory delivery, interpretation and enforcement of existing rules, as well as regulatory design. We cite two here:

- Several countries have followed the successful work carried out in the UK to increase tax compliance. They undertook random controlled trials to assess the impact of various forms of communication – in particular letters that were sent to noncompliant individuals and businesses – to increase the repayment rate of taxes that were overdue. Some of the lessons learned from studying the effectiveness of various messages show that personalising letters is needed, for example by harnessing the power of social norms and drawing comparison with other taxpayers in the neighbourhood (if the average compliance is higher), or making it extremely simple to pay taxes in time. A first trial boosted repayment rates by up to 15% in the first 6 weeks[18].
- Another example where regulatory enforcement can be improved is that carried out by the US Consumer Financial Protection Bureau and the UK Financial Conduct Authority. They recruited behavioural scientists to assist

their own managerial staff, for example in investigating a potential breach of regulation or action that could be detrimental to the consumer. These agencies expect this will help them improve company understanding of observed behaviours and enable managers to form better judgements.

2.2
Changing behaviour in a non-regulated field

This second type of application applies to cases where there is no regulation. It involves decision-making, helping people decide and behave in a manner that is less risky to themselves and society. This field is noticeable in that it helps people improve their own individual risk management without sacrificing welfare. It aims to reinforce personal decisions on various aspects of living where risk is involved. The major constraint in these approaches is that individuals need to remain free to take their own decisions. In other words, they cannot be forced into certain choices but retain freedom of choice, both democratically and ethically.

Governments can deploy techniques that influence consumer choice, often without their being aware, i.e. when consumers are not made explicitly aware of the desirable choice (for example, pre-checked boxes in questionnaires about saving for retirement that prompt employees towards a 'default option', one which prefers long-term savings over short-term consumption). This can also help people reach their own objectives.

BI can be used in many ways and there are positive experiences in various fields such as:

- Public health, for example to suggest healthier foods. "5 A DAY" fruit and vegetable campaigns have been instigated by many governments[19].
- Pension coverage, for example in countries where compulsory schemes provide insufficient pensions, to encourage people to save for their retirement in addition to compulsory schemes. Employers and voluntary insurance schemes propose automatic pension admission, in which employees need to check a box if they do not want to enrol. In the US, this small change appears to have boosted savings by over to 40%[20]. The "Kiwisaver" auto-enrolment scheme in New Zealand (2007) led to a 50% pension coverage increase. This type of nudging is based on the fact that behaviour tends to be driven by relying on default options, by myopic attitudes or by habit.
- Organ donation: a study across 22 countries and over 10 years indicates that actual organ donation rates are 25 to 30% higher in *presumed*-consent countries than in *informed*-consent countries. This analysis has triggered a switch from informed to presumed consent in many countries[21].

In addition to the fields of finance, health, food and, to a certain extent tobacco and energy efficiency, there are many other sectors that could benefit from BI insights. These include energy behaviour, nutrition, exercise, drug abuse and many others. Applications might include the triggering of individual commitment and actions towards climate change mitigation; stimulating a positive change with regards to reduction of exposure and vulnerability to

natural hazards (insofar as exposure and vulnerability result from individual decisions and choices); or activating data protection and privacy (in order to reduce the spread of cyber security risk). Development policy bodies and developing countries are also implementing behavioural insights[22].

2.3
Changing the design of regulation

When the root causes of individual and collective behavioural decisions and the feedback effect of deliberate interventions to change people's behaviour are well analysed and understood, regulators can consider using insights from behavioural sciences to design new or re-design existing regulations, i.e. as a means of selecting one type of intervention over another. For example, where command and control regulation does not work, an incentive-based instrument might be preferred. The cyber world, for example, is a possible new field for regulators where individual behaviour to prevent or stop malicious intrusion will need to be better understood, before creating new rules. Empirical analysis of how people use (or not) passwords and anti-virus software should guide administrators and regulators on how to design security within the systems, rather than by imposing external constraints that many people try to bypass. Also, motivation and behavioural patterns of cyber attackers need to be better understood to improve threat assessment and design standards for safer Internet design.

An interesting example is that of the trend to deregulate electricity markets. In deregulated electricity markets consumers can choose their suppliers and often their pricing schemes. Providing them with a choice potentially creates new risks if competition is too fierce. In fact, findings from some regulators have shown that too much choice is damaging, in that it creates consumer confusion and inertia. Thus regulators need, in parallel, to produce new types of indirect measures that serve the goal of regulation intended, for example showing how energy suppliers can market their products.

It is clear that insights from behavioural sciences can be used to support new thinking on relations between various levels and types of governance and regulation. As explained by other authors in this publication, the attitude of public and private actors with regards to regulation are changing.

Conclusions

The three fields of application (regulation implementation, behaviour change beyond the scope of regulation and regulation design change) benefit from the findings of behavioural sciences. However, there are certain differences. In particular, the question of creating an appropriate choice architecture, or nudging to induce a change of behaviour that is in the interest of individuals and society is specific to the second type of application. It is here that opposition is more active, and opponents claim that governments may go into so-called 'soft-paternalism', a governance style that some governments may avoid.

Nudging was first described in 2008 by Thaler and Sunstein[23] as a soft and liberal way to achieve policy outcome – a contrast to command-and-order instruments. It comprises a set of tools that governments and regulators can consider using when they face serious problems or risks either caused by citizens or affecting citizens, and which the usual regulatory instruments fail to address. For example, people continue to die from smoking; obesity is still increasing; unemployment affects primarily poor people and governments do not know how they will finance retirement pensions in the future. Nudging is only one facet of BI and related to the choice architecture that is provided to people by regulatory bodies or other authorities. It offers an alternative to command-and-control regulation since it retains the factor of choice. But it requires appropriate checking, control and restriction on how it is used. Nudging can be used in combination or as an alternative to economic incentives or educational/communication tools.

3. Challenges: how to make it work; is it legal, acceptable?

Early applications of behavioural insights, particularly in designing interventions that aim to nudge people into taking certain decisions or adopting specific behaviour, have raised concern about their effectiveness and legality (especially where ethical acceptability beyond legal prescriptions is concerned). In addition, industry and non-governmental organisations (NGOs) may be opposed to nudging since it relies on a form of paternalism that shapes people's behaviour in a specific direction, often without their even noticing let alone approving. This section reviews some of the questions and lessons gleaned from experience and the opinion of experts.

3.1 Effectiveness

The first issue concerns effectiveness. Is the performance of public interventions specifically designed using BI superior to a monetary incentive system that aims for the same result?

The characteristics of effective behaviour-informed interventions are in a way similar to those of marketing instruments used in the private sector. Social marketing has been used by philanthropic or humanitarian organisations, and governments can learn from their experience. There are positive outcomes in many countries. With regard to regulatory implementation and design, it is obvious that a better understanding of how those regulated actually behave improves impact and efficiency.

When it comes to modifying consumer behaviour, studies indicate that these interventions are more effective when *people are unaware* that some 'hidden' persuasion is built into the proposals that are being made to them; when complexity is simplified and decision appears to be 'simple'; or when social norms and group pressure are brought to the front to trigger a certain change.

In order to be effective, tools that influence behaviour and present people with choices must also carefully *structure* the task of the choice, i.e. determine what information is supplied, and then *describe* the choice options, presenting them in an attractive manner[24]. However, the question remains as to whether such interventions, even if effective in the first place, continue to work after a first initial period of interest or even enthusiasm. Experience here has been diverse. For example, communication to improve energy efficiency or savings (through reduction of energy bills) seems to lose its attractiveness as time passes, probably because of the large price elasticity[25]. The time horizon is an important factor in gauging the effectiveness of nudges. So, policy-makers, regulators and behavioural scientists need to continue to work together and learn from each other. Experience of using placebos in the medical sector can be useful: placebos can work when people are unaware of them, but they pose ethical issues concerning prior consent.

Another dimension worth mentioning is that of interventions that can be effective for some population segments and not for others. Interventions need to be tested with a targeted audience before being deployed.

3.2
Legality and legitimacy

A second, important question that legislators have to consider is whether the application of behavioural insights to trigger certain decisions or behaviour changes is always entirely legal and legitimate. This specifically concerns regulators who might consider developing a regulatory context and conditions in order to 'host' interventions to change people's behaviours. In liberal states, special legal problems can arise. These include constitutional limits[26]. There are institutional mechanisms and features – such as the principles of legality, impartiality and judicial oversight[27], which ensure that laws respect fundamental rights such as equality of treatment, fairness, freedom of choice and expression, and privacy. But if governments use instruments other than laws or regulation, it is possible they extend beyond what citizens want or expect in a democratic regime and is largely dependent on the amount of trust they have in their government. The question of whether and when nudging is a legitimate and acceptable approach is thus important.

Scholars who work on this debate have compared nudging to 'soft-paternalism' or 'patronising' and there is much questioning as to whether or not this is acceptable and desirable[28]. According to some, nudging goes against empowerment, freedom and fairness[29]. Those who claim that soft-paternalism is unacceptable have identified three issues. One is that it is based on a subjective evaluation of what is in the best interest of a person. Another is that it does not help individuals build their own autonomy. Finally, it neglects the dynamic feedback effects of behaviourally-informed policy interventions[30].

Those who admit that it is, or can be, legal and acceptable note that guiding individuals through various possible choices is often unavoidable, and therefore cannot morally be inherently problematic. Thus, when it is impossible to avoid shaping people's choices, some forms of behaviour change have to be permissible[31]. However, there are three main requirements. The

first is that all citizens should be treated equally. Nudging should not cause any form of discrimination between those who behave as regulators wish them to behave, and those who do not. The second is that interventions are designed or implemented using a choice-preserving approach. Freedom of choice (self-determination) must be maintained, even if it implies increased individual or public risk, or if it means that decisions will not be optimised. Finally, autonomy also needs to be retained. Nudging should not be considered as a manifestation of the exercise of public power.

Often, legitimacy is attributed to a collective process by which the goal and the means to reach these goals are approved by democratic deliberative decision-making or participatory processes. The practice of nudging needs to be supervised by a democratically elected body which ensures that interventions and choice framing do not prevent or compromise individual choices. The common good needs to be substantiated by a relevant process but not approved by each individual involved.

The concerns reviewed here should be understood to be cautionary considerations. Dialogue between those who design nudge interventions and those who critique them needs to be formalised[32] and frameworks developed for the responsible use of behaviour-informed regulations can be developed[33]. Also, such strategies need to be evaluated according to whatever regulatory instruments can ensure they are publicly checked and controlled[34]. Alemanno and Spina (2014) suggest that a legal framework be developed to ensure that the benefits of behavioural insights are able to inform regulatory processes in a way such that citizens' rights and freedom are guaranteed.

3.3 Industry and NGOs may be opposed to nudging by public authorities

A related issue that should be mentioned here is the role played by commercial players and NGOs. Increasingly these have an impact on consumer behaviour and regulators have to develop new, more appropriate ways to respond, rather than simply deciding on standards, norms or bans, when issues of security or safety are at stake. When evidence concerning safety, security or environmental sustainability issues is contested, relying on that evidence, or the common good, can no longer be sufficient. For example, it would be extremely useful if behavioural insights were able to help re-design traditional policies such as those on tobacco, obesity or antimicrobial resistance, where most current policies fail to deal with the risk in a satisfactory manner. With these three examples in mind, it is not difficult to imagine that, if governments massively engaged in successful nudging, and in the absence of a deliberative process that determines *what people want*, industry would be an opponent and argue that freedom of choice should be preserved. Using behavioural insights will perhaps not make policies more acceptable to industry, especially if it makes the policies more acceptable to people.

There is an active debate on the topic of labelling. For example, so-called 'traffic light' labelling[35] where, for example, a red sticker implies that "this product is not good for you" and a green sticker translates as "this one is

good for you", can be attractive to people and efficient in influencing customer choice. But this type of labelling needs to be acceptable to regulators as well as industry. The latter is able to work around constraints such as disclosure requirements imposed by efficient labelling.

There is opposition in industry and we can anticipate that, for example, if regulators were to consider regulating product layout in supermarkets and cafeterias (so that healthy products were placed at eye level, and less healthy products at higher or lower display levels) they would face industry opposition, both from retailers and producers. In 2012, New York Mayor Bloomberg, proposed a ban on the sale of soft drinks in large cups in public places. The ban was inspired by empirical findings from behavioural scientists and, on that basis, justified as one of the measures, among others, in the fight against obesity and diabetes. The ban was approved by the New York City Board of Health and later countered in court. Many people were outraged by what they thought was an illegitimate reduction of their freedom of choice[36]. Like nudging people to quit smoking, interventions to help people change their behaviour need to be based on what people really want. Therefore, as suggested in the introduction and Box 1, interventions based on behavioural insights need to be a part of democratic and inclusive governance.

4. Concluding remarks

Elaborating on considerations of effectiveness and legality, this section proposes a form of roadmap and key recommendations for regulators who are considering applying behavioural insights.

Setting and achieving the objective

Regulators who decide to apply BI begin by defining the objective of their decision to do so. This entails identifying what it is that has to be improved in risk regulation or management. They can begin by asking the following questions: what is wrong with the current regulation and how is it implemented? Are existing risk reduction measures both effective and efficient?

Regulators then invite those who are affected by the regulation to think about their own objectives and motivation: what matters to them? What do they really want? Those who are concerned by a regulation will react more positively if they recognise that in doing what the regulators suggest it will help them reach their own personal objectives. The process by which regulators assist the regulated in revealing their personal objectives is necessary to every successful intervention. For example, risk managers in finance departments are faced with the financial risks related to aging populations, of being able to pay retirement pensions in the future. They aim to transfer some of this risk to individuals, and experiment with ways to trigger greater individual savings. Providing concrete examples of the additional welfare that people would receive after retirement if they increased their saving now, provides a positive incentive to save money for the future.

Working to assess and understand, before managing

Like in a risk management process, regulatory interventions based on behavioural insights begin with an assessment of people's actual needs and perception of their actions, their present behaviour and the risks involved, the benefits associated with the activity, and the benefits associated with a behaviour change. In general, people need to perceive a risk before they are willing to change their behaviour with regard to the activity causing the risk. Only after a careful analysis of people's motivations, attitudes and behaviour can the management phase begin.

When communicating the implementation of a government intervention, it is important to place the user at the centre. He/she, as a citizen or consumer, is the subject, not the object. Users must be involved in the discussion about their behaviour. They become instrumental in their own regulation[37].

In the field of law enforcement, an intervention decided on the basis of BI should not be intended as either substituting or complementing a law or regulation. Instead, it will aim to assist people in doing what they are obliged to do (such as paying taxes) or what is good for their own health or well-being (such as avoiding overweight). In 2014 the City of Philadelphia carried out an experiment to improve compliance with city regulations on littering and waste recycling. In order to improve law enforcement, it was decided not to blame and fine people in poor neighbourhoods, but to announce publicly that city staff would be coming to inspect the streets. This resulted in the streets being cleaned before they arrived. This approach neither substitutes nor complements the law, it *assists* citizens in doing what they have to do, *piloting* and focusing on outcome.

Testing and experimenting

Most prescriptions and communication messages need to be tested before being implemented, to gain knowledge about how people really behave. For example, it was found that people did not know how to wash their hands in order to eliminate the flu virus and avoid contamination during outbreaks. Communication campaigns on washing one's hands were thus ineffective until they included clear instructions on how to go about this. It is extremely important to evaluate how communication campaigns are understood before they are deployed. Even if communication appears obvious, certain segments of the population may understand it differently to others. People behave differently in different cultures and situations.

Practitioners have learned, and continue to learn, how to test ideas and communication messages before they implement them. Too often it is a poor understanding of those individuals who are targeted in a campaign that explains the difference between an expected 'rational' behaviour and the actual behaviour. Public services need to learn that testing is necessary, and regulators might consider including this requirement in legislation (ex-ante impact assessment) in addition to ex-post impact assessment. In this sense, random field trials have proven to be successful in evaluating the effectiveness of public policy intervention[38]. However after a few years of testing in various countries and with differing population segments, there are some

cases when testing is no longer necessary because sufficient knowledge has been collected.

Major recommendations

Analysis of trials so far have led to three generic recommendations as to how governments can use behavioural insights to improve regulatory impact and effectiveness[39]:

1. Make it simple, easy, attractive, timely and social for people to make choices or change their behaviour to their benefit and harmlessly. This helps individuals deal better with complexity.
2. Make the relevant option more salient and provide default options where appropriate (but not always, as there may be some perverse effects as well); require active participation to opt out – as opposed to not opting in, of the more beneficial option – that is the one that will be applied if the individual does not choose any specific one. This helps individuals deal better with uncertainty and inter-temporal decision-making. Default options have been widely studied by scholars and practitioners[40].
3. Respect freedom of choice. 'Opting out' must always be possible and should be proposed while ensuring that individuals can build on their own autonomy, in particular where future choices are concerned.

These three recommendations also demonstrate the difficult trade-offs that regulators face in their task of helping people take better decisions. The case of Internet websites is exemplary: on the one hand, 'pre-checked' boxes are used widely to make decision-taking easier and the 'right' option more salient. On the other hand, human inertia, framing and a bias towards the status quo need to be taken into account, and this should limit the use of pre-checked boxes[41]. For example, under EU law, pre-checking the travel insurance box is not illegal.

The current attention being paid to how BI can be integrated in regulation focuses on disclosure requirements such as regulatory tools, default rules, and simplification[42].

Sharing information between scientists and practitioners, and between countries

The OECD and others have set up a repository to share the experience and practice of others, their knowledge and design metrics, to provide benchmarks and a source of learning. For example, it is useful to know which common themes, such as 'make it simple', or 'set the preferred option as the default option', work in most contexts and settings, and what type of variation can be expected. Such a repository will help countries improve their learning curve and benefit from the experience of others. The aim is to create an ecosystem in which various stakeholders from differing cultural groups and scientific disciplines work together.

Policy implications, institutional and management issues

Trials in various countries have produced various recommendations for integrating behavioural insights into public institutions as well as policy and regulatory processes:

- The experience gained by the UK Behavioural Unit Team (BIT) and the US Office of Science & Technology Policy (OSTP) Social and Behavioral Sciences Team (SBST) in the White House indicate that these government-integrated units need first to obtain political buy-in and then create the demand from others in government. They have to trigger curiosity and interest, for example by getting some of the results in quickly, to gain credibility and overcome institutional inertia before undertaking long-term tasks.
- It is recommended that Behavioural Units are located within central government. The UK BIT was set up in 10 Downing Street and the Cabinet Office. It is now partially outsourced with a 4-year contract binding it to Government while also allowing it to provide consultancy services to other bodies.
- Other initiatives can be organised as part of a network. Some of these are internal to government such as in the Netherlands and Singapore. In Denmark the networks are more holistic and are organised externally to government with a wide range of stakeholders e.g. industry, not-for-profit organisations, academia, etc.
- These initiatives need to recruit the right people, with the relevant expertise. It is unusual to find experts in behavioural sciences working in traditional public administrations and so external recruiting is very often necessary. As part of a secondary stage, training can be set up for others to increase capacity.
- Building up connections with academia is useful, and in particular within the business sector, communications and marketing schools, even if the latter are not familiar with the specificities of the public sector.
- Maintaining connections with industry is also useful, in particular to counter opposition from industry, as discussed in section 3.
- Interventions inspired by behavioural initiatives will require (as well as most probably contribute to) a change of culture in public administration, for example by forming a network of change agents. To generate the necessary conditions for success, governments are advised to give change agents space for manoeuvre and shelter. In this manner they are able to learn from experience and even from failure.

BI-based interventions will only succeed if there is a feeling of confidence between the regulators who design them and those to whom they are targeted. At the same time, well-designed interventions that meet people's objectives and their needs can contribute to restoring trust in regulatory authorities. Overall, they reduce the cost of regulatory compliance and improve the general efficiency of risk management.

Notes and bibliography for further reading

[1] IRGC has been active in developing and nurturing discussion between energy scenario developers to make the relevant transformations more plausible and visible to decision-makers and the public at large.

[2] EEA (2013), *Achieving Energy Efficiency Through Behaviour Change: What Does It Take? European Environment Agency*, Copenhagen

[3] More information about mental models is available on mentalmodels.princeton.edu/about/what-are-mental-models

[4] More information about social norms is available on plato.stanford.edu/entries/social-norms

[5] Ortwin Renn (2008), *Risk governance. Coping with uncertainty in a complex world*. Earthscan, London; Daniel Kahneman (2011), *Thinking, Fast and Slow*, Macmillan

[6] A comprehensive list of "biases, blunders and rational constraints" in the context of nudging is provided by the Netherlands School of Public Administration (NSOB) in *Choice architecture* (2013), available on nsob.nl/wp-content/uploads/NSOB_Choice-Architecture-web.pdf

[7] EC – JRC (2013), *Applying behavioural sciences to EU policy making*, available on ec.europa.eu/dgs/health_food-safety/information_sources/docs/30092013_jrc_scientific_policy_report_en.pdf

[8] The OECD Consumer Policy Toolkit (2010) provides many examples of behaviour-informed policy interventions suggesting that findings of behavioural economics are relevant to consumer policy. The report is available on www.oecd.org/sti/consumer/consumer-policy-toolkit-9789264079663-en.htm

[9] OECD, *Regulatory policy and behavioural economics* (2014), available on www.oecd-ilibrary.org/governance/regulatory-policy-and-behavioural-economics_9789264207851-en
The OECD also organised a seminar on "Behavioural Insights and New Approaches to Policy Design". A summary is available on www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=GOV/RPC%282015%298&docLanguage=En

[10] World Bank Development Report (2015), *Mind, Society and Behaviour*, available on www.worldbank.org/en/publication/wdr2015

[11] UK Behavioural Insights Team: behaviouralinsights.co.uk

[12] US Social and Behavioral Sciences Initiative: whitehouse.gov/sites/default/files/omb/memoranda/2013/m-13-17.pdf

[13] Behavioural Insights Network

[14] IRGC (2005), *White Paper 1, risk governance: towards an integrative approach*, available on irgc.org/wp-content/uploads/2012/04/IRGC_WP_No_1_Risk_Governance__reprinted_version_3.pdf

[15] For a global overview of the emerging influence of the behavioural sciences (and nudging practices) on the design and implementation of public policy, see UK ESRC (2014), *Nudging all over the world* available on changingbehaviours.files.wordpress.com/2014/09/nudgedesignfinal.pdf. The report highlights the "great diversity of policy areas to which the behavioural sciences are now being applied. They are now being using to shape policy areas as diverse as tax payments, handwashing/personal hygiene, HIV/AID prevention, vaccination programmes, charitable giving, malaria prevention, nutrition promotion, healthy pregnancy initiatives, fertilizer use, youth empowerment, breast feeding promotion, pension savings, police force reform, automated bank saving, preventing violence in schools, energy conservation, loan repayments, and organ donation, among many others."
In "Nudges.gov: Behavioral Economics and Regulation", in the *Oxford Handbook of Behavioral Economics and the Law* (2014), Cass Sunstein reviews the need for low-cost, choice-preserving regulatory tools. The publication provides examples of their various features (default rules, simplification, norms and disclosure) and how they are implemented in many fields. Available on www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199945474.001.0001/oxfordhb-9780199945474-e-028

[16] A working paper from B. Madrian (2014) on *Applying Insights from Behavioral Economics to Policy Design* considers the contribution of psychology to analysing cognitive and behavioural biases, behaviour change and market failures. Interventions motivated by insights from psychology and, in general, behaviourally informed policy tools can help public authorities reach their goal and individuals to satisfy their preferences. National Bureau of Economic Research, Working Paper 20318, available on www.nber.org/papers/w20318.pdf

[17] See note 9

[18] This case is also described in the EC-JRC guide *Applying behavioural sciences to EU policy making*, on ec.europa.eu/dgs/health_food-safety/information_sources/docs/30092013_jrc_scientific_policy_report_en.pdf

[19] "5 A DAY" Fruit and Vegetable campaigns. See for example the UK NHS www.nhs.uk/Livewell/5ADAY/Pages/5ADAYhome.aspx

[20] An OECD report of the Directorate for Financial and Enterprise Affairs, Insurance and Private Pensions Committee (2011) proposes a *Roadmap for defined contribution pension plans: policy options to strengthen retirement income adequacy*. Recommendations include that "the design of incentives to save for retirement to increase contributions and coverage could be improved and contributions could be increased with the help of "nudge" measures". The publication notes that "automatic enrolment in pension plans with appropriate default options may achieve the dual goal of preserving individual choice and ensuring an adequate level of saving for retirement, even if individuals do nothing on their own". Highlights of policy challenges and recommendations (2013) are available on www.oecd.org/finance/private-pensions/designingfundedpensionplans.htm

[21] A. Abadie and S. Gay (2006), "The impact of presumed consent legislation on cadaveric organ donation: a cross-country study", in *Journal of Health Economics* 25(4): 599-620, available on www.ncbi.nlm.nih.gov/pubmed/16490267

[22] See for example: S. Datta and S. Mullainathan (2014), "Behavioural design: a new approach to development policy", in Review of Income and Wealth, 60(1). Available on onlinelibrary.wiley.com/doi/10.1111/roiw.12093/epdf

[23] Richard Thaler and Cass Sunstein (2008), *Nudge: Improving Decisions about Health, Wealth, and Happiness*, Yale University Press.
In "Public Policies, Made to Fit People" (New York Times, Aug 24, 2013, available on nytimes.com/2013/08/25/business/public-policies-made-to-fit-people.html?_r=1), Richard Thaler writes of his conviction "about how research findings in social and behavioral science can improve policy", for problems such as learning difficulties of children in poor families, domestic violence, or health compliance.
Cass Sunstein (2014), "*Nudging: A Very Short Guide*", in *Harvard Law School, discussion Paper 799*, available on www.law.harvard.edu/programs/olin_center/papers/pdf/Sunstein_799.pdf

[24] This is described in a paper by Eric Johnson et al. (2012) "Beyond nudges: tools of a choice architecture", in Marketing Letters, 23(2): 487-504, available on link.springer.com/article/10.1007%2Fs11002-012-9186-1#page-1

[25] Experiences in California and the UK

[26] See Anne van Aaken (2015) "Constitutional Limits to Paternalistic Nudging in Germany", available on verfassungsblog.de/en/constitutional-limits-paternalistic-nudging-germany/#.VQL25eHK75s

[27] Alberto Alemanno and Alessandro Spina (2014): "Nudging legally - On the Checks and Balances of Behavioural Regulation", in *International Journal of Constitutional Law*, 12(2), available on papers.ssrn.com/sol3/papers.cfm?abstract_id=2337459
See also: Anne-Lise Sibony and Alessandro Alemanno (2015): "The Emergence of Law and Behavioural Science: A European Perspective", in *HEC Paris Research Paper* No. LAW-2015-1084, available on papers.ssrn.com/sol3/papers.cfm?abstract_id=2562322

[28] When behaviourally informed policy interventions serve to influence or "nudge" people, the term of "libertarian paternalism" is often used, as in:
- Cass Sunstein and Richard Thaler (2003), "Libertarian paternalism is not an oxymoron", in *The University of Chicago Law Review*, 70(4):1159–1202
- Richard Thaler and Cass Sunstein (2003), "Libertarian paternalism", in *The American Economic Review*, 93(2):175–179.

[29] This is extensively described by Tom Goodwin (2012) in "Why We Should Reject Nudge", in *Politics*, 32(2): 85–92.
Goodwin also argues that nudging may be paternalistic and ineffective. A critique of Goodwin was published by Chris Mills (2013) in "Why Nudges Matter: A Reply to Goodwin", in *Politics*, 33(1):28-36. Mills suggests that deliberative democracy may be preferred to nudging, but is much harder to implement and they do not need to be mutually exclusive.

[30] Description of various issues with soft-paternalism and possible ways to fix limits as to what is acceptable have been proposed by M. Binder and L. Kades (2014) in "Autonomy-enhancing Paternalism", in *Levy Economics Institute, Working Paper* No. 800, or by B. Fateh-Moghadam and T. Gutmann (2013) in "Governing [through] Autonomy. The Moral and Legal Limits of 'Soft Paternalism'", in Working Papers of the Centre for Advanced Study in Bioethics No 60.

[31] Daniel Hausman and Brynn Welch, in *Journal of Political Philosophy*, 18(1): 123–136, March 2010

[32] The OECD is creating a repository of behaviourally-informed policy and regulatory intervention.

[33] Such as by P. Hansen and A. Jespersen (2013) in "Nudge and the Manipulation of Choice, A Framework for the Responsible Use of the Nudge Approach to Behaviour Change in Public Policy", in the *European Journal of Risk Regulation*, 1/2013, available on lexxion.de/pdf/ejrr/02%20Nudge%20and%20the%20Manipulation%20of%20Choice.pdf

[34] See for example Cristian Munoz (2013), "Motivational Strategies, Redistributive Policies and Individual Choice", available on noticide.files.wordpress.com/2013/10/cperez-redistribution.pdf

[35] For information about the Nordic, UK and French traffic-light labelling and targeted opposition from the EC regulator, if the traffic-light labelling system were to create obstacles to trade which are in violation of EU laws see www.foodnavigator.com/Policy/Nordic-keyhole-vs.-UK-s-traffic-light-nutrition-label

[36] In "Was Mayor Bloomberg a Nanny?" in *Harvard Public Health Review*, Vol.1, May 2014 available on harvardpublichealthreview.org/wp-content/uploads/2014/05/HPHRv1-Sunstein.pdf

[37] An attitude to risk defines the approach to assess and eventually pursue, retain, take or turn away from risk. The concept of risk tolerance defines the readiness to bear the risk after risk treatment (process to modify the risk) in order to achieve its objectives

[38] See *Test, Learn, Adapt – Developing Public Policy with Randomised Controlled Trials*, a report from the UK Behavioural Insight Team (2014) available from www.gov.uk/government/uploads/system/uploads/attachment_data/file/62529/TLA-1906126.pdf

[39] In *Empirically Informed Regulation, Cass Sunstein* (2014) reviews some components of behaviour-based regulatory instruments: the use of disclosure as a regulatory tool, default rules and simplification, increasing salience, and referring to social norms. The essay is available on lawreview.uchicago.edu/sites/lawreview.uchicago.edu/files/uploads/78_4/Sunstein_Essay.pdf

[40] A thorough review of causes of default effects was made by Craig Smith, Daniel Goldstein and Eric Johnson (2013) in "Choice Without Awareness: Ethical and Policy Implication of Defaults", in *Journal of Public Policy and Marketing*, 32(2): 159-172 available on dangoldstein.com/papers/Smith_Goldstein_Johnson_Choice_Without_Awareness_Defaults_JPPM_2013.pdf. The authors conclude that defaults (vs. active choices) can be considered as "hidden persuaders" and are effective. Because of the potentially large impact on consumer welfare, autonomy or privacy, the use and misuse of default must be considered in view of ethical and policy implications.

[41] Social networks such as Facebook use "terms of conditions" that include pre-selected options. Their privacy policies evolve regularly and have now become complex and opaque for users, regulators and for the administrators themselves.

[42] See note 23.

Glossary

EFPIA	European Federation of Pharmaceutical Industries and Associations
ENCePP	European Network of Centres for Pharmacoepidemiology and Pharmacovigilance
EMA	European Medicines Agency
EU	European Union
FDA	Food and Drug Administration
HTA	Health technology assessment
MAPP	Medicines Adaptive Pathways for Patients
OECD	Organisation for Economic Co-operation and Development
PCORnet	National Patient-Centered Clinical Research Network
PML	Progressive multifocal leukoencephalopathy
RCTs	Randomised controlled trial
R&D	Research And Development
REMS/RMS	Risk Evaluation and Mitigation Strategies
US	United States of America