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Behavioural insight  
and regulatory governance:  
Opportunities and  
challenges

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Daniel Shephard,  
Daniel Trnka**

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OECD REGULATORY POLICY WORKING PAPERS

# **Behavioural Insights and Regulatory Governance**

Opportunities and Challenges



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## Behavioural Insights and Regulatory Governance: Opportunities and Challenges

James Drummond\*, Daniel Shephard\*\* and Daniel Trnka\*

### ABSTRACT

Governments are created and run by humans, who can experience the same behavioural biases and barriers as individuals in society. Therefore, it makes sense to explore how behavioural insights (BI) can be applied to the governance of regulatory policy making, and not just to the design of regulations themselves. Applying BI can help improve the efficiency and effectiveness of the decision-making process, which can, in turn, help improve regulatory decisions. This paper maps the ways in which barriers and biases can affect the institutions, processes and tools of regulatory governance, with a focus on regulatory oversight bodies and regulatory management tools. It concludes with practical ways governments can translate these findings into research and reforms that can help future-proof regulatory policy making and ensure it is agile, responsive and fit for tackling important and complex policy challenges.

**JEL Classification:** A1, D7, E03, F00, H11, K23, N40, Z18

**Key words:** Regulatory policy, regulatory governance, behavioural economics, behavioural insights

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# 1 Moving beyond policy: Applying behavioural insights to regulatory governance

Regulation is one of the key levers governments use to achieve their policy goals and is fundamentally about behaviour change. Laws and regulations have a wide variety of purposes, including to impose technical standards, manage risk and ensure the proper functioning of the economy while protecting society and the environment. They create “rules of the game” for citizens and businesses to abide by. Good regulations create the conditions for economic and social growth, while poorly-designed and cumbersome regulations can stifle it by imposing undue regulatory costs on businesses and citizens.

Achieving good regulation is a demanding task and one that is never over. It is the result of an entire system of regulatory governance that includes the institutions, processes, procedures and methodologies for designing, delivering and evaluating regulations. The OECD (2012<sup>[1]</sup>) *Recommendation of the Council for Regulatory Policy and Governance* (the “2012 Recommendation”) established an internationally agreed set of recommendations for improving regulatory governance that, when applied properly, help support better regulatory decision making.

Embedded within this normative guidance is the need to use evidence-based decision-making tools that support better regulatory design and delivery. This has been the entry point of OECD work on behavioural insights<sup>1</sup> (BI) applied to regulatory policy to date – creating behaviourally-informed regulatory policies that help promote or dissuade actions in more effective and efficient ways. This approach to policy making is part of a broader movement by governments to incorporate more innovative and evidence-driven forms of policy making (OPSI, n.d.<sup>[2]</sup>); (OECD, 2020<sup>[3]</sup>). It also focuses on BI as a tool for improving policy outcomes, including by helping citizens and businesses make better decisions.

This paper shifts the focus to applying BI to regulators themselves. It argues that the focus on “humanising” regulatory policies through understanding behavioural drivers should be extended symmetrically to humanising regulatory policy *making*. While movement towards this has already begun in some places, it is far from being a common use of BI. This paper seeks to further expand on this narrative, particularly on how BI can both help diagnose behavioural challenges and provide behaviourally-informed solutions to support better policy making. Drawing on lessons from BI uses to date, it maps the ways BI can be applied to the institutions, processes and tools that are used to produce regulatory policies. The goal is to investigate how BI can improve regulatory governance to support better regulatory decision making, regardless of whether the policy decision is behaviourally informed or not.

As a primary tool of government, the universe of regulatory policy making is vast – it includes a number of institutions spread throughout government, including centre of government better regulation units, regulatory ministries/departments, independent economic regulators, and enforcement and inspections agencies, as well as a many approaches, processes and tools to improve regulatory policies, such as regulatory delivery, use of digital tools, and international regulatory co-operation. In elaborating a “proof of



concept”, this paper will focus on two common elements of regulatory governance: regulatory oversight and management tools. These represent major elements of regulatory policy making and can be illustrative examples for the system as a whole for three reasons: first, they are considered foundations of an effective regulatory governance system; second, they represent two key aspects of regulatory governance – institutions and tools – allowing this paper to be both broad but focused; third, the lessons learned are likely to have spill over effects that may be applied to the other elements noted above, or at least serve as a starting point for further analysis.

The rest of this section will focus on a brief discussion on why the topic of BI applied to regulatory governance was chosen, the theoretical models being used and noting some limitations of this paper. This is followed by two sections that will dive deeper into how BI can be applied to regulatory oversight bodies (ROBs) and regulatory management tools. The final section draws conclusions and offers ways forward, including some practical areas for those interested in conducting further research. This includes testing common behavioural solutions as quick wins, learning more about behaviour applied to regulatory economics, and fostering a greater understanding of regulatory governance through a BI lens.

## Role for behavioural insights in supporting better regulatory governance

The OECD Regulatory Policy Committee has produced a significant number of recommendations, normative guidance and best practice principles to support regulatory authorities in improving regulatory policy making. This has been an inherently iterative process, but crises like the recent COVID-19 pandemic and, before that, the 2008 financial crisis, have highlighted the need to review and modernise approaches. When crises hit, regulation is frequently a critical factor – both as a potential barrier to crisis response but also an essential part of the solution. The OECD has also addressed the challenges and implications of the COVID-19 pandemic for regulatory policy (see (OECD, n.d.<sup>[4]</sup>), including on BI applied to regulatory policy during the pandemic (OECD, 2020<sup>[5]</sup>)).

Better regulation can also be instrumental in building confidence in government. A common theme arising from recent OECD work is that many citizens around the world are experiencing regulations that either fall short of their intended effects or fail to offer the protections they promise, hence creating challenges for trust in government (OECD, 2021<sup>[6]</sup>). At the micro level, this is a clear problem regarding the effectiveness of the regulatory policies, which are intended to solve a policy problem. At the macro level, there are fears that these sorts of failures may lead to a loss of trust in institutions and even in government itself, which has been deteriorating in OECD countries (OECD, 2021<sup>[7]</sup>). OECD research on the determinants of trust in government suggest that perceptions of institutional performance strongly correlate with both trust in government and trust in others, and that perceived government integrity is the strongest determinant of trust in government (Murtin et al., 2018<sup>[8]</sup>).<sup>2</sup>

The OECD is considering what “regulatory policy 2.0” would mean in regards to promoting a modern system of regulatory governance to solve policy challenges. This paper suggests that one element of this new agenda would be to understand how human behaviour influences the governance of regulatory policy making.

### Supporting “regulatory policy 2.0”

Understanding behaviour and how people make decisions within the context of government decision-making is an important part of ensuring that regulatory policy is ready to support modern challenges facing governments. As the OECD (2021<sup>[6]</sup>) *Regulatory Policy Outlook* notes, this is important not just for ensuring that governments remain modern, but also to remain agile in responding to global crises, such as the COVID-19 pandemic, and complex policy problems facing governments. This requires a focus on regulating better, both for now and for the future.

The existing concept of “better regulation” is rooted in the framework of regulatory governance (discussed in the next sub-section), which has been developed over the last 30 years. Regulating in “normal times” is already challenging (OECD, 2015<sup>[9]</sup>); (2018<sup>[10]</sup>), but complex global challenges like the platform economy, inequality, climate change and ageing populations – and headwinds of hyper partisanship, distrust, and the pace of technological change – has made it clear that new approaches are needed to address current and future issues from a better regulation perspective (OECD, 2021<sup>[6]</sup>). For these reasons, the *Outlook* establishes a “regulatory policy 2.0” agenda, which offers an opportunity to adapt, amend and create a more agile framework for better regulation.

A key element of this forward-looking agenda is investigating how BI can improve the effectiveness and efficiency of regulatory governance systems. For example, the *Outlook* (OECD, 2021<sup>[6]</sup>) notes that regulatory management tools are underdeveloped, insufficiently implemented or not demonstrating expected results. A quick judgment may reason that the tools do not work or that civil servants do not want to use them.

A behavioural perspective may look at this differently: it is not necessarily that people do not *want* to use them, it is that they may find it *hard* to use them in the own context. Therefore, the problem is not necessarily one of will power, but of accessibility. Civil servants may well see the benefit of using the tools, but something may be getting into their way, such as a lack of time, difficulty understanding the method, or overly complicated directions. Richard Thaler and Cass Sunstein, authors of the book *Nudge* (2008<sup>[11]</sup>); (2021<sup>[12]</sup>), famously argue: “if you want to encourage people to do something, make it easy” (p. 107<sup>[12]</sup>). Another cause may be difficulties related to change – people are used to working a certain way, and often regulatory governance reforms introduces a change to personal or organisational workflow that can be difficult for many people. The problem could be even broader than personal motivation – perhaps the institutions of government responsible for driving change by encouraging better policy making methods are having an equally hard time reaching their audience and gaining support. This may require a look at the system of regulatory oversight to both ensure the right behavioural incentives are included to drive compliance, while also equipping those within the oversight body with the right behaviourally-informed techniques to communicate and support those using the tool along the way.

The movement towards applying BI to improve regulatory governance has already begun in some places. This is partly driven by the mainstreaming of BI as an important policy tool of government, as well as the increasing realisation within government that BI should be applied symmetrically to the way government approaches regulatory design and delivery as well (see Box 1). This paper seeks to further expand the focus of this narrative, particularly on how BI can both help diagnose behavioural challenges and provide behaviourally-informed solutions to support the more effective use of regulatory governance.

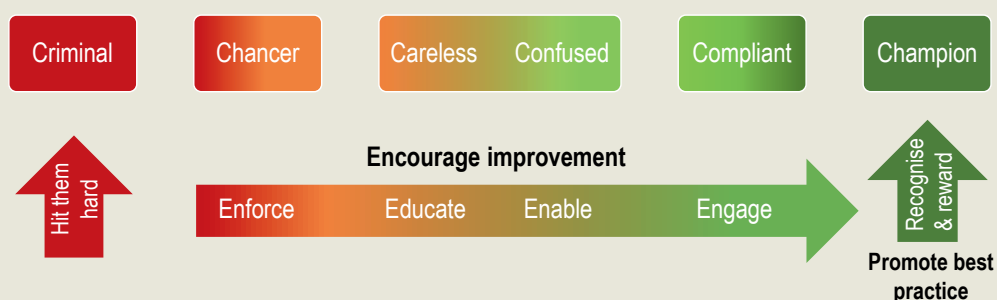
### **Box 1. Ethical business regulation: An opportunity to improve regulatory delivery**

The OECD Regulatory Enforcement and Inspections Toolkit recommends that enforcement should be based on the principles of “responsive regulation,” meaning that enforcement actions should be modulated depending on the profile and behaviour of specific businesses. This means focusing on the core goal of achieving compliance with regulations by foreseeing a range of differentiated responses based on the regulated entities’ track record, risk assessment and effectiveness of different options. The gradation of available sanctions must be adequate to allow credible deterrence through the escalation of sanctions. However, changing this process of enforcement and inspections requires governments to re-think how and why this process is conducted in the first place, and look to innovative solutions as a result.

From a behavioural perspective, a sanctioning-led approach has shown ineffective at deterring poor behaviour and is premised on the faulty assumption that everyone is likely to misbehave. In fact, research shows that only a small number of people intentionally do bad things. Research further shows that most people want to do the right thing most of the time but they might not know what or how to do it. Therefore, what is needed is help to do the right thing (Hodges, 2016<sup>[13]</sup>).

Taking this into consideration, the Scottish Environment Protection Agency (SEPA) produced a range of regulated entity compliance categories, along with the engagement approach to use to encourage compliance for each category (Figure 1). The compliance spectrum is a key concept within SEPA's regulatory strategy, One Planet Prosperity (SEPA, 2016<sup>[14]</sup>).

**Figure 1. Compliance and engagement spectrum**



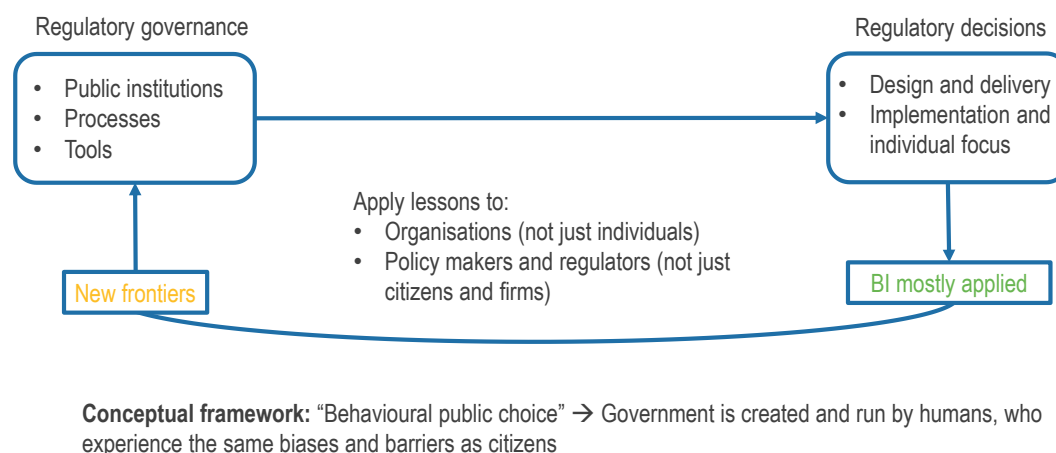
Source: Image re-created from (SEPA, 2016<sup>[14]</sup>). Box first presented in (OECD, 2020<sup>[15]</sup>).

### ***The importance of BI applied to regulatory governance***

As noted in the 2012 *Recommendation*, the framework of regulatory governance is intended to deliver ongoing improvements to the quality of regulatory policies. This framework elaborates a system of institutions, processes and tools that, when functioning properly, help support better regulatory decision making.

This suggests two broad but important elements that contribute to better regulation: the institutions, processes and tools that are used to make regulations (“regulatory governance”), and the choice of regulatory instrument (“regulatory decisions”) that are intended to impact citizens and businesses (see Figure 2). This is admittedly an oversimplification, but a useful one. As this paper is intended to be scoping in nature, a simplified framework is helpful to consider the issues. Future research can drill deeper into the details for a more nuanced perspective.

**Figure 2. Potential model for applying BI to regulatory governance**



Source: Produced by the authors.

Viewing regulatory policy making through this model also helps clarify how BI has been used by regulatory policy-makers to date. As noted in OECD (2017<sup>[16]</sup>), which presents a global collection of over 110 case studies across 11 sectors, the majority of applications of BI have been to correct individual-level biases and barriers in decision making, often with a consumer focus, and most often at either the late-design or implementation phase of policy making to improve non-behaviourally informed policies. With the widespread rise of units within government supporting BI applied to policies, an increasing number of policies appear to be behaviourally-informed or include behavioural insights earlier in the design process. These trends can also be noticed in other collections of international case studies, including by the European Commission (Lourenço et al., 2016<sup>[17]</sup>), World Bank (2015<sup>[18]</sup>); (Afif et al., 2019<sup>[19]</sup>), and by the OECD in relation to the COVID-19 pandemic (OECD, 2020<sup>[5]</sup>). Numerous cases can also be drawn from individual units applying BI around the world.

While all these global collection of cases note at least some applications of BI to organisations, including government, the practice does not appear to be widespread – especially from the perspective of improving policy making or policy outcomes. An interesting next “frontier” then for the evolution of the field of BI is to deepen our understanding of BI applied to government, with a particular focus on improving regulatory governance and enhancing the effective application of good regulatory practices. Given the large role regulation has to play in helping government achieve their goals, improving regulatory policy making has the potential for large effects across the system and not just individual policy decisions.

In the context of regulatory policy, this means finding ways BI can improve the institutions, processes and tools of regulatory policy making. The potential value of this approach is, at least, two-fold. On the one hand, as noted above, trust in government has been deteriorating in OECD countries (OECD, 2021<sup>[7]</sup>). This suggest a focus on improving institutional governance and performance as one possible solution. Understanding the behavioural barriers and biases that contribute to issues related to governance and performance offers one practical entry point to support this discussion.

On the other hand, narratives about the applications of BI often split policy making into “behaviourally informed” and “non-behaviourally informed” policy, often noting how BI can help policies be more efficient and effective (OECD, 2017<sup>[16]</sup>) but without commenting much on the performance of the system of governance that produced such policies. Within the realm of behavioural public policy, work conducted by the European Commission suggested that multiple types of interventions can be identified (Lourenço et al., 2016<sup>[17]</sup>):

- Behaviourally-tested initiatives: Those based on an *ad-hoc* test or scaled out after an initial experiment;
- Behaviourally-informed initiatives: Those designed explicitly on previously existing behavioural evidence; and,
- Behaviourally-aligned initiatives: Those that, at least *a posteriori*, can be found to be in line with behavioural evidence.

However, these are all focused on the policy outputs as the location of improved efficiency and effectiveness in regulatory decision making. The model above demonstrates that such gains could also be accomplished by improving the governance of regulatory policy making. In theory, if regulatory governance is more efficient and effective, then policies produced by this system have, in turn, the potential of being more efficient and effective – regardless if they are made with BI or not. Thus, BI applied to regulatory governance has the possibility of, at minimum, improving the performance of government, with potentially greater knock-on effects to broader issues of policy effectiveness and trust in government.

The focus of this paper is also in line with recent works by members of the community who are similarly looking at ways BI can be applied to public sector agencies and those within them. For example, Hallsworth et al. (2018<sup>[20]</sup>) wrote a report on “behavioural government” that highlights how elected and unelected government officials are influenced by heuristics and biases, and how to address and mitigate them; similarly, the European Commission (Mair et al., 2019<sup>[21]</sup>) wrote a report outlining the many ways behaviour drives political and policy decision making as well as what implications this has on policymaking in a broad sense; and, the World Bank (Banuri, Dercon and Gauri, 2019<sup>[22]</sup>) has conducted research about biases present with policy professionals. The United Nations is also exploring this frontier in forthcoming work on promoting new mindsets and behaviours in public institutions to implement the Sustainable Development Goals (SDGs). At the OECD, teams have been exploring BI applied to public bodies in their sectors, including public employment and management, integrity (OECD, 2018<sup>[23]</sup>), supporting the design of structural reforms aimed at improving productivity, economic performance and well-being (OECD, 2021<sup>[24]</sup>) (2019<sup>[25]</sup>), re-thinking regional development policy making from a multiple government stakeholder perspective (OECD, 2018<sup>[26]</sup>) and fostering elements of safety culture in the energy sector for both regulators and regulated entities (OECD, 2019<sup>[27]</sup>); (2020<sup>[28]</sup>). A recent edited book by Soman and Yeung (2020<sup>[29]</sup>) takes a broad view of BI applied to organisational change, collecting a series of essays that provide an practical look at how governments, businesses and other organisations have embedded BI into their operations.

## Applying BI to government: Changing organisational behaviour and behavioural public choice

Exploring how BI can be used to improve regulatory governance first requires a broader understanding of how BI could apply to government, which is really a discussion on changing organisational behaviour. Ultimately, the goal of such research would be to influence the behaviour of a government as an organisation. In this section, two frameworks will be briefly discussed that will investigate whether BI should be applied to government as an organisation, and then how it can work in practice.

### **Behavioural public choice**

Starting with the normative question: should we be applying BI to governments as a means to improve their governance frameworks? This paper looks to an important perspective called “behavioural public choice theory” (Lucas and Tasić, 2015<sup>[30]</sup>); (Viscusi and Gayer, 2015<sup>[31]</sup>), which can provide evidence to justify why this should be the case. Arguably, the roots for such theory can be found as far back as the 1970s, with Niskanen (1971<sup>[32]</sup>) noting biases in bureaucratic processes, and more recent political economy

arguments, such as public choice, that present evidence behind government failures based on failures to rationalise (i.e. (Tullock, Seldon and Lo Brady, 2002<sup>[33]</sup>), as cited in (Viscusi and Gayer, 2015<sup>[31]</sup>). What behavioural public choice theory adds is a model whereby psychological biases can be used to analyse government failures, and offer different solutions in response.

The departure point for behavioural public choice theory is the same paradox discussed above: the realisation that governments are increasingly using behavioural as justification for intervention, while “not taking into account that policymakers and regulators are themselves behavioural agents subject to psychological biases, and further, that they are public agents subject to political pressures and biases endemic to the political process” (Viscusi and Gayer, 2015, p. 39<sup>[31]</sup>). The authors demonstrate a wide variety of ways that governments “institutionalise rather than overcome behavioural anomalies” (p. 40), including failures in risk perception and risk assessment that can lead to an over application of the precautionary principles leading to excessive regulation or a failure to realise that regulation is needed at all.

Further, some of the tools used by government are inherently biased in their construction, and do not always match the way humans evaluate evidence. Cost-benefit analysis, often used in regulatory impact assessments in regulatory policy making, treat losses and gains equally. However, as Viscusi and Gayer (2015<sup>[31]</sup>) note, it is a well-founded axiom of behavioural science that humans treat losses larger than equivalent gains (Kahneman and Tversky, 1979<sup>[34]</sup>), and that this can lead us to more risk-adverse behaviour.<sup>3</sup>

Viscusi and Gayer (2015<sup>[31]</sup>) note that the effect of such risk-adverse behaviour can have real world consequences in the context of regulatory policy making that can manifest in many ways, which have the potential to create unintended inefficient outcomes for regulatory policy.<sup>4</sup> Regulation, by definition above, seeks to change behaviour by helping to manage risks and ensure proper functioning of the economy while protecting society and the environment. While there is clearly a need to balance costs and benefits in fulfilling this mandate, there is also potential for regulators to place greater emphasis on losses rather than gains that prevent potentially good regulatory decisions from being made. There may also be methodological implications, as frameworks for calculating costs are generally more developed than for calculating benefits and OECD *Regulatory Policy Outlooks* (2015<sup>[9]</sup>); (2018<sup>[10]</sup>); (2021<sup>[6]</sup>) have further noted that more countries measure costs than benefits. It is certainly possible that such a focus on costs may have certain knock-on effects to how the decision is presented, evaluated and decided upon. In other cases, regulatory agencies may develop a “tunnel vision” that results in policy makers sticking with certain processes and tools, which can result in inconsistent and inefficient outcomes. There has also been calls to “humanise” cost-benefit analysis that make the case of using behavioural science in the formulation of regulatory policies and in identifying the best tools for achieving policy goals (Sunstein, 2011<sup>[35]</sup>); (2021<sup>[36]</sup>). Further research into the role of behavioural biases and barriers in such situations may help uncover these lessons and offer solutions for improving regulatory policy making across the system.

In short, behavioural barriers and biases are a potentially important source of government failure that warrant further investigation (Lucas and Tasić, 2015<sup>[30]</sup>). The behavioural public choice perspective is therefore a call to symmetrically apply behavioural insights to both the regulators and the regulated entities (Thomas, 2019<sup>[37]</sup>). In other words, since government is created and run by humans, who experience the same biases and barriers as anyone else, there is good reason to look at the ways behavioural science can help government run more effectively. This adds to the above-noted literature on BI applied to government by proposing a focus on regulatory governance as a new “frontier” for helping to improve government decision making.

This suggests a couple different implications for regulatory policy making. First, decisions by regulators are, at least some of the time, systematically biased and this can result in sub-optimal policy decisions. Second, more than just biased decision making, it suggests that there are behavioural barriers that prevent regulators from using effectively the tools and processes of regulatory policy making to support better

regulatory policy outcomes, such as intention-action gaps or other friction costs. Thus, regulators and the regulatory process can benefit from identifying and reducing behavioural biases and barriers, and supporting follow-through on good intentions (Dudley and Xie, 2020<sup>[38]</sup>); (Dudley and Xie, 2020<sup>[39]</sup>).

Finally, this perspective also provides a potential bridge to other forms of behavioural analysis of regulatory policy making. For instance, policy making can often be discussed as either behavioural or not, guiding policy processes down one path or another. However, these are not mutually exclusive approaches to policy making (Loewenstein and Chater, 2017<sup>[40]</sup>). For example, to help people make healthier choices, a government can include behaviour as part of their approach. Traditional regulatory approaches – such as requiring information to be presented or implementing a tax or credit – can be augmented by considering behavioural barriers and biases that lead to unhealthy choices, and leveraging behavioural solutions in the design and delivery of the policy. Here, calorie labels could be put before the price to draw attention, junk food taxes could be clearly highlighted on menus to make them more salient, and tax credits are provided to restaurants that only offer healthy options – which have all been shown to help improve the respective policy outcomes from a behavioural perspective (OECD, 2019<sup>[41]</sup>).<sup>5</sup> In moving beyond siloed approaches to policy making, mainstreaming behavioural insights as part of the policy making process can help inform the design of more traditional regulations and in turn traditional regulations can help reinforce behavioural interventions.

### ***Changing the behaviours of organisations***

Having addressed the normative question of should governments use BI to improve their regulatory governance frameworks, the next question is how can they do this? BI is built upon a broad foundation comprised of findings from the behavioural sciences that cross a number of social science domains. This includes behavioural economics, psychology, and sociology. The insights include many cognitive, psychological, and social factors that systematically alter people's information processing and behaviour.

While much of this has been applied to individual behaviour, as discussed above, many policy problems – especially complex policy issues – involve the behaviour of both individuals and organisations. For this reason, BI practitioners and policy makers have been increasingly investigating the application of the behavioural science to challenges of organisational behaviour related to government and governance.

This is especially relevant in regulatory policy, which has to inherently deal with issues of both individual and organisational behaviour in the sectors they regulate. OECD (2020<sup>[28]</sup>) identifies at least two ways that organisational behaviour has an impact on the outcomes of regulatory policy. First, governments use regulation to promote the efficient functioning of the markets, including protecting market neutrality, fostering competition and protecting consumers (OECD, 2016<sup>[42]</sup>). This necessarily means that regulators will need to interact with firms who operate in markets, which means these regulators will need to consider questions of organisational behaviour to effectively achieve these goals. Second, there is the possibility of large economic gains that can be had from improving the functioning of firms in regulated sectors. It is well-recognised that organisational culture within firms has a powerful effect on the performance and long-term success of regulated entities, which can have perverse economic impacts (Cameron and Quinn, 2011<sup>[43]</sup>); (Cialdini, Petrova and Goldstein, 2004<sup>[44]</sup>). Therefore, it is to the interest of regulators to learn and apply lessons on influencing organisational behaviour to their regulated entities.

However, this argument results in the same outcome presented multiple times in this paper already: a focus on improving regulatory decisions, while leaving the symmetrical application of the same concepts to government entities is still under developed. The previous section argued that, according to behavioural public choice theory, those working in governments experience the same biases and barriers as any citizen. This section suggests that, since governments are organisations, a focus on changing organisational behaviour could serve as an entry point to influence regulatory governance in practice.



It may appear that applying BI to individuals and organisations are two distinctly different applications. In reality, research has demonstrated that, while the locus of decision making is different in organisations, choice making is still fundamentally the same in many situations (OECD, 2020<sup>[28]</sup>); (Foster, 2017<sup>[45]</sup>). Work from the perspective of Industrial-Organisational theory has explored how behavioural insights can affect organisations and groups (Foster, 2017<sup>[45]</sup>); (Shephard, 2017<sup>[46]</sup>); (OECD, 2020<sup>[28]</sup>). Similarly, other researchers have also looked at choice architecture can affect regulators and other policymakers (Dudley and Xie, 2020<sup>[38]</sup>). The application of these insights to the regulatory institutions, process, and tools can facilitate sound decision making and reduce gaps between intentions and actions.

According to this work, the question is less a matter of influence individual *versus* organisational behaviour, and more influencing organisations *via* the people within them – including the organisational policies and procedures set in place by decision makers (Foster, 2017<sup>[45]</sup>). In fact, the “people make the place” (De Cooman et al., 2009<sup>[47]</sup>); (Schneider, Goldstein and Smith, 1995<sup>[48]</sup>). Organisations are made up of people, and by influencing the right number or types of people and/or tweaking the right policy levers in organisations, the whole organisation can change (Foster, 2017<sup>[45]</sup>); (OECD, 2020<sup>[28]</sup>).

Therefore, an entry point for applying BI to regulatory governance is to consider ways individuals within government can be influenced to affect organisational change. This can be to individuals in those organisations whose decisions or actions have broad, organisation-wide effects (i.e. leaders or decision makers) or by intervening in organisational routines, policies and procedures to have more fundamental impacts in the way an organisation behaves (OECD, 2020<sup>[28]</sup>). When enough people start doing something differently, that behaviour has the potential to become the “new normal” (OECD, 2020<sup>[28]</sup>).

However, this requires thinking of applying BI to organisations beyond traditional “nudges,” and to think both narrowly about the particular constraints imposed by work and organisational behaviour as well as more broadly to consider all the relevant theoretical and methodological approaches that can be relevant to changing organisational behaviour (Foster, 2017<sup>[45]</sup>). Thus, while Industrial-Organisational theory can be one entry point, all types of behavioural science disciplines may have relevant applications and are considered in this paper as being possible ways to influence regulatory governance. This includes ways to study the organisation as well, such as through network analysis, complex systems' modeling/simulations, systemic thinking, etc, which will need further exploration in future work.

There are two key limitations of focusing on changing the behaviour of individuals within the organisation, which should be acknowledged upfront. First, it consider that all individuals within organisations act as the same individuals within society. Naturally, organisations will have situations where group dynamics have different effects on individuals' behaviour, and thus organisational behaviour. The challenge is to then determine what set of factors are at play in a given situation, and address each with their own solutions – whether this be individual level applications or needing to consider group-level effects, or both. Nonetheless, Foster (2017<sup>[45]</sup>) presents a number of ways in which influencing individuals affects the organisations. For brevity, readers are encouraged to look for further information there.

Second, a bigger methodological toolbox is needed when addressing issues of organisational behaviour. Practitioners of behavioural science often look to randomised controlled trials (RCTs) to test solutions before scaling up, which may not be always possible in response to organisational phenomena (Foster, 2017<sup>[45]</sup>). Modern BI practitioners have already adopted this lesson in many respects, identifying and using iterative approaches to experimentation that include a spectrum of quantitative and qualitative methods that provide rigorous methods for studying behaviours (OECD, 2020<sup>[28]</sup>); (OECD, 2020<sup>[5]</sup>). This allows for effective diagnostic work that can help understand issues from a variety of angles, rapidly test many different insights, and gain a quick understanding of what works before moving to RCTs to test discrete policy solutions (OECD, 2020<sup>[28]</sup>); (OECD, 2020<sup>[5]</sup>). This was the approach taken in recent OECD (2020<sup>[28]</sup>) work on changing the behaviour of organisations and fostering safety culture in the energy sector (see Box 2).



## Box 2. Changing organisational behaviour: Experiments on fostering safety culture in the energy sector

In 2018-19, the OECD worked with energy regulators from Canada, Ireland, Mexico and Oman to investigate ways BI can help foster elements of safety culture (OECD, 2020<sup>[28]</sup>). This was in response to clear evidence gathered by regulators that many high profile incidents have occurred – at least in part – due to poor organisational behaviour, including safety culture. While there is no universally agreed upon definition of safety culture, it is noted that – at its core – it is about the organisation's values, beliefs, norms, practices, competencies and behaviours related to safety (TRB, 2016<sup>[49]</sup>) and has a clear impact on safety performance (Smith and Wadsworth, 2009<sup>[50]</sup>).

Safety culture itself is the result of a series of safety innovations over the last 70 years that have focused on standards, compliance frameworks and systems of risk. Embedded within these innovations have been behavioural aspects of safety culture, including awareness raising, discussions on safety, clear boundaries for behaviour and required consideration of safety-critical behaviour. Prevention of incidents strongly supported further research into these behavioural aspects of safety culture.

Despite the clear possible role of behaviours, the effectiveness of behavioural interventions at fostering elements of safety culture is largely understudied. Recognising this, the OECD explored BI applied to safety culture in a two-phased approach:

1. Phase 1: Experiments with regulators and large regulated entities in all four countries
2. Phase 2: Experiments with small-scale entities in Ireland

This allowed the research to look at results from both large and small company perspectives, and across cultures.

The experiments were also scoping in nature: rather than testing solutions, the experiments focused on discovering how behavioural drivers affect safety culture that could then lead to an exploration of solutions. This was done using “behavioural vignettes” or scenarios, whereby participants were given a questionnaire that presented scenarios that incorporated different behavioural insights, asked qualitative follow ups and collected basic unidentifiable demographic data – all of which was supported by literature reviews and interviews with the regulatory policy community ahead of time.

This mixed-methods approach was effective at diagnosing how BI can be used in safety culture, and set up clear avenues for testing solutions in a field experiment as a final step.

Source: Information synthesised from (OECD, 2020<sup>[28]</sup>).

## Goals, methodology and limitations of this paper

The insights from behavioural public choice theory and efforts to change organisational behaviour suggest that we should and can explore further how BI can be applied to improving the way that government functions. Further, this work indicates that BI can inform regulatory governance. However, due to the unique role, structure, and position of regulatory oversight bodies and regulators, this likely means that some behavioural insights are likely to be more effective than others.

## ***Goals and methodology***

The goal of this paper, therefore, is to conduct a broad mapping exercise highlighting the ways BI can be applied to improving regulatory governance, through the particular lens of regulatory oversight bodies and regulatory management tools. The mapping exercise was conducted through a combination of methods: first, a series of information interviews were conducted with members of the OECD Regulatory Policy Committee, who are responsible for better regulation in their countries and are thus on the “front lines” of issues pertaining to the regulatory governance, as well as officials in the OECD Regulatory Policy Division who have extensive experience working within national administrations. A total of six interviews were conducted with individuals representing Anglo-Saxon, European and Latin American contexts so as to provide a broad basis to understand potential behavioural issues in the regulatory policy community across different political and administrative contexts. These interviews were held under Chatham House rules to allow for an open dialogue between the authors and the delegates. These interviews guided the initial choice of potential behavioural barriers and solutions, based on the challenges and opportunities highlighted by the individuals, which was augmented by the rest of the methodology below. Thus, this paper generally reflects the common patterns, key findings, and most pressing issues highlighted by the regulatory policy community. As final check, the paper was also distributed to all delegates of the OECD Regulatory Policy Committee for comment before publication.

Second, the authors conducted a literature review to further research issues raised by the interview participants as well as find additional relevant information about potential barriers and biases present in regulatory governance systems to round out the analysis. Finally, the authors took stock of relevant experimental findings that could be related to issues raised in the interviews and literature review. However, often these examples are tangentially related to regulatory policy and some logical inferences were made to relate the example to regulatory governance, which are noted where relevant.

As subjects, regulatory oversight bodies and regulatory management tools were selected for two main reasons. First, the universe of regulatory governance is as wide and diverse as government itself. Therefore, focus was needed to make this paper digestible and to distil actionable lessons, which future research can build upon and apply to other aspects of regulatory governance. Second, this paper seeks to still have a broad influence on regulatory governance. Since governance is defined above as “institutions, tools and processes,” regulatory oversight bodies (institutions) and regulatory management tools (tools and processes) provide this breadth. More than this, they also represent foundational aspects of better regulation, thus providing a good basis for improving the entire system of governance through further research, and both are priorities for centre of government’s better regulation strategies, giving a consistent perspective to the analysis. Taken together, this hopefully provides a paper that can deliver a solid foundation and way forward for applying BI to regulatory governance, which can be built upon with successive research.

## ***Limitations***

While this paper has optimistic goals, it also has some important limitations. First, as noted repeatedly so far, BI applied to organisations – and especially government – is quite under developed as field of public policy. This is especially the case for the application of BI to regulatory governance, which is a topical area that is lacking in-depth research and with fewer direct empirical tests in the field. Because of a lack of published empirical tests of the impacts of the application of behavioural insights to regulatory governance, we extrapolate from empirical studies of behavioural insights in government and organisations more broadly. Such extrapolation is intrinsically imprecise, and therefore the behavioural barriers and potential solutions outlined herein must be rigorously tested to determine their effectiveness in each unique regulatory environment.

Second, while effort has been made to cover systematically the relevant published literature in academic databases, such stock taking/mapping exercises have the possibility of overlooking some relevant topics.

This is further amplified by the fact that the choice of topics was initially informed by relatively few qualitative interviews (though broadened with desk research), which still may have introduced some bias towards certain topics or perspectives over others. The issues raised may also be impacted by cross-cutting (and often culturally-specific) issues related to political, administrative and legal matters, which is outside the scope of this paper. Therefore, there are likely some additional issues facing better regulation officials that are not covered by this paper, which could be investigated by subsequent work.

Finally, this paper attempts to dive deep on BI applied to regulatory governance, which may also shed light on possibilities for other public sector organisations in the future. However, caution should be taken to conduct accurate scoping, analyses and testing before doing so. From the onset, this paper tries to disentangle regulatory governance from any other form of governance within public institutions, which is an inherently difficult task. On the one hand, every element of regulatory governance in a given country comes with its own origin story, and from its own set of incentives. This makes comparing regulatory governance systems at a macro level difficult as-is. On the other, nearly all public bodies use regulation as a tool, and many may share similarities in institutional construction, processes, analytical tools, etc. While this paper tries to focus on the regulatory aspect, there are clearly spill over effects to other aspects of public governance. While there may be an urge to transfer these lessons to another situation of public governance, there will inevitably be some difference that requires adaptation. Put simply – what works for the governance of regulatory policy making may not work exactly the same for the governance of another field, and care should be taken as a result.

Despite these limitations and the paper's non-exhaustive nature, this review provides a unique and thorough conceptual overview of ways in which behavioural insights may be incorporated in both regulatory governance and in enhancing the effective application of good regulatory practices. This paper has the potential to provide inspiration to regulators and researchers to experiment and publish results in this important area.

## Notes

<sup>1</sup> The OECD (2019<sub>[41]</sub>) defines behavioural insights (BI) as the application of lessons derived from the behavioural and social sciences to policy problems in an effort to understand how social context and behavioural biases systematically influence people's abilities to make decisions and improve policy outcomes. A key feature of the BI methodology is its empirical approach, driven by experimentation and piloting.

<sup>2</sup> It should be noted that the authors also note, as a limitation, that the link between perceived institutional performance and self-reported trust could reflect personality traits rather than institutional performance per se (i.e. i.e. a pessimistic person is likely to rate government performance more poorly, respond more negatively to survey questions, and trust less in the trust game).

<sup>3</sup> The results from Kahneman and Tversky have been successfully replicated multiple times (for example, see (Ruggeri et al., 2020<sub>[166]</sub>)), lending weight to the robustness of this theory.

<sup>4</sup> This is not meant to be an argument against cautious approaches to regulation or the effectiveness of cost-benefit analysis; indeed, there is a need for both and may be alternative justifications, including moral and ethical, to regulate this way as well as other non-behavioural issues at play. Rather the opposite is intended here – this is meant to highlight that the tools and approaches of regulation may be distorted by behavioural barriers and biases that amplifying certain effects over others, which can be causing unintended inefficient outcomes. Thus, there is a good reason to further investigate to either rule out such

distortions or seek behavioural solutions to maximise the potential of the tools and approaches to regulatory policy making.

<sup>5</sup> As discussed in OECD (2019<sup>[41]</sup>): Dallas et al. (2019<sup>[171]</sup>) found that displaying calories first resulted in a 16.3% decrease in ordered calories, Chetty et al. (2009<sup>[172]</sup>) found that tax-inclusive prices reduced demand by 8%, and Wilcox et al. (2009<sup>[173]</sup>) found that adding a healthy alternative next to unhealthy items increased unhealthy ordering by 230%.

## 2 Behavioural insights and regulatory institutions

This section examines the potential for BI applied to the institutions of regulatory governance. It focuses on regulatory oversight bodies (ROBs), which are institutions that are aimed at incentivising civil servants to use regulatory management tools and follow due process to produce high-quality regulations, foster a whole-of-government perspective towards regulation and ensure a consistent approach to regulatory policy through appropriate co-ordination across the public administration (OECD, 2021<sup>[6]</sup>).

OECD (2012<sup>[1]</sup>) notes the cornerstone role oversight plays in effective regulatory policy making. It stresses the importance of establishing mechanisms and institutions to incentivise government actors to use the processes and tools of better regulatory policy making to foster regulatory quality across government. ROBs are the institutional embodiment of this function and often have the following core roles (OECD, 2021<sup>[6]</sup>):

- Quality control of regulatory management tools (i.e. reviewing the quality of individual regulatory impact assessments, stakeholder engagement processes, and *ex post* evaluations);
- Issuance or provision of relevant guidance on the use of regulatory management tools;
- Co-ordination on regulatory policy; and
- Systematic evaluation of regulatory policy.

ROBs were chosen as a representative case for regulatory institutions for three reasons. First, the several roles noted above have broad impacts on the entire system of regulatory policy making; second, they are part of the process but do not engage directly in policy making themselves; and, third, institutions who are part of policy making, i.e. ministries and agencies, will inherently be covered when discussing regulatory management tools in the next section. Therefore, looking at ROBs allows for a broader discussion of potential barriers and challenges facing regulatory governance. Indeed, many of the challenges and solutions discussed would likely apply to regulators more broadly.

The first part of this section will focus on behavioural challenges, followed by a discussion of potential solutions that may aid ROBs with their roles. Since there are not many studies on behavioural biases related to ROBs specifically, evidence is gathered from studies on institutions that share some similar functions and combined with discussions with a survey of relevant country officials through the OECD Regulatory Policy Committee.

### Behavioural challenges of regulatory governance

Several behavioural barriers have been highlighted in the literature as being particularly important when considering the role of regulators and therefore the governance of regulation (Dudley and Xie, 2020<sup>[38]</sup>); (Dudley and Xie, 2020<sup>[39]</sup>); (Ip, 2017<sup>[51]</sup>). We conceptualise these barriers as linked to five specific aspects of the institutional roles and structure of ROBs. Organisational path dependency, different levels of public

scrutiny, location of the regulatory oversight body, identification as regulatory experts, and pressure from civil servants and decision-makers. Each of which is discussed in turn below.

### ***Organisational path dependency***

It is commonly recognised that public organisations are susceptible to path dependency (Briglauer, Camarda and Vogelsang, 2019<sup>[52]</sup>); (Pierson, 2000<sup>[53]</sup>); (Weber, 2013<sup>[54]</sup>). There is a tendency to continue doing things how they have been done. While this is partially due to structural factors such as the upfront costs of changing a system or political pressure (Briglauer, Camarda and Vogelsang, 2019<sup>[52]</sup>), there is a strong behavioural element as well (Kovacic and Cooper, 2012<sup>[55]</sup>); (Cooper and Kovacic, 2012<sup>[56]</sup>); (Dudley and Xie, 2020<sup>[39]</sup>); (Dudley and Xie, 2020<sup>[38]</sup>).

Organisational path dependency among ROBs can be reinforced and perpetuated by *status quo bias* and *confirmation bias*. With *status quo bias*, institutions may retain policies and systems that are no longer optimal (Michael Collins and Urban, 2014<sup>[57]</sup>); (Kahneman, Knetsch and Thaler, 1991<sup>[58]</sup>); (Kahneman and Tversky, 1979<sup>[34]</sup>). An example of status quo bias in regulation is that of the United States Federal Trade Commission prohibitions on non-price vertical restraints in force from the 1960s into the 1970s despite growing evidence against them. The regulations continued until a court decision overturned the practice (see (Kovacic and Cooper, 2012, pp. 788-90<sup>[55]</sup>). Such a status quo bias may be enhanced when changing a regulation, as identifying weaknesses in a regulatory proposal can provide ammunition to the political opposition of the government in power (Gowda, 1999<sup>[59]</sup>).

The following example highlights how oversight bodies within a bureaucracy might be affected by these challenges with implications for regulatory oversight bodies that shares some structural features. The Greek Accounting and Auditing Committee and Disciplinary Council provide an oversight-related example of such inertia (Caramanis, Dedoulis and Leventis, 2015<sup>[60]</sup>). The committee was created to provide oversight and improve the quality of financial audits; however, very little was accomplished in over ten years. Some inertia was due to structural constraints, such as understaffing; but others were due to a perception that inaction was better than action in a vague legal environment. This perception may be accurate, but it is noteworthy that individuals had submitted written allegations of financial losses due to oversight *inaction* by the Accounting and Auditing Committee.

This is further reinforced by *confirmation bias*, the tendency to be more likely to look for and notice evidence that confirms one's pre-existing beliefs, such as beliefs about how oversight should be carried out (Dudley and Xie, 2020<sup>[39]</sup>); (Dudley and Xie, 2020<sup>[38]</sup>). Confirmation bias has recently been demonstrated among development professionals tasked with using evidence to inform policy recommendations. For example, development professionals were less accurate when interpreting data about an ideologically associated topic (e.g. gun control and minimum wage laws) compared to a more neutral topic (e.g. skin cream) (Banuri, Dercon and Gauri, 2019<sup>[22]</sup>). However, there are ways to mitigate this challenge. The same research among development professionals found that engaging in structured deliberations with a peer colleague has the potential to reduce confirmation bias.

### ***Different levels of public scrutiny***

Governments are increasingly incorporating tools of “open government” (OECD, 2017<sup>[61]</sup>) to enhance transparency and public accountability – for example, public registries of regulations, stakeholder engagement when drafting and reviewing regulation, oversight from the legislative branch, government audits, requirements to retain government records, and the right of the media to request government documents. The importance of such transparency and public accountability is strongly established, particularly in participatory democracies. However, the increased levels of public scrutiny can amplify specific behavioural biases among regulators that may need to be considered and addressed.

In many contexts, there is an anti-public sector bias among the public, in which government action is perceived through negatively biased lenses (James et al., 2020<sup>[62]</sup>). Government bodies may be influenced by an increased sense of *loss aversion* and *risk aversion* that influences their decisions in order to avoid negative public scrutiny and a potentially unjust anti-public sector (or anti-government) bias (Ip, 2017<sup>[51]</sup>); (James et al., 2020<sup>[62]</sup>). For example, a regulation that is effective but suboptimal may not be revised due to the fear that such revision will invite further public scrutiny, which could result in weakening the regulation and uncomfortable confrontations. This fear may be amplified unduly because of our human tendency to weigh losses (losing an effective regulation) more than gains (improving the current regulation). Risk aversion may further combine with an awareness of the anti-public sector bias running the risk of a systematic over-reliance on outsourcing regulatory functions to the private sector, even when public action would be more effective.<sup>1</sup>

If transparency can enhance loss aversion and risk aversion, the timing of such transparency could be considered from a behavioural perspective. If the regulatory governance framework triggers transparency later in the regulatory process, it may incentivise regulators to downplay any potential negative sides of the policy that has now been a preferred choice for some time. It may also encourage more restricted dissemination and consultation of a draft policy. Such a tendency may exist for strategic reasons, but it will nonetheless be amplified by the behavioural tendency to be averse to loss and risk in combination with the escalation of commitment that increases over time. However, if transparency processes are triggered earlier in the process, then aversion to loss and risk may incentivise regulators and their political principals to consider more options earlier in the process, when greater flexibility exists and sunk costs are lower. Such early action may include the publication of early-stage assessments of the problem and options as well as earlier stakeholder consultations. This may be a call to trigger transparent procedures of a simpler nature earlier in the process, while saving more complex and thorough analysis and consultation for later.

Finally, the combined power of transparency and aversion lends support to the automatic triggering of *ex post* reviews. Such reviews are likely to be made public and often find problems with the regulation. Therefore, despite the fact that such problems exist whether or not they are published, loss aversion may lead to a reduction in retrospective reviews. Given the combined structural and behavioural challenges, this suggests that legislated requirements for reviews are wise (Aldy, 2014<sup>[63]</sup>) as opposed to traditional “regulate and forget” mind set (OECD, 2021<sup>[6]</sup>). This latter point again highlights the importance of considering structural solutions that are informed by behavioural insights (Loewenstein and Chater, 2017<sup>[40]</sup>).

Scrutiny then may impact the work of ROBs in several ways. First, proposals submitted by ministries or agencies may not reflect the best courses of action due to the mitigating effects of loss and risk aversion. Second, this may have knock-on effects to the ability of ROBs to conduct their quality assurance functions in that they may be missing important information or may face difficulty convincing the submitting ministry or agency to take a different course of action. Third, for other core functions such as training and co-ordination, ministries and agencies may be less receptive to new ways to view problems out of a fear of being forced to adopt new solutions. Finally, when evaluating policies, there may either be a reluctance to be too critical out of a fear of provoking further anti-public sector biases or a reluctance by the ministry or agency to adopt new solutions in response to the evaluation.

### **Location within government**

Regulatory oversight bodies – and their associated responsibilities – may be situated in an independent entity outside of government (e.g. the United Kingdom, which also has the Better Regulation Executive inside government), one or several ministries assigned to the role alongside their primary mandate (e.g. Chile), or within a dedicated government body, or some combination of the above. All of these models have been shown by OECD research as having important roles in terms of the four core functions noted

above, and being at a distance/independent from government versus internal to government each have certain benefits and challenges (see (OECD, 2021<sup>[6]</sup>)).

One of the common locations, which is often recommended (OECD, 2012<sup>[1]</sup>), is for the regulatory oversight body to be placed close to the centre of government and conceptualised as being a hub for a whole-of-government approach to regulatory policy making. This central position combined with ties to the other ministries involved in regulation can help empower the regulatory oversight body, but it can also exacerbate certain behavioural biases

The location of ROBs within government can increase their susceptibility to the *false consensus effect*, and the perspective that regulators are more connected to the policy making system than they actually are, the *small world bias*. Their role, as a link between otherwise disconnected ministries and agencies that make regulatory decisions, may artificially increase their perception that other entities agree with them – the *false consensus effect* (Flynn and Wiltermuth, 2010<sup>[64]</sup>). This may also be a function of institutional maturity, as anecdotal evidence suggests that, over time, central better regulation units are able to bring ministries on board with their agendas. As with other networks, these within-government regulatory networks (among regulatory entities, individual regulatory staff, and regulated entities) are likely to be perceived as more clustered and interconnected than they actually are – the *small world bias*. This has implications for how ROBs plan for the dissemination of regulatory tools or guidance on their use. It also has implications for how ROBs can leverage social pressure among ministries and agencies to enforce regulatory governance norms and associated practices (Kilduff et al., 2008<sup>[65]</sup>).

Several strategies can reduce the behavioural challenges faced by centralised ROBs. One strategy would be to increase the number of staff who are seconded to and from the ROB – especially to and from agencies that are less well connected to the regulatory regime. However, when staff are seconded to other agencies from the ROB, it is important that they develop constructive and supportive relationships with their new colleagues, regardless of hierarchy (Chow, 2012<sup>[66]</sup>); (Martin et al., 2016<sup>[67]</sup>). If this is not done, there is a risk that they will be perceived as an intruder.

Second, if the oversight body is located within the office of the president or prime minister, but there are concerns about independence, it can be helpful to have some oversight operations outside of that office, ideally in a more independent office to increase credibility in certain contexts (Caramanis, Dedoulis and Leventis, 2015<sup>[60]</sup>). Having some staff with a separate affiliation may enable different information and perspectives to reach oversight bodies informally (Mills and Selin, 2017<sup>[68]</sup>) and to counter tendencies towards group-think (Burkus, 2017<sup>[69]</sup>).

Finally, for oversight bodies that are outside government with significant operational independence, they may have better experiences with credibility and autonomy but face a trade-off regarding influence and may lack practical insights of what is possible within government. Lessons from other government agencies with similar independence, such as economic regulators (OECD, 2016<sup>[70]</sup>); (OECD, 2017<sup>[71]</sup>), may offer behavioural solutions to counter act the biases and barriers noted above.

### ***Identification as regulatory generalists and experts***

ROBs are specialised in promoting better regulatory practices, such as the use of regulatory impact assessments (RIA) and stakeholder engagement, and may have some specific expertise in regulated sectors. However, they are not likely to have expertise in all regulated sectors and thus can often be generalists when it comes to some specific regulatory topics. This role is manifested through their responsibility in developing and implementing a whole-of-government regulatory policy, building the capacity of the varied regulatory entities within government, and sometimes scrutinising regulatory proposals, or parts thereof, in order to make recommendations to decision makers. On the one hand, members of oversight bodies must be able to handle a broad range of policy portfolios as regulatory generalists, while often having specific expertise – such as in economic cost-benefit analysis. This tension



in the role of ROBs can also be seen in their role in writing regulatory guidance for a wide variety of regulatory agencies who then have to implement that guidance which may be too general or too specialised.

Paradoxically, both the role of generalist and expert can suffer from a tendency towards overconfidence and over-reliance on available examples. Oversight staff playing the role of the generalist may run the risk of making assumptions without the necessary nuance. Meanwhile, having the status of an expert can reinforce the natural human tendency to overconfidence and susceptibility to availability bias (Glaser, Langer and Weber, 2013<sup>[72]</sup>); (Grantham, 2001<sup>[73]</sup>). Fortunately, experts have often developed routines and procedures to guard against such tendencies.

Similarly, both generalists and experts are susceptible to a misplaced sense of *overconfidence* in their own knowledge and ability – which often co-occurs with *availability* bias (Dudley and Xie, 2020<sup>[39]</sup>). Most people tend towards overconfidence, this can help steel us against the uncertainties of life that might otherwise be paralysing, but can also lead to suboptimal choices. The classic manifestation of overconfidence is that – in most contexts – more than half of a given population will state that they are above average on a given metric (Dunning, Heath and Suls, 2004<sup>[74]</sup>); (Pennycook et al., 2017<sup>[75]</sup>). Such overconfidence can also affect organisations (Camerer and Lovallo, 1999<sup>[76]</sup>); (Goel and Thakor, 2008<sup>[77]</sup>); (Mahajan, 1992<sup>[78]</sup>). In some instances, it can be higher among those who have more experience or believe they have more knowledge (i.e. perceive themselves as experts) (see (Glaser, Langer and Weber, 2013<sup>[79]</sup>)). Overconfidence is particularly important when considering regulatory policy because it has been associated with lack of preparation for low frequency, high impact negative events (Bonini et al., 2019<sup>[80]</sup>) and can therefore impact risk management capacity.

Furthermore, availability bias can further be experienced by experts that can over-rely on information that is mentally available even if it is not representative or accurate (Tversky and Kahneman, 1973<sup>[81]</sup>). This risk may be even greater as experts become increasingly specialised and therefore may have a highly homogenous set of available mental models and examples. Although it is certainly true that experts may know the “answer” to key regulatory questions due to their experience, there is also the risk that they rely on answers that are outdated or selective, as can happen with literature reviews that are not systematic.<sup>2</sup>

This can be especially troublesome in the context of crises, such as the recent COVID-19 pandemic where the risk of an over-reliance on old models of working can prove costly and lead to mistakes. This was highlighted in the OECD (2020<sup>[5]</sup>) policy brief on regulatory policy and BI during the initial stages of the pandemic<sup>3</sup>, which notes that rapid and wide spread behaviour change was needed during the pandemic and that often governments used regulatory tools to promote such change. However, due to behavioural expertise being located across government in many different forms and structures, it was not always accessed if such expertise was not directly linked with the highly-centralised decision making structures imposed during the pandemic. This was also affected by the urgency of the crisis, which left little time to experiment and resulted in an over-reliance on transposing findings from studies in different contexts. As result, despite regulation being fundamentally a tool to change behaviour, behaviour was not always considered by governments in responding to the crisis that may well have led to inefficient outcomes.

These tendencies can result in oversight bodies over-relying on their prior judgements of the RIA and decisions of ministries. For example, the oversight staff may scrutinise the procedural quality of a RIA more closely if it does not coincide with their pre-existing (available) expectations regarding methodologies used or the resulting regulatory recommendation.

To reduce a tendency of experts to be overconfident and over-reliant on previous experiences, it may be helpful to ensure that some staff in the ROB are on rotation. This can help bring in new ideas (Nemeth and Ormiston, 2007<sup>[82]</sup>), which can counter availability bias and overconfidence. Furthermore, hiring talented early career staff may also mitigate against overconfidence, as they will be more likely to seek out new information instead of relying on availability bias. However, this should be balanced with the importance of hiring experts that other agencies’ staff respect.

Another mechanism to bring in new ideas, while also retaining expertise, is to employ academic experts on appointments of a finite duration who then collectively select their replacements. This can bring in new ideas from academia and ensure a high degree of expertise. It may also decrease availability bias as academics have expertise in a topical area and strong research skills, but do not necessarily have expertise in managing regulatory processes, and thus may seek out new information from their government colleagues. Regardless of composition, it can be helpful to have mechanisms for deliberation, among diverse groups (Banuri, Dercon and Gauri, 2019<sup>[22]</sup>); (Nemeth and Ormiston, 2007<sup>[82]</sup>); (Hastie and Sunstein, 2015<sup>[83]</sup>).

### ***Pressure from civil servants and decision-makers***

Regulatory oversight bodies are under pressure from both the regulatory entities in government and political decision-makers. The intensification of such pressure during crises has been made clear as governments have been forced to respond quickly and under immense political pressure to the Covid-19 pandemic. There may be pressure to accept the desired regulatory approaches of the ministries and agencies or of the decision-maker – even if such preferences are insufficiently supported by RIAs. There may also be pressure to act quickly and with limited financial and human resources (OECD, 2018<sup>[10]</sup>); (Staroňová, 2017<sup>[84]</sup>). Such political, temporal, and logistical pressures are likely to increase behavioural biases due to *scarcity*.

These pressures may increase regulatory oversight bodies' *myopia* and susceptibility to *halo effects*. Myopia is the tendency to focus on the present to the neglect of the future, which may bias decisions towards satisfying the proximal internal government pressures instead of the long-term regulatory impacts (Dudley and Xie, 2020<sup>[38]</sup>); (Dudley and Xie, 2020<sup>[39]</sup>). It is also often called present bias. Halo effects are the tendency of judgments to be unduly influenced by other largely unrelated factors. In essence, halo effects tend to provide a short-cut so that instead of analysing new or complex information, one relies on previous or simplified information to make a positive or negative judgement (O'Donnell and Schultz Jr., 2005<sup>[85]</sup>); (Rosenzweig, 2007<sup>[86]</sup>); (Sine, Shane and Di Gregorio, 2003<sup>[87]</sup>). This can cause regulatory oversight bodies to scrutinise some proposals more or less strictly than others. Such a negative or positive halo may be due to past (negative or positive) performance or simply having a (negative or positive) relationship with that ministry or agency.

These behavioural challenges can be mitigated using both structural and behavioural changes to regulatory oversight. Ensuring sufficient funding and staffing may reduce these pressures. Furthermore, ensuring that the regulatory tools outlined below are used as early as possible in the process can help reduce the temporal pressure and the likelihood of an escalation of commitment. Behavioural interventions can also help mitigate these challenges. The halo effects that may bias the quality assurance process for regulatory submissions can be mitigated in part by prompting reviewers to sign a statement at the beginning of each review that they will review it objectively without considering previous submissions. Such an initial commitment draws on research on implementation intentions and identity activation (Gollwitzer and Sheeran, 2006<sup>[88]</sup>); (Wieber, Thürmer and Gollwitzer, 2015<sup>[89]</sup>).

It is important to recognise that structural problems may have behavioural solutions, that behavioural challenges may have structural solutions, and that the combination of structural and behavioural solutions is often the most effective (Loewenstein and Chater, 2017<sup>[40]</sup>). This is why multiple examples above blend structural and behavioural problems and solutions.

## Potential of behaviourally informed tools

Awareness of these biases can help mitigate their effects – although awareness is no guarantee of such without some change in structure, routines, or other intervention. In addition to such awareness of the challenges presented by behavioural biases, behavioural insights can be used to enhance the effectiveness of regulatory oversight bodies. Below we explore how the awareness of behavioural challenges and solutions can inform the work of regulatory oversight bodies in designing regulatory policy, scrutinising new and existing regulations, and improving implementation among regulators.

### *Designing regulatory policy*

Given the effects of behavioural insights on regulatory policies and practices, it is advisable that ROBs expand their capacity building role to include raising awareness of behavioural biases among regulators and to encourage the use of behavioural analysis of regulatory policy proposals. The mainstreaming of analysis of regulatory policy through the behavioural lens can both support policy makers in improving traditional regulatory policy processes and tools, as well as offer alternative logics for intervention that are not usually considered under the perspective of traditional economic analysis<sup>4</sup> that can lead to alternative regulatory or non-regulatory options. For either application, ROBs are well suited to encourage this sort of behaviourally-informed approach as part of broader efforts to mainstream BI across government.

This can be implemented in a variety of ways. At the most basic, there can be trainings for regulators (and staff of oversight bodies) on the role of behavioural barriers and biases in their work. There can also be a mandate to identify behavioural biases and intervention ideas as part of RIA – including to improve the RIA process to increase its use as a tool of evidence-based policy making and as a method to discover alternative options based on behaviourally-informed analysis. More behaviourally informed interventions could also be used. For example, rather than a training or process, regulators could be asked to make a commitment – or *implementation intention* – to conduct a behavioural analysis or to considering their own biases. Such commitments, even if not enforced, can effectively change behaviour (Gollwitzer and Sheeran, 2006<sup>[88]</sup>); (Thürmer, Wieber and Gollwitzer, 2015<sup>[90]</sup>) (see below section for additional details on implementation intentions).

### *Scrutinising new and existing regulation*

Two of the important roles of ROBs can perform are 1) to scrutinise regulatory proposals that are created by the various regulation entities within government, which may be limited in scope (i.e. only to regulatory impact assessments); and 2) supporting and scrutinising ministries and agencies efforts to conduct reviews of the stock of existing regulations to identify opportunities to increase regulatory efficiencies and to limit the tendency towards regulatory accretion (OECD, 2012<sup>[11]</sup>); (OECD, 2018<sup>[10]</sup>). The biases listed above create challenges for both of these roles. However, there are also opportunities to use behavioural insights to counter those biases and strengthen these roles.

For reviewing regulatory proposals, providing reminders to behave in a manner aligned with individuals' moral and ethical self-concept represents one behavioural insight that may help address the tendency to be influenced by the above biases and short-cuts when completing the review of proposals. Moral reminders can be applied through a prompt that asks the individual to "promise" that they will do something in line with their self-identity as a moral person, such as promising to tell the truth (Belle and Cantarelli, 2017<sup>[91]</sup>); (OES, 2017<sup>[92]</sup>).<sup>5</sup>

Supporting and scrutinising ministries and regulatory agencies efforts to review and rationalising the stock of regulations is another important role of regulators. However, except where mandatory, they are perhaps also most likely to be left for another day when there are competing time pressures (Staroňová, 2017<sup>[84]</sup>). Setting up specific times of the year where this is to be done along with sending reminders may be a way

to encourage more frequent review. For example, the United States instituted an executive order for twice annual reporting on retrospective reviews during the administration of President Obama (Aldy, 2014<sup>[63]</sup>). Scheduling such reviews during a period of the year where regulators face fewer temporal pressures may improve the amount of attention allocated to the task (Shah, Mullainathan and Shafir, 2012<sup>[93]</sup>).

Furthermore, reviewing all regulation can be overwhelming, therefore encouraging the review of a specific set number of existing regulations at set intervals will be more likely to result in action than vague requirements to review something, or unrealistic requirements to review everything. In addition, ROBs could institute guidance to incorporate a behavioural analysis into regulators review of existing regulations to identify those that rely on an unrealistically rational perspective of human action in regulatory areas that have been shown to be particularly susceptible to bias such as finance, anti-trust, procurement, energy, and risk management (Thaler and Benartzi, 2004<sup>[94]</sup>); (Kovacic and Cooper, 2012<sup>[55]</sup>); (Flyvbjerg, 2006<sup>[95]</sup>); (Flyvbjerg, 2013<sup>[96]</sup>); (Roberts and Wargo, 1994<sup>[97]</sup>); (Roberts and Wernstedt, 2019<sup>[98]</sup>).

Finally, topics that are not likely to be top-of-mind during regulatory stock-taking exercises could be explicitly prompted through guidance documents, templates, or reminders. For example, prompts could be added to look for opportunities to align regulations with key trade partners (Hale, 2019<sup>[99]</sup>).

## Notes

<sup>1</sup> The way in which the loss and risk aversion associated with public scrutiny can be leveraged to increase the use of regulatory best practices is explored in more detail below.

<sup>2</sup> An illustrative example of this is the case of Linus Pauling, a Nobel prize winner in biochemistry, who unintentionally used selective literature to argue for Vitamin C helps you live a longer and healthier claim disproven by a systematic review of the literature by Paul Knipschild (Greenhalgh, 2001<sup>[167]</sup>).

<sup>3</sup> The paper referenced was written and published in mid-2020, reflecting on the first eight months of the pandemic. Thus, the narrative of the work reflect more on the reality of the time – in that governments were highly reactive and time-poor in their approach. As the pandemic approaches nearly two years in length (at the time of publishing this working paper), evidence from BI units in government certainly demonstrate that these teams have been able to design, implement and release more pandemic-specific BI research that is informing policy decisions.

<sup>4</sup> The this includes expanding market failures to include those created by behavioural barriers and biases, such as imperfect optimisation, bounded self-control and nonstandard preferences identified by Congdon, Kling and Mullainathan (2011<sup>[174]</sup>)

<sup>5</sup> The effectiveness of this method has been recently put into question in a series of laboratory experiments around tax reporting and field experiments reporting odometer readings to automobile insurance companies (Kristal et al., 2020<sup>[175]</sup>). This recent publication suggests the need for more research and an updated systematic review and meta-analysis on the topic.

# 3 Behavioural insights and regulatory management tools

This section provides an analysis of the behavioural barriers and explores potential behavioural solutions to increase the effective use of regulatory management tools: regulatory impact analysis (RIA), stakeholder engagement, and *ex post* review. Its perspective is different than the previous section, which was more focused inward on how an institution of regulatory governance can look to improve its approach to accomplishing its mandate. This section is more cross-cutting, as it looks at reasons why a policy maker may not use the regulatory management tools that are recommended as effective ways of improving regulatory policy from an evidence-based perspective.

This reflects the problem trying to be solved by this section. Broadly, such tools can be adopted two ways; an entity of government can choose to start using them, and thus need to encourage their population of civil servants to use the tools. Alternatively, a government can introduce whole-of-government regulatory reforms that introduce these tools for all government entities to use. In the case of this section, the focus is on the latter – improving the implementation of regulatory reforms across government. This reflects the mandate of the OECD Regulatory Policy Committee, who are responsible for such horizontal reform efforts, as well as the OECD (2021<sup>[6]</sup>) *Regulatory Policy Outlook*, which notes that regulatory management tools are underdeveloped, insufficiently implemented or not demonstrating expected results. This is discussed more thoroughly in the section above on Supporting “regulatory policy 2.0”.

To provide an analytical structure, this section explores this problem using the OECD’s ABCD approach to behavioural analysis as presented in the BASIC toolkit (OECD, 2019<sup>[41]</sup>), summarised as:

- *Attention* to (or awareness of) the tools (**ABCD**).
- *Beliefs* about (or motivation to use) the tools (**ABCD**).
- *Choices* made about how the tools are used (**ABCD**).
- *Determination* to continue using the tools (**ABCD**).

This ABCD approach provides a diagnostic tool that helps narrow behaviours into a relevant category (attention, beliefs, choices, or determination) and then connects these to strategies for solving the behaviour and insights into how others around the world have approached possibly testing them through behaviourally informed initiatives. This section is organised by each of these four categories of the ABCD approach.<sup>1</sup> Each sub-section will describe further the concept and go into detail about some of the potential barriers and solutions policy makers face in using the tools from a behavioural perspective. This is summarised in Table 1.

**Table 1. Overview of potential behavioural barriers and solutions in the use of regulatory management tools**

|               | Potential behavioural barriers |                  | Potential behavioural solutions |                        |
|---------------|--------------------------------|------------------|---------------------------------|------------------------|
| Attention     | Cognitive Limits               | Myopia           | Reminders                       | Defaults               |
| Belief        | Confirmation Bias              | Negativity Bias  | Implementation Intentions       | Leverage Loss Aversion |
| Choice        | Group Think                    | Status Quo Bias  | Diversifying Teams              | Encouraging Debate     |
| Determination | Perverse Social Norms          | Lack of Autonomy | Reframing Social Norms          | Increasing Autonomy    |

Source: Produced by the authors.

While the previous section focused on institutions that oversee the use of these tools and process, this section focusses on public institutions at the other end of the spectrum who use the tools and processes in their daily workflow. For simplicity, and in alignment with the OECD (OECD, 2018<sup>[10]</sup>) *Regulatory Policy Outlook*, the section will use the term “regulators” as a catch-all term to describe these public institutions (ministries, departments, agencies, etc.) with regulatory design and delivery functions. However, it should be recognised that this group of institutions is very heterogeneous across OECD countries. While abstraction is beneficial in the context of this paper, applying this to individual bodies should be accompanied by specific analysis of their individual role, functions and context.

## **Attention**

This subsection will focus on behavioural barriers and solutions to help regulators ministries and agencies focus attention on using good regulatory practices effectively. OECD (2019<sup>[41]</sup>) notes that we often assume people focus on what is most important to them given their knowledge and preferences, BI demonstrates that our attention is limited and easily distracted. This may lead some to become inattentive to important information, thus forgetting, overlooking or relegating attention elsewhere or engage in multitasking and suffer from distractions that prevent the task from being performed optimally. Regarding issues of implement regulatory reforms, this section focuses on two barriers discovered via the interviews. The first is how cognitive limits can reduce awareness of what tools must be used and how to do so. Secondly, it is the barrier or myopia in which regulators focus more on the present than the future, also commonly called present bias. The potential behaviourally informed solutions include the use of reminders and defaults.

### **Potential barriers**

#### *Cognitive limits*

Regulators may not be aware of the tools or how to use them effectively due to common cognitive limitations to attention and information processing, which may result in forgetting or overlooking information. Even if they are generally aware, they may not be familiar with the details of the guidance, especially if it is complex – legally or technically.

All of us are affected by limited working memory (Kane et al., 2004<sup>[100]</sup>), with some estimates that we can only store three to nine meaningful pieces of information in our memory at a time (Cowan, 2010<sup>[101]</sup>); (Miller, 1956<sup>[102]</sup>). This limited cognitive capacity can be further reduced by distractions and can limit our ability to make correct decisions (McVay and Kane, 2012<sup>[103]</sup>). At a macro level, attentional limits have also been incorporated into models of why interest groups compete over directing governments’ attention to specific problems and solutions (Baumgartner and Jones, 2009<sup>[104]</sup>); (Baumgartner and Jones, 2015<sup>[105]</sup>), a point equally true for regulators (Dudley and Xie, 2020<sup>[39]</sup>); (Viscusi and Gayer, 2015<sup>[31]</sup>).

### *Myopia*

Regulators may forget or ignore the tool because of temporal pressures that amplify a tendency to focus on the short-term to the neglect of long-term goals. Indeed, there are structural aspects of many governments that enhance the myopic focus on the present among regulators: such as short election cycles and high staff turn-over.

While regulators are part of the bureaucracy, they still face pressure from political principals on regulations and even adherence to regulatory procedures (Ip, 2017<sup>[51]</sup>); (Lucas and Tasić, 2015<sup>[30]</sup>); (Thomas, 2019<sup>[37]</sup>). These political principals face pressure to show short-term results even at the detriment of long-term public welfare due to the frequency of elections (Pierson, 2000<sup>[53]</sup>). This bias may be exacerbated when there is a political crisis or a newsworthy disaster that has focused the attention of the public and politicians. Sometimes such crises deserve immediate action, and at other times they distract from shared long-term public goals – and often both.

Within the bureaucracy itself, there is often high turn-over. This can happen when there is a system in which civil servants leave during political power shifts, voluntary or required rotation between different government posts, or when there is simply high turn-over due to the relatively low desirability of public employment in certain contexts – whose desirability has been falling in many cases. In the United States there is an increase in regulatory staff turn-over after changes in presidential administrations (Doherty, Lewis and Limbocker, 2016<sup>[106]</sup>) and an increasingly high level of turnover more generally (Hur and Hawley, 2020<sup>[107]</sup>). In the United Kingdom, the Financial Conduct Authority faced an annualised staff turn-over of 12 percent in 2013 with speculation that this increase in turnover was related in part to the division of a single regulatory agency (the Financial Services Authority) into two (the Financial Conduct Authority and the Prudential Regulation Authority) (Slater, 2013<sup>[108]</sup>). In short, there are structural features of regulatory agencies that may exacerbate the existing myopia that we all experience (Dudley and Xie, 2020<sup>[38]</sup>); (Pierson, 2000<sup>[53]</sup>).

Both of these challenges may be exacerbated when it comes to conducting RIAs given the fact that both regulatory oversight bodies and regulators are often facing time pressures and lacking sufficient resources. In their review of the potential to apply behavioural insights to regulation, Dudley and Xie (2020<sup>[38]</sup>) mention the general lack of time and resources available to regulators. Other research on RIA units has noted that staffing levels may indicate whether RIA is done symbolically or seriously (Hertin et al., 2009<sup>[109]</sup>). Indeed countries such as Hungary provide instructive cases in which reductions in staffing from 20 in 2010 to 4 in 2014 coincided with the weakening of the RIA system to play a more symbolic role (Staroňová, 2017<sup>[84]</sup>). In the area of risk regulation in particular, researchers have noted that there is a lack of attention to ancillary benefits which suggests regulators are conducting simplified analyses (Rascoff and Revesz, 2002<sup>[110]</sup>). Such a trend towards over-simplification and the associated ignoring of ancillary benefits and risks will likely be exacerbated by limits on staff's attention and working memory as well as their focus on the present.

This means that regulators may not pay sufficient attention and may not be aware of important aspects of the RIA process. They may also neglect more thorough long-term processes in favour of shorter, less effective processes – e.g. neglecting the recommendation of a more iterative multi-stage RIA.

An analysis of RIAs in Switzerland provides an instructive example of both of these behavioural challenges (Allio, 2011<sup>[111]</sup>). Regarding attention limits, the analysis found that only 67% of RIAs conducted all five required components of the RIA. Regarding myopia, only 33% organised the RIA to follow the recommended multi-stage process in which initial regulatory proposals are followed by data collection and consultations and then revised followed by a more thorough RIA.

These two behavioural challenges are also likely to affect stakeholder engagement. It is likely that regulators will struggle to systematically incorporate all feedback and instead rely on short-cuts due to their attentional limits. Due to myopia, they may tend to conduct stakeholder engagement too late in the process and treat it more as a symbolic exercise instead of a fact-finding exercise.

These challenges will likely be most amplified with *ex post* review. First, it is usually impossible from a structural (resource-based) perspective and a behavioural (attention-based) perspective for regulators to conduct reviews of all regulations that may benefit from such. Second, evaluators may neglect information due to an inability to pay attention to the wide variety of costs and benefits across multiple sectors that could be evaluated. Therefore, evaluators will either neglect reviews or tend towards relying on biased simplifying assumptions and heuristics when making choices (see below). Finally, myopia may explain why reviews are often neglected. For new regulations, review is, by definition, in the future and therefore not a current focus. For existing regulations, reviews will not provide immediate benefit and so are often not a current priority (Aldy, 2014<sup>[63]</sup>).

## **Potential solutions**

### *Reminders*

These can be sent at pre-specified intervals to prompt regulators to use each of the tools. Such reminders could be sent to the responsible staff within regulatory bodies for beginning a RIA or stakeholder engagement earlier in the process. They could also be used to submit proposals for review or approval with sufficient time for the proposals to be properly considered. Although simple, reminders have been successfully used to increase behavioural adherence in a number of public sector applications (OECD, 2017<sup>[16]</sup>); (Shephard, Hall and Lamberton, 2020<sup>[112]</sup>); (Social and Behavioral Sciences Team, 2016<sup>[113]</sup>) Reminders are more effective when they are crafted from a behavioural perspective, and not simply from the perspective of information asymmetry.

The timing of reminders influences their effectiveness, even the timing of the day. For example, the Social and Behavioral Sciences Team found that email reminders sent before lunch (11:55 am) were more effective than those sent at the beginning of the day (8:55 am) and speculate that this may be due to the larger number of unread emails at the start of the work day (Social and Behavioral Sciences Team, 2015<sup>[114]</sup>). Not just the time of day, but the stage at which reminders are sent is important (Panagopoulos, 2011<sup>[115]</sup>). Such timing of reminders is particularly important given the need to begin at an early stage to increase the chance of RIA informing change rather than justifying a pre-existing position (Hertin et al., 2009<sup>[109]</sup>).

Reminders are also more effective if they are personalised, if they prompt recipients to create a plan of action, and if they are sent by a respected and recognised messenger<sup>2</sup> (OECD, 2019<sup>[27]</sup>); (OECD, 2020<sup>[28]</sup>); (Rogers et al., 2015<sup>[116]</sup>); (Social and Behavioral Sciences Team, 2015<sup>[114]</sup>); (Social and Behavioral Sciences Team, 2016<sup>[113]</sup>). An illustrative example from the criminal justice sector is provided in Box 3. However, sending more reminders or more information is not always helpful, indeed more information inundation might backfire if it increases stress or results in people developing a habit for ignoring them, as happens with marketing emails. For example, researchers have found no difference between weekly and monthly reminders for charitable giving (Sonntag and Zizzo, 2015<sup>[117]</sup>) and no difference between reminders spaced monthly and those spaced daily (Social and Behavioral Sciences Team, 2016<sup>[113]</sup>).<sup>3</sup> Such reminders can be an opportunity for regulatory oversight boards to be in communication with regulatory ministries to more proactively engage in both *ex ante* assessment and *ex post* review of regulations.



### Box 3. Example of reminders against myopia

**Implication:** Redesigning forms to highlight critical information and sending behaviourally informed reminders may increase the use of regulatory tools or may encourage their earlier use.

**Summary:** Defendants of criminal summons in New York City were subjects of two large-scale field studies by Fishbane, Ouss and Shah (2020<sup>[118]</sup>) to make more aware information regarding their court dates in an effort to reduce failure to appear rates. Existing policies often use punitive sanctions to deter these rates, under the assumption that defendants pay attention to these penalties and weigh them against appearing in court. The authors explored the different possibility that defendants may miss court due to the simple human error of being insufficiently aware of the information. Their sample included nearly 324 000 summonses that, in the first experiment, were re-designed to make relevant information more salient (date and court date location, and bolding information about penalties for missing court dates). In the second experiment, the 11% (23 243) that provided phone numbers were randomly separated into a control and three treatment groups. The treatment groups used either a consequence message, a plan-making message or a combination of the two and received three messages: 7 days before, 3 days before and 1 day before their scheduled court date. These interventions significantly ( $P < 0.001$ ) reduced failure to appear rates (see Figure 3), demonstrating that a substantial proportion of defendants miss court simply because information was not sufficiently salient. As a result, the authors estimate that at least 30 000 fewer arrest warrants were issued as a result of missing court due to their intervention.

**Figure 3. Example of reminders against myopia**



Source: Graph created by authors using data reported by Fishbane, Ouss and Shah (2020<sup>[118]</sup>). Information in the box is sourced from the same publication. See the original publication for detailed findings.

### Defaults

Templates and procedures for using the regulatory tools will influence whether and how they are used. Defaults could be in the form of templates for RIA, default systems for conducting stakeholder engagement (such as the use of a specific platform with certain details settings), or suggested terms of reference for specific analytical approaches to be used for contracting out RIA or *ex post* evaluations. Default templates, platforms, or procedures are often adhered to even when they are not required and so they should be carefully designed to combat and not reinforce biases.

Such defaults, if triggered automatically, can avoid the pitfalls of requiring regulators to be aware of and seek out the guidance on how to do a RIA, stakeholder engagement, or *ex post* review. Default settings can circumvent the need to seek out specific information to make decisions and can help avoid myopia (Kahneman, Knetsch and Thaler, 1991<sup>[58]</sup>); (Thaler, 2016<sup>[119]</sup>). The setting of such defaults can also be a tool for encouraging non-regulatory alternatives – such as RIA templates that require populating a non-regulatory alternative before populating any regulatory solutions. Due to worries about the power of defaults, there has been increasing research on the effects of disclosing the rationale behind them. This recent work indicates that simple transparent disclosures do not substantially reduce the effectiveness of defaults (Paunov, Wänke and Vogel, 2019<sup>[120]</sup>); (Steffel, Williams and Pogacar, 2016<sup>[121]</sup>), and increase the perceived fairness of societally beneficial defaults (Steffel, Williams and Pogacar, 2016<sup>[121]</sup>). See Box 4 for more information.

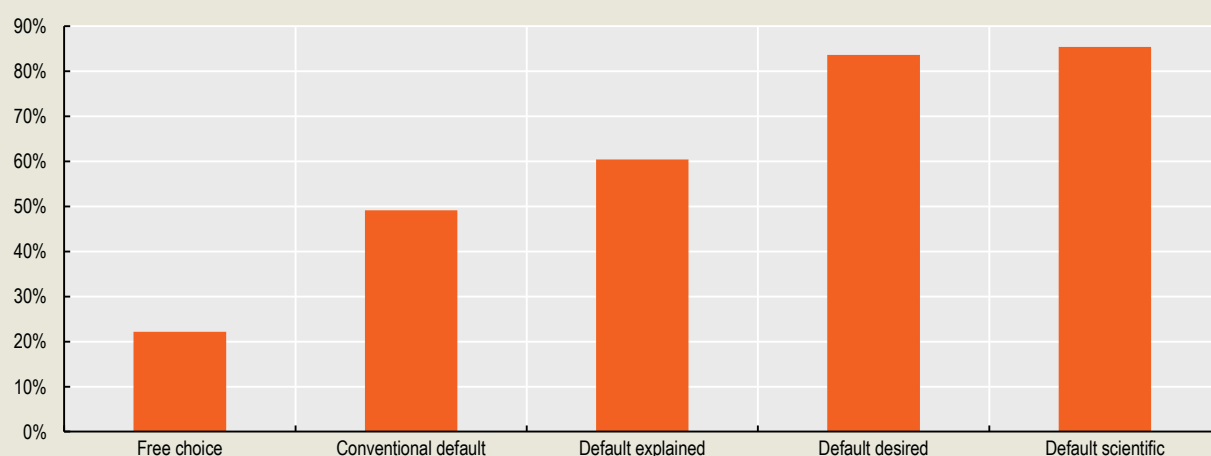
The insights from defaults are not new to regulation, indeed sunset clauses provide an example of the use of defaults in regulatory governance since they are triggered without the need of a regulatory entity to take an action (Dudley and Xie, 2020<sup>[39]</sup>). Furthermore, there is space for improving the use of templates and defaults in the use of regulatory tools. On the one hand, there is a lack of guidance documents to serve as default models for RIA in many jurisdictions (Hertin et al., 2009<sup>[109]</sup>). On the other hand, default templates and procedures can result in mindlessly completing the tools in a perfunctory manner (Staroňová, 2017<sup>[84]</sup>).

An alternative to defaults is to require individuals to make an active choice about how and when to use the tools, to the extent possible. Such active choice interventions can help mitigate against mindlessly following a template. One interesting innovation in the context of RIA is the use of an online questionnaire that regulators complete and then receive an algorithmically generated default set of requirements such as in Chile.

#### Box 4. Illustrative example of transparent defaults

**Implication:** The use of defaults can overcome a lack of awareness or late use of the tools, and combining defaults with disclosures can help improve their effectiveness and preserve a sense of autonomy.

**Summary:** Paunov, Wänke and Vogel (2019<sup>[120]</sup>) recruited 311 participants to participate in an online response panel, and randomly assigned them to one of five experimental conditions. Respondents were informed that they could choose from several studies, and that the studies differed in content and duration. Each participant was paid for a five-minute experiment regardless of their choice, but the default experiment lasting five to seven minutes was pre-selected – thus asking them to spend marginally more time than they were reimbursed for. The other options were less than three minutes, three to five minutes, seven to nine minutes, and more than nine minutes. The study randomised participants into one of five experimental conditions: a free choice, a conventional default, and three different disclosures of the rationale for the default. The three types of transparent disclosures explained that people normally stick with the default (default explained), that the experimenters' desire for them to choose this option (default desired), and that the selection will support the research objectives (default scientific). There were 265 valid responses. The outcome of interest was the proportion of participants in the preferred 'five to seven minute' option. Across the transparency conditions, an average of 76.3% of participants choose to stay with the default, compared to 23.7 who opted out, and only 49.1% chose the default in the conventional default condition. Only 22.2% choose the five to seven minute option out of free choice.

**Figure 4. Example of transparent defaults**

Note: The combined effect of disclosure for maintaining the preferred option was significant. Analysed individually disclosing that the default was desired and that it was optimal for the research objectives were both superior to the conventional default and this was statistically significant. Simply explaining the way defaults worked was not statistically significantly different than conventional defaults. See the original publication for detailed findings.

Source: The graph is created by the authors, using the data presented by Paunov, Wänke and Voge (2019, pp. 110-11<sub>[120]</sub>). Information in the box is sourced from the same publication. See the original publication for detailed findings.

## Beliefs and regulatory tools

This subsection will focus on behavioural barriers and solutions to helping regulators update their beliefs about the utility of the tools and therefore their motivation to use them. OECD (2019<sub>[41]</sub>) notes that we often assume people form their beliefs according to rules of logic and probability, but in fact they often rely on mental shortcuts or intuitive judgments that can lead them to over or under estimate outcomes or probabilities – often in a way that is coherent with their own pre-conceived beliefs. In the case of reforms requiring the use of regulatory management tools, this section focuses on two biases. First, regulators are affected by confirmation bias, in which individuals tend to focus on information that supports a pre-existing idea. Second, they are affected by negativity bias and loss aversion in which they are more motivated to avoid costs than to achieve benefits. Solutions regarding implementation intentions and aversion to risk or loss aversion are explored.

### Potential barriers

#### *Confirmation bias*

Often there is a pre-determined preference for how a regulation should be designed prior to conducting any analysis or consultations (Hertin et al., 2009<sub>[109]</sub>). Such pre-conceived notions of how to frame the problem and solution run the risk of being reinforced by confirmation bias, our shared tendency to pay more attention to data that supports our pre-existing notions than to data that contradicts it (Banuri, Dercon and Gauri, 2019<sub>[22]</sub>); (Kappes and Sharot, 2019<sub>[122]</sub>). This can be worse among experts and when dealing with complex decisions, as is often the case with policymaking and regulation (Dudley and Xie, 2020<sub>[39]</sub>); (Pierson, 2000<sub>[53]</sub>); (Thomas, 2019<sub>[37]</sub>).

This confirmation bias combined with overconfidence may infiltrate the use of regulatory management tools. First, it may cause perceptions that RIAs, stakeholder engagement, and *ex post* reviews as unnecessary because they are confident that they already know the answers or that their political principals will selectively use data to confirm pre-existing beliefs. The second concern also applies to the regulators themselves, who may miss data that does not favour their preferred regulatory solution – and may do so both consciously and unconsciously.

Those who review the quality of a RIA should also beware that there is evidence that RIAs appear more structured and convincing when they are justifying a pre-existing regulatory solution instead of engaging in a real effort to identify the best options – this is likely due to both strategic and behavioural causes as would be expected by behavioural public choice theory (Lucas and Tasić, 2015<sup>[30]</sup>); (Thomas, 2019<sup>[37]</sup>); (Viscusi and Gayer, 2015<sup>[31]</sup>). The tendency for confirmation bias to shade the analytical process is exacerbated by the complexity of regulatory policy challenges (Pierson, 2000<sup>[53]</sup>), the reliance on correlational data (Dudley and Xie, 2020<sup>[39]</sup>), and the use of the same data to identify the problem and evaluate the solutions (Mannix, 2004<sup>[123]</sup>).

If RIA and stakeholder engagement are managed by the same individuals who defined the original problem and who already have a preferred solution, they may become exercises in post-hoc justification. Similarly, to avoid post-hoc justification through data mining, *ex post* reviews should be carefully designed with pre-specified outcomes related to the regulation's primary goals, including both positive and negative variables of interest (OECD, 2020<sup>[124]</sup>).

For all three tools, confirmation bias will likely exert a similar effect. It will result in the feeling that the tools will make no difference and therefore minimal energy should be expended on using them. When such minimal effort is expended, the ineffectiveness of the tools are reinforced. For example, with RIA, the regulator may think that the regulatory solution has been pre-determined and thus there is no need to consider many alternates or do much analysis of costs or benefits. Meanwhile, for stakeholder engagement, this may result in highlighting feedback that reinforces the preferred solution, downplaying feedback that regulators disagree with as being ill-informed, notifying fewer stakeholders or for less time, or using a format that limits input quantity. For *ex post* review, this will often result in not doing reviews at all since it is often not required.

### *Aversion to risk and loss*

Loss and risk aversion, as discussed above in relations to ROBs, can result in regulators focusing more on the downsides than the upsides of each regulatory option. In some context where the precautionary principle is salient, this can be a good thing. In other cases, it can result in discounting effective regulatory decisions due to the fear of relatively small risks. For example, there is evidence that the United States Environmental Protection Agency tends to weigh potential risks more heavily than benefits (Viscusi and Gayer, 2015<sup>[31]</sup>).

This human tendency to focus more on the negative and weigh loss too strongly can be amplified by the regulatory tools and regulatory governance institutions in place (Dudley and Xie, 2020<sup>[39]</sup>); (James et al., 2020<sup>[62]</sup>); (Pierson, 2000<sup>[53]</sup>). For example, while stakeholder engagement and transparent publication of regulatory decisions have great benefits – including countering other biases such as overconfidence – they can amplify negativity bias and loss aversion. As governments around the world rightfully invest in more consistent and robust engagement processes (OECD, 2021<sup>[6]</sup>), this conflict highlights the importance for regulators to potentially invest in behaviourally-informed research to improve transparency mechanisms to explore ways to mitigate conflicting outcomes and to maximise its benefits.

Most policies have positive and negative sides, and publicly sharing that regulators were aware of the potential risks before the regulation came into effect is likely to make regulators more risk averse. At a more interpersonal and emotive level, the immediate negative experience of telling a minister or other superior that their preferred regulatory option is not the best option may outweigh the social benefits of the

more optimal choice. A belief among some that it is extremely difficult to accurately quantify regulatory impacts (Carroll, 2010<sup>[125]</sup>), may further enhance the tendency to avoid negative interpersonal confrontation in favour of the preferred regulation even if it is the suboptimal choice. Thirdly, when the impact of changing an existing regulation is being reviewed for change, the agency mandated with assessing its impact may also be the agency in charge of enforcement (Pierson, 2000<sup>[53]</sup>). This may create a preference for keeping or expanding the regulation rather than reducing the public role of their agency in regulatory implementation. This version of loss aversion could also be linked to work on endowment effects (valuing something more once you have it) and the so-called Ikea effect (valuing something more when you contributed to creating it) (Kahneman, Knetsch and Thaler, 1991<sup>[58]</sup>); (Shmueli, Pliskin and Fink, 2015<sup>[126]</sup>). Put simply, negativity bias may enhance agency preference for, and defence of, the status quo (Ip, 2017<sup>[51]</sup>).

Loss and risk aversion will likely have a stronger effect on RIA and *ex post* review use. For RIA, it may result in doing the same type of analysis for all regulations even if not appropriate or not investigating non-regulatory approaches. For reviews, these biases are likely part of the reason for the low uptake of reviews if the current civil servants and decision-makers do not want to risk the publication of a negative result for a regulation already on the books, often from a previous administration. Finally, regulators must be cognisant that they and anyone with whom they are communicating will give more weight to negative factors than positive factors when comparing options in RIA, interpreting and condensing feedback from stakeholder engagement, and interpreting results from an *ex post* review.

## Potential Solutions

### *Implementation intentions to correct errors of judgement*

These are prompts to make plans connected to specific details – often in the form of a conditional statement – that helps individuals follow through with goals by pre-specifying a behavioural response to a specific expected occurrence that will serve as a behavioural trigger (Gollwitzer and Sheeran, 2006<sup>[88]</sup>); (Sheeran, 2002<sup>[127]</sup>). When linked to organisational routines, they can increase the likelihood that the tools are used effectively. This can be used to reduce confirmation bias. For groups, the formation of implementation intentions can counter-act weaknesses of group dynamics by increasing their likelihood of selecting an optimal decision<sup>4</sup> even in instances where there is a risk of escalating commitment (Wieber, Thürmer and Gollwitzer, 2012<sup>[128]</sup>).<sup>5</sup>

For example, in a laboratory experiment, participants were prompted to make an optimal decision by reviewing the positive aspects of non-preferred options prior to making a final decision – similar to what would be desirable in a RIA. All individuals then formed the generic goal “I want to find the best alternative” while only half of the participants additionally created a specific implementation intention using a conditional format: “And *when* we finally take the decision sheet to note our preferred alternative, *then* we will go over the advantages of the non-preferred alternatives again” (Wieber, Thürmer and Gollwitzer, 2015, p. 104<sup>[89]</sup>) (see Box 5). This implementation intention increased group efficiency and effectiveness in making optimal choices.

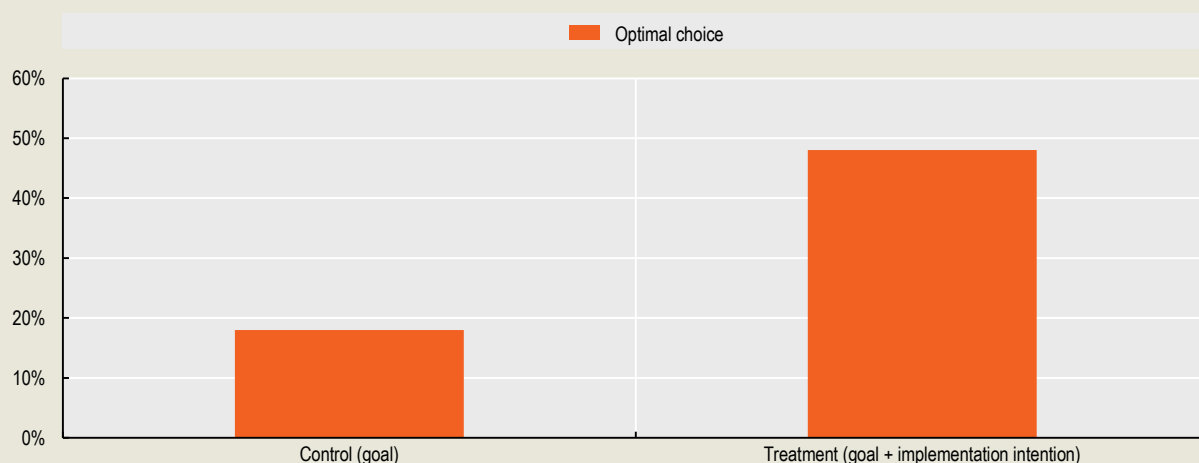
Similarly, another lab experiment found that adding the conditional implementation intention of “And when we are about to make an investment decision, we will judge the project as independent observers who are not responsible for earlier decisions!” reduced investment in a failing project to build a kindergarten (Wieber, Thürmer and Gollwitzer, 2015, pp. 589-90<sup>[89]</sup>). When there is a mandate to use the tool, implementation intentions can be used to encourage the effective use of regulatory tools and help avoid the perfunctory and symbolic use that has been reported in reviews of some RIA procedures (Hertin et al., 2009<sup>[109]</sup>).

### Box 5. Illustrative example of implementation intentions

**Implication:** Using implementation intentions can encourage analysts and regulators to more fairly consider non-preferred (non)regulatory options when making final recommendations to decision-makers.

**Summary:** Fifty-one university students participated in a lab experiment to make a decision about an applicant to hire. The problem was designed with a clear optimal choice among the three candidates. Half of the participants received instructions to make an implementation intention that “when we finally take the decision sheet to note our preferred alternative, then we will go over the advantages of the non-preferred alternatives again”. The outcome of interest was the correct selection of the optimal candidate.

**Figure 5. Example of implementation intentions**



Source: The graph was created by the authors using the data reported by (Wieber, Thürmer and Gollwitzer, 2015, p. 105<sup>[89]</sup>). Information in the box is sourced from the same publication. See the original publication for detailed findings.

### *Aversion to risk and loss*

Loss aversion can either be leveraged or reduced by, respectively, highlighting the risk of not using the regulatory best practices or by shifting perspectives. The use of loss aversion can include framing communication in terms of the risks and the losses that will come when not using RIA, stakeholder engagement, and ex post review effectively. This could increase the salience of potential losses associated with poor regulation or reputational losses associated with the scrutiny of a poorly documented process when it is made public – as is the case in many countries.

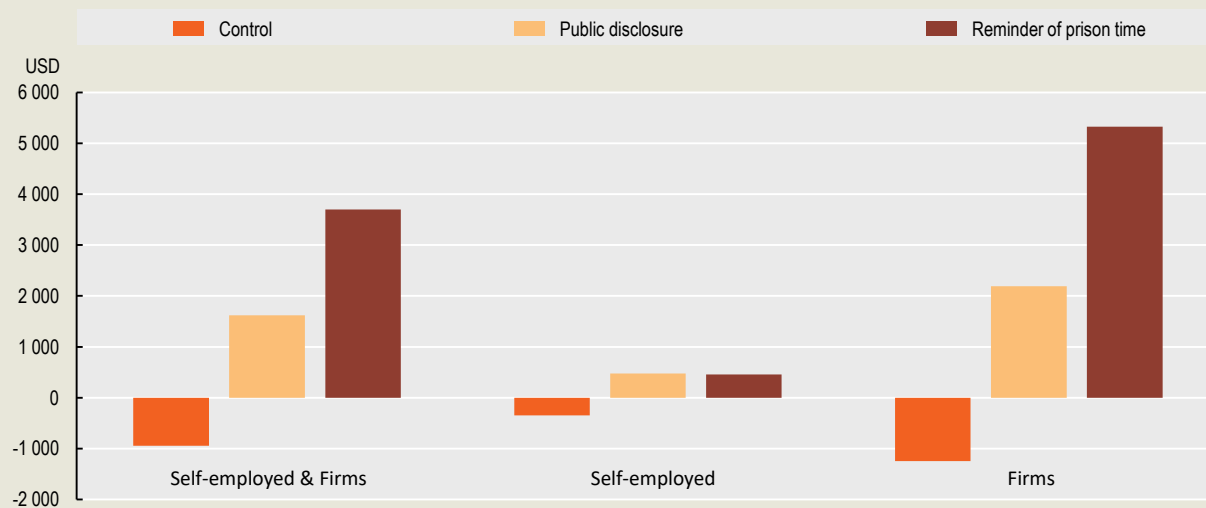
To illustrate the potential effectiveness of making losses salient, a recent experiment making the fact that punishments will be publicly visible (public shaming and loss of reputation) increased tax collection by 19% from firms in the Dominican Republic (Holz et al., 2020<sup>[129]</sup>) (see Box 6). Furthermore, such publication of procedures, combined with the civil liability of the government, can serve as a behaviourally informed corrective in administrative law that is in place in some countries already (Ip, 2017<sup>[51]</sup>). Such negative framing must be balanced with research that highlights the importance of intrinsic motivation (Frey and Jegen, 2001<sup>[130]</sup>), especially among public employees (Pandey, Wright and Moynihan, 2008<sup>[131]</sup>).

### Box 6. Illustrative example of making losses salient

**Implication:** Reminding regulators of the negative effects of not making effective use of the tools—and the public awareness of such effects—can serve to activate their loss aversion and increase their use of the tools.

**Summary:** Firms and self-employed individuals in the Dominican Republic were randomised to receive different e-mailed messages testing behavioural insights. Of interest here are reminders of the public disclosure of being prosecuted for tax evasion and making the extant prison sentence more salient. The outcome of interest was taxes paid. In total, the disclosure group and the prison message increased tax payment by \$75 million while the control group paid \$13 million less in taxes.

**Figure 6. Mean change in taxes paid (2019 vs 2018)**



Note: Treatment effects are statistically significant except for the public disclosure e-mail sent to self-employed individuals.

Source: The graph was created by the authors using data reported by Holz et al. (Holz et al., 2020, p. 27<sup>[129]</sup>). Information in the box is sourced from the same publication. See the original publication for detailed findings.

Reducing loss aversion can be achieved through changes in perspective taking in which the regulator attempts to imagine how they might perceive the regulation through various frames, contexts, and viewpoints of different individuals. The purpose would be to prompt regulators to consider evidence in the design and delivery of their regulatory policies to ensure a good stock of regulation. Or even more simply, regulators could be prompted to use the regulatory tools in the manner that they hope others are regarding regulations that affect their life. One strategy involves reinterpreting the meaning of something to trigger a different affective response. The effects of this strategy to reduce loss aversion have been demonstrated in the context of financial decision making (Sokol-Hessner et al., 2009<sup>[132]</sup>), in which prompting individuals to make multiple financial decisions, as if each one were part of an entire portfolio, reduced loss aversion compared to prompting individuals to consider each financial decision separately. Additional work has shown how different organizations of information can be prompted and how such re-organizations alter the interpretation of data.

Finally, regulators should remember that loss aversion functions differently when deciding for ourselves and for others, even hypothetically. This is particularly important given the fact that regulators decide for others – be that their political principal or the regulated firms or individuals. When individuals imagine that they are making a decision for someone else, they tend to be systematically less loss averse than when imagining making the decision for themselves (Polman, 2012<sup>[133]</sup>). This was also discussed above when introducing the behavioural public choice model. Therefore, it may be helpful for regulators to imagine taking different perspectives when completing RIAs and *ex post* review. Furthermore, when conducting stakeholder engagement, it may be helpful to consider if responders are speaking on behalf of themselves or others relative to their degree of loss aversion.

## Choice and regulatory tools

This subsection will focus on behavioural barriers and solutions to assisting regulators' choices about specific ways of using the tools. According to OECD (2019<sup>[41]</sup>), people should make choices so as to maximise their expected utility but, in reality, are often influenced by framing as well as the social and situational context in their choice-making. This can have a variety of impacts for those who are asked to use the regulatory management tools. For RIA, this might involve the selection of certain options to analyse and the types of cost-benefit analysis to deploy over others. For stakeholder engagement this might involve deciding which stakeholders to target, how to notify them, what types of feedback to request, and how to prioritise received feedback. For *ex post* review, this might include choices regarding methods (i.e. which sample, methods, outcomes, and time-horizon).

Each of these choices may ultimately affect the effectiveness of the tools in driving evidence-based decision making. This section highlight two behavioural barriers to the effective choice of how to apply the regulatory tools. First, regulators who share a background or ideology may be more likely to engage in group think such that the use of regulatory tools ignores other perspectives and becomes increasingly one-sided, or gets used consistently the same way without much innovation or consideration of new approaches. Second, whether and how regulators use the tools will be influenced by a tendency to stay with the status quo. Behaviourally informed solutions that might enhance such choices by regulators include the diversification of work teams and deliberate, structured encouragement of debate and deliberation.

### Potential barriers

#### *Group think*

Group think can affect the focus and the quality of the use of regulatory tools. First, departments and analysts with a specific sectoral focus may give more weight to the impacts in that sector than other sectors. Thus, economic departments may focus on economic impacts to the neglect of environmental and social impacts (Carroll, 2010<sup>[125]</sup>); (Hertin et al., 2009<sup>[109]</sup>). For example, when analysing 517 impact analyses in the United Kingdom from 2005 to 2011, Fritsch, Kamkhaji and Radaelli (2017<sup>[134]</sup>) found that environmental impact assessments were more robust among environmental organisations and social impact assessments more robust when done by social sector departments, but found no difference in the rigor of economic impact analysis perhaps because of the system's focus on economic impacts.

Second, analysts and regulators are likely to work within groups of like-minded individuals which may increase the propensity for group-think (Dudley and Xie, 2020<sup>[39]</sup>); (Hastie and Sunstein, 2015<sup>[83]</sup>). Authors have argued that this is one reason why a judicial review by generalists is a helpful corrective to behavioural biases, as judges are not usually technical specialists in the given area (Ip, 2017<sup>[51]</sup>). This pattern may be related to the shared training background of staff within various types of regulatory agencies.



Third, there may be a disciplinary bias built into many regulatory systems which favours economic methods and impacts over and beyond other impacts and methods (Carroll, 2010<sup>[125]</sup>); (Kurniawan, Muslim and Sakapurnama, 2018<sup>[135]</sup>). It has been noted that regulatory staff tend to be predominately economists or lawyers (Staroňová, 2017<sup>[84]</sup>). In specific sectors, there is a concern that useful social science disciplinary methods and perspectives are being ignored, for example in the energy sector broadly (Sovacool, 2014<sup>[136]</sup>). Moreover, there may be a greater emphasis on costs as a result, since, as discussed above, frameworks for calculating costs are generally more developed than for calculating benefits and OECD *Regulatory Policy Outlooks* (2015<sup>[9]</sup>); (2018<sup>[10]</sup>); (2021<sup>[6]</sup>) have further noted that more countries measure costs than benefits.

Finally, there may ideological biases affecting the way in which the same analysis is interpreted. In particular, if options can be readily labelled as “private” or “public” sector, this has been associated with biases linked to the ideological perspective of the person interpreting the data (James et al., 2020<sup>[62]</sup>) – this also applies to analysts, regulators, and decision-makers. Audit reports on the limited early take-up of the Regulatory Impact Statement (RIS) system in Australia was attributed in part to civil servants seeing the reform as an ideological project to de-regulate in favour of a free-market approach to governance, regardless of evidence found (as cited in (Carroll, 2010<sup>[125]</sup>). The effect to such ideological bias can be seen from behavioural science research in other domains. For example, when reviewing data to compare performance, survey-based research with city-council members in Denmark has shown that public- or private-sector bias results in individual changing their weighting of different criteria when the public- or private-status of the school out-performs in that criteria (Christensen et al., 2018<sup>[137]</sup>).

### *Status quo bias*

Status quo bias may affect regulators choices about whether and how to use the regulatory tools. We all have a tendency to continue doing what we have done before (Michael Collins and Urban, 2014<sup>[57]</sup>); (Kahneman, Knetsch and Thaler, 1991<sup>[58]</sup>); (Monroy, 2017<sup>[138]</sup>); (Samuelson and Zeckhauser, 1988<sup>[139]</sup>). This behavioural tendency is exacerbated by the structural features of governmental agencies (Cong, Neshkova and Frank, 2017<sup>[140]</sup>); (Pierson, 2000<sup>[53]</sup>) and governments themselves (Blais, Kim and Foucault, 2010<sup>[141]</sup>). A preference for the status quo may lead agencies to avoid using the tools if they had not previously used similar procedures and may hinder innovation. Oppositely, engaging in a culture of experimentation and innovation can help push public sector bodies to break through issues related to status quo biases. The OECD’s Observatory for Public Sector Innovation (OPSI) has several work streams devoted to encouraging governments to adopt innovative approaches as part of the work of government, including on anticipatory innovation and foresight.<sup>6</sup>

This may be particularly true for agencies who do not often implement regulation or who are accustomed to different logics of decision making, for example those in charge of defence or trade portfolios. If the use of the regulatory tools is required, then the status quo bias may result in their perfunctory use in which regulators do only the minimum default requirements. This tendency relates to bureaucratic path dependency (Briglauer, Camarda and Vogelsang, 2019<sup>[52]</sup>); (Pierson, 2000<sup>[53]</sup>). Finally, the application of the tools’ results to the decision-making process can also be affected by status quo bias in which preferences for the original policy proposal or for no action will be disproportionately common.

## **Potential solutions**

### *Diversifying teams*

Diversifying teams can help combat group think and status quo bias. By diversifying group membership, the cascades that can lead to group think might be disrupted. An illustrative example comes from an experiment with female students assigned to groups to discuss ways to reduce traffic and increase tourism in San Francisco.

In one experimental condition, the groups stayed the same while in the other condition the members changed after an initial brainstorming session. Those in groups that changed composition generated more ideas, more types of ideas, and more creative ideas (Nemeth and Ormiston, 2007<sup>[82]</sup>) (see Figure 7 in Box 7). However, as with most behavioural insights, there are two sides to the same coin. There are certain benefits to stable membership such as increased comfort and morale. For example, in the same study, those in the stable groups perceived their groups as friendlier.

An application of this insight within the regulatory field could involve inter-agency reviews of regulatory proposals. For example, a RIA completed by one ministry would be reviewed by other ministries, including those from different sectors.

### *Encouraging debate*

Encouraging debate and criticism can also reduce group think and increase the generation of new ideas. A set of experiments was conducted in the United States and France, in which groups were asked to brainstorm solutions to traffic. One group served as the control, the second group was told to brainstorm but not to criticise, and the third group was encouraged to brainstorm but also to “debate and even criticise each other’s ideas.” Groups that were encouraged to debate generated a great total number of ideas during and after the discussion (Nemeth et al., 2004<sup>[142]</sup>) (see Figure 8 in Box 7).

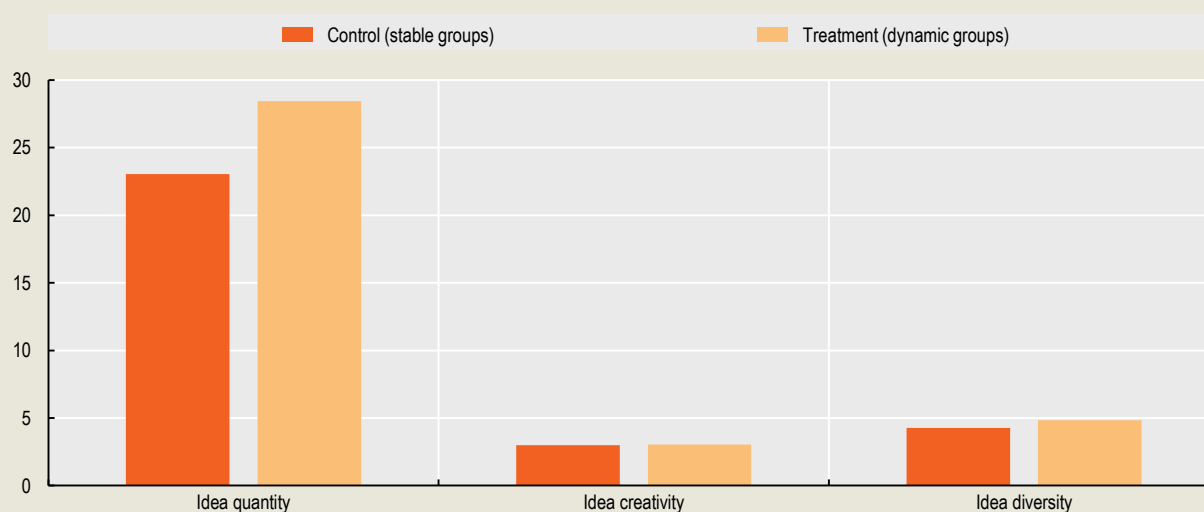
This insight is similar to the use of red teams in the military and in software development (Burkus, 2017<sup>[69]</sup>); (Romyn and Kebbell, 2014<sup>[143]</sup>); (Mirkovic et al., 2008<sup>[144]</sup>), which are noted as good practices by behavioural scientists for reducing group biases (Hastie and Sunstein, 2015<sup>[83]</sup>). This insight may also provide an additional rationale for earlier public engagement with explicit requests for feedback on what might go wrong with each regulatory proposal.

### **Box 7. Illustrative studies of diversifying teams and encouraging debate**

**Implication:** Providing analysts and regulators with opportunities to engage different people with different perspectives to discuss their RIA options, the results of stakeholder engagements, and the design of *ex post* reviews can improve quality. This also provides a behavioural justification for stakeholder engagement, especially stakeholders with different experiences and perspectives.

#### **Study 1**

Forty-one groups, with four people in each, were assigned to come up with solutions to decrease traffic in San Francisco. They were randomised to either stay in the same group or to change groups (each member joining an entirely new group). Participants were female psychology students at the University of California, Berkeley. The outcomes of interest were the number of ideas, the creativity of ideas, and the diversity of ideas.

**Figure 7. Ideas generated by characteristic**

Source: The graph was developed by the authors using data reported by Nemeth and Ormiston (Nemeth and Ormiston, 2007, pp. 529-30<sup>[62]</sup>). Information in the box is sourced from the same publication. See the original publication for detailed findings.

## Study 2

In the United States, 52 groups of female psychology students were recruited at the University of California, Berkeley. In France, 39 same-sex groups were recruited from undergraduates at the University of Paris 10, Nanterre. Each group contained 5 people. The groups were randomised to receive either the goal of minimising traffic but without directions (control), brainstorming instructions including directions to avoid criticism (active control), and brainstorming instructions plus encouragement to critique and debate (treatment). The outcome of interest was the number of ideas generated.

**Figure 8. Ideas generated by location**

Source: The graph was developed by the authors using data reported by Nemeth et al. (Nemeth et al., 2004, p. 371<sup>[142]</sup>). Information in the box is sourced from the same publication. See the original publication for detailed findings.

## Determination and regulatory tools

This subsection focuses on behavioural barriers and solutions to encourage regulators' determination to continue using the tools. As noted by OECD (2019<sup>[41]</sup>), this dimension of the ABCD framework is focused on what happens to decision-making in the longer term. We often assume that, once someone has made a decision, they stick to it over time. However, people's willpower is limited and subject to various biases such as mental exhaustion or inertia that leads them to revert back. In terms of regulatory reforms, this section is focused on how to resolve issues with people attempting to use the regulatory management tools but ultimately reverting back to pre-reform methods in practice. This is accomplished by looking at potential behavioural barriers that include perverse social norms around the use of the tools or a reaction to a perceived lack of professional autonomy, if tools are too prescriptive in nature. Potential behaviourally informed solutions draw on similar insights and include the re-framing of norms as dynamic to show improvement over time, and changes to tools to provide structure while enhancing autonomy.

### **Potential barriers:**

#### *Perverse social norms*

If someone perceives that others are not using the tools effectively, this can then reduce the motivation to continue using the tool effectively as well. This is known as perverse social norms, and may be real or perceived.

Although not from the regulatory context, two studies illustrate this danger. Sending normative appeals to increase tax compliance in Minnesota in 1993 found no overall treatment effect, but did find perverse effects for those in the highest tax bracket (Blumenthal, Christian and Slemrod, 2001<sup>[145]</sup>). Another study found that placing signs with descriptive norms about how frequently people remove protected material from a national park in the United States actually increased such theft rather than decreasing it (Cialdini et al., 2006<sup>[146]</sup>).

This behavioural insight may have effects through a few mechanisms that are relevant to the use of regulatory management tools. First, low expectations regarding the amount of time others have spent on the tools may result in anchoring individuals to spend less time on the use of tools. This may be exacerbated in contexts where regulators are unaware of the requirement to use the tools until late in the process as well as in high pressure environments – such as regulations responding to a pandemic.

Second, if in most cases the use of the tools does not change the regulatory approach, those involved may reduce the effort in all instances under the assumption that it will not change the final policy in their case either. As a result, they may miss those instances in which the use of the tool would make a difference. This can generate a vicious cycle in which such reduced efforts result in fewer cases of the tool making a difference and thus reinforcing the perverse norm to reduce effort.

Third, analysts and regulators may assume that a rigorous application of the tools is not needed – or may lack the skills and confidence in doing so – because most regulatory changes are small (thus may not meet thresholds for the most rigorous application of regulatory tools, following the good practice of proportionality). This may result in a more perfunctory use of the tools in the rare cases that a more substantial regulatory change is proposed.

Finally, several surveys of the use of these regulatory tools indicate that many countries do not regularly use them (Kirkpatrick and Parker, 2004<sup>[147]</sup>); (Kirkpatrick, Parker and Yin-Fang, 2004<sup>[148]</sup>). Thus, to the extent that the teams look to other countries for examples, they may develop a perverse norm through cross-country comparison.

### *Lack of autonomy*

Lack of autonomy can reduce motivation to continue using the tools. Extensive research on self-determination theory has found that when people lack autonomy, their level of determination and effectiveness drop (Deci, Olafsen and Ryan, 2017<sup>[149]</sup>). The importance of autonomy can be linked to the role of discretion in certain regulatory documents, which has also been highlighted in work on BI applied to integrity policy (OECD, 2018<sup>[23]</sup>).

The importance of autonomy, as a behavioural insight to apply to organisations and to public officials, has been highlighted previously by behavioural experts (Foster, 2017<sup>[45]</sup>); (James et al., 2020<sup>[62]</sup>). For example, research with (non-regulatory) civil servants in Ghana found that management approaches focused on increased autonomy were positively associated with completing projects while management practices focused on incentives and monitoring had a negative association (Rasul, Rogger and Williams, 2018<sup>[150]</sup>). It may therefore be important that autonomy is preserved when implementing behavioural or structural interventions to increase the use of best practices for regulatory governance.

This is particularly important in the context of regulation and public governance. Within contexts where staff perceive themselves as highly skilled and intrinsically motivated, they are more likely to respond positively to autonomy and to react against attempts to control their behaviour (Jachimowicz et al., 2019<sup>[151]</sup>); (Jung and Mellers, 2016<sup>[152]</sup>). Such reactions have been found in behavioural experiments in which people with high intrinsic motivation may not react to behavioural framing or may even react perversely (Castiglioni et al., 2019<sup>[153]</sup>). This is not an argument for complete freedom from oversight. However, it is an argument against complete control.

Perverse social norms can influence the use of all three regulatory tools. Even if there is a requirement to do *ex ante* RIA, stakeholder engagement, or *ex post* review, there may be a perception that most regulators do the minimum when using the tool. Lack of autonomy may affect the use of RIA more than the use of stakeholder engagements and *ex post* reviews. For example, when RIA did not seem to have an effect on the final choice or even when a specific type of RIA seemed to be particularly effective, this may affect how the ministry or agency uses RIA going forward. In the former case, the entity may minimise the effort on RIA. In the latter case, they may replicate the same process (e.g. the same cost-benefit analysis) regardless of whether it is appropriate for their own regulatory problem.

The second behavioural challenge may be operative for all three tools, depending on how the regulatory system structures their use. If the incentives are externally motivated and defaults unnecessarily reduce a sense of autonomy, they may back-fire. Furthermore, the reduction of autonomy in other aspects of regulatory staff jobs can reduce their motivation in the determination to continue using good regulatory practices.

## **Potential solutions**

### *Reframing social norms*

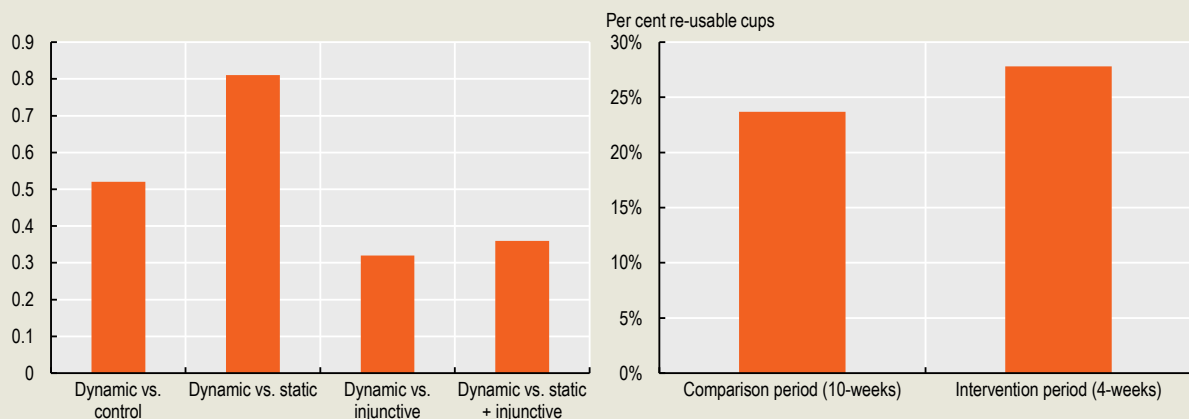
Reframing how the regulatory management tools are used can avoid perverse effects and increase positive impacts. This can be done by using dynamic social norms that can show the rate of progress, even if from a low baseline. Such dynamic social norms may be particularly useful when a country initially starts incorporating these regulatory practices. Such an intervention can calculate such changes precisely but can also use a more generic framing about “more and more” entities doing the desired behaviour – such as effectively using the regulatory practices of RIA, stakeholder engagement, and *ex post* review. Such dynamic norms have been found to be more effective than static norms at reducing the use of disposable cups, meat consumption, and water use during a drought (Loschelder et al., 2019<sup>[154]</sup>); (Sparkman and Walton, 2017<sup>[155]</sup>) (see Box 8).

### Box 8. Illustrative example of dynamic social norms

**Implication:** Within countries or regulators with a low level of effective utilisation of the good regulatory practices, the use of dynamic norms that show progress over time may effectively accelerate adoption more than the use of static norms.

**Summary:** University students were recruited and randomly assigned to five groups. All participants were asked to imagine they were a customer at a café buying a hot drink. They were then asked to imagine a sign next to the drink machine that had one of five messages. The groups were: no message (control), an injunctive norm (“choose a reusable mug”), a static norm (“25% of customers choose a reusable mug”), a static descriptive norm plus an injunctive norm, and a dynamic norm (“Our guests are changing their behaviour: More and more are switching from the to-go-cup to a sustainable alternative”). Then they stated whether they would pick a disposable or reusable cup (or were unsure). The results from this laboratory experiment are shown in the left graph below (originally reported as study 2). The results from a study in a real-world café are shown on the right (originally reported as study 1), these compare 10 baseline weeks to 4 intervention weeks. Overall, dynamic social norms proved most effective in eliciting desirable behaviour.

**Figure 9. Dynamic social norms**



Note: For the graph on the left, selecting the disposable cup was coded as 1, uncertainty as 4, and a reusable porcelain mug as 7. Effect sizes (Cohen's d) are shown representing comparisons between the dynamic norm and the control, injunctive norm, static norm, and injunctive + static norm. See the full study for further details and findings. All contrasts shown here are statistically significant at p-value < 0.05 except for the contrast of dynamic norms and injunctive norms (p = 0.051).

Source: The graph was made by the authors using the data reported by Loschelder et al. (Loschelder et al., 2019, pp. 8-9<sup>[154]</sup>). Information in the box is sourced from the same publication. See the original publication for detailed findings.

Second, in some contexts, framing a social norm as the disapproval of others may be more effective than using descriptive norms of the observed behaviour of others (Cialdini et al., 2006<sup>[146]</sup>). This insight, combined with the leveraging of negativity bias noted above, could bolster an argument for the public disclosure of the process and results of the use of regulatory tools. References to such public disclosure could then be used in behaviourally framed messages to regulators and analysts. However, care always needs to be taken with leveraging social norms and feedback as they do have the potential for unintended consequences (see discussion in (OECD, 2020<sup>[28]</sup>)).

Finally, the reference class for the social norm can be shifted. Studies have found that more precise reference groups are more effective at spurring behaviour (Goldstein, Cialdini and Griskevicius, 2008<sup>[156]</sup>); (Ryoo, Hyun and Sung, 2017<sup>[157]</sup>).<sup>7</sup>

### *Increasing autonomy*

Wherever possible, this can increase the likelihood that regulators are intrinsically motivated to use the tools to improve their work. This can be facilitated by encouraging an outcome-based approach rather than mandating specific processes. However, this clearly must be balanced with other biases and recommendations. For example, there is a clear tension between autonomy and the use of defaults and templates. Of particular relevance is how autonomy can increase the use of performance information. Certainly, the intention of many of the regulatory best practices is to encourage analysts, regulators, and policymakers to incorporate new and relevant evidence to inform regulatory decisions.

Although in a non-regulatory context, two studies with school management can help illustrate the relationship between autonomy and the use of evidence in a decision-making role in the public sector. In a study of Danish school managers, those school managers with more authority were able to effectively use performance management to improve their schools' performance (Nielsen, 2014<sup>[158]</sup>). In a separate study with Danish principals, an increase in the amount of autonomy to determine hiring resulted in more use of performance information (Andersen and Moynihan, 2016<sup>[159]</sup>) (see Box 9). While these are not "within government," they do illustrate how publicly run institutions can benefit from increased autonomy. This needs further testing in regulatory governance, but may be useful.

Furthermore, insights regarding autonomy can also inform how RIA results are communicated internally and to decision makers. A recent study of hypothetical communication found that doctors who provide information first and then their opinion were more effective at reducing patient requests for antibiotics (Sheikh and Sunstein, 2019<sup>[160]</sup>). The authors speculated that this is because providing information before an opinion helped patients retain a sense of autonomy and avoid negative reactions (Sheikh and Sunstein, 2019<sup>[160]</sup>). This may suggest that analysts and regulators will be more effective in convincing decision-makers to re-consider their preferred policy response if information is presented prior to summary opinions or recommendations.

Taken together these insights on the importance of autonomy may argue for a coaching model of regulatory oversight, in which the oversight body contacts regulators early in the process to provide coaching and support in the use of the regulatory tools. Finally, it is important to note that increasing autonomy and discretion can be done while keeping in place systems of transparency and accountability.

### **Box 9. Illustrative example study of increasing autonomy**

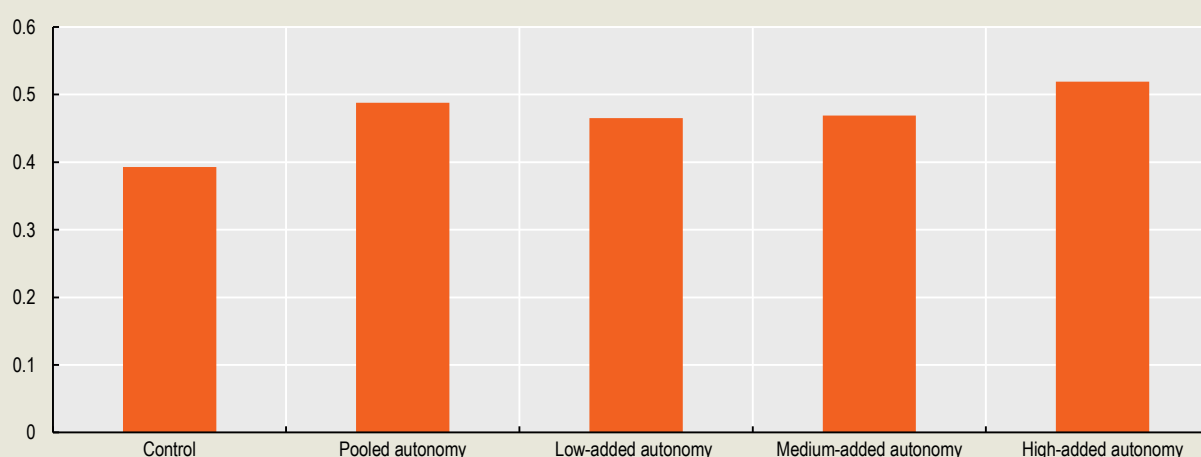
**Implication:** Oversight of the use of regulatory tools may be more effective if analysts and regulators are given clear parameters of autonomy. Doing so can increase the active acquisition and use of data which is particularly important in the case of all three tools. This suggests that a coaching and support framework may encourage more substantive use of the tools than simply a command and control approach.

**Summary:** School principals across 18 diverse Danish municipalities were randomised to four groups with different levels of additional autonomy: 1) no additional autonomy (control); 2) assigned a consultant to advice teachers but no control over hiring or budget (low autonomy); 3) granted an additional USD 25 000 to hire a co-teacher at the school but required that they have a BA (medium autonomy); and 4) principals were granted USD 25 000 to hire any assistant with any background (high autonomy). In addition, half of each group was given information on the well-being of their students

while the other half was provided their school's well-being data compared to the average of all participating schools. The outcome of interest was how much of the data the principals accessed from an online platform that stored the well-being data.

**Figure 10. Share of reports downloaded**

**Figure 3.11. Type title here**



Note: The outcome is presented as the share of reports downloaded. The pooled outcome is significant at standard levels ( $p < 0.05$ ) as is the effect for the high autonomy group ( $p < 0.05$ ). The effects for the low and medium autonomy groups are higher than the control but not statistically significant.

Source: The graph was made by the authors using the data reported by Andersen and Moynihan (Andersen and Moynihan, 2016, p. 1040<sup>[159]</sup>). Information in the box is sourced from the same publication. See the original publication for detailed findings.

## Notes

<sup>1</sup> For clarity, this paper slightly adapts elements of the ABCD typology to fit with the feedback received via the interviews conducted, research in this area and narrative of the paper. Thus, what appears under a certain ABCD heading in this paper may not correlated exactly with what is found in BASIC. This is done for two reasons: first, the behaviours in the ABCD model can be arguably sorted into more than one category. For simplicity, BASIC choose to sort them according to their best overall fit. Second, as with any toolkit constructed to be universally useful, some adaptation is always required to fit to the context-specific need. Thus, this paper makes some minor adjustments to adapt ABCD to the context of this paper while keeping intact the fundamental structure and narrative of the ABCD model.



<sup>2</sup> Considering the role of the OECD, it is of interest that there is some suggestive evidence that messengers associated with international organisations may be more trusted and interpreted as more objective, a point that highlights the productive role the OECD may be able to play (Kelley and Simmons, 2015<sup>[168]</sup>).

<sup>3</sup> Note that this latter experiment was testing spacing, not the number of reminders.

<sup>4</sup> Due to the use of a controlled experimental environment the researchers could ensure that one decision was clearly optimal.

<sup>5</sup> Implementation intentions could also be used to prompt regulators to construct logic models linking the understanding of the problem, the proposed (non-)regulatory options, and their expected consequences. However, we have not extensively explored logic models here due to the behavioural focus of this paper.

<sup>6</sup> See more at <https://oecd-opsi.org/>.

<sup>7</sup> While these effects may vary by context as the finding was not replicated in Germany (Bohner and Schlüter, 2014<sup>[169]</sup>). However, the seemingly discrepant findings may be resolved within a Bayesian synthesis favouring the existence of an effect (Scheibehenne, Jamil and Wagenmakers, 2016<sup>[170]</sup>).

# 4 Conclusion and ways forward

Applying behavioural insights (BI) to regulatory governance provides policy makers with an exciting new avenue for exploring ways governments can design and deliver better regulatory policies. This opportunity emerges from recognising that regulatory governance frameworks developed over the last 30 years to improve regulatory policy making have suffered from implementation gaps, including elements that have been left underdeveloped, insufficiently implemented or not demonstrating expected results. Combined with complex global challenges and headwinds, a forward-looking “Regulatory Policy 2.0” agenda offers policy makers an occasion to adapt, amend and create a more agile framework for better regulation.

Applying BI to regulatory governance offers interesting possibilities as part of this agenda. Using a “behavioural public choice” model, BI can help identify challenges facing regulatory governance rooted in the fact that government is created and run by humans, who experience the same biases and barriers as anyone else. This can lead to both systematically biased policy decisions, as well as sub-optimal uptake of useful policy making tools and processes that can help improve policy outcomes.

Combining this with lessons from organisational change, governments can develop solutions that help address these challenges. This creates an opportunity to make the governance of policy making more efficient and effective, thereby having positive knock-on effects to the decision itself – regardless of whether or not that decision is “behaviourally-informed”. While organisational behaviour change may seem fundamentally different than individual-level applications, this paper showed that – in many cases – organisations can be influenced via the individuals within them, and in those situations there is good cause to believe that many behavioural insights tested on policy decisions could work in the context of regulatory governance.

These findings offer several ways forward for improving regulatory governance, both for better regulation officials who are responsible for implementing regulatory reforms and the regulators who design and deliver regulatory policies. At the institutional level, there is potential for regulatory oversight bodies (ROBs) to incorporate BI into routines, guidelines and staffing. Doing so from a whole-of-government approach can help reduce the effects of unconscious biases among regulators throughout government. This can also be designed to both limit the influence of such biases within the ROB, while also leveraging BI to increase the efficiency and effectiveness of regulatory governance via the actions of the ROBs vis-à-vis other government entities.

Processes and tools of regulatory governance can also be improved via BI. These include regulatory management tools, whereby the timely and effective use of regulatory impact assessment, stakeholder engagement, and *ex post* evaluation can be improved through the application of BI. Even in contexts where the use of such tools is required by law, BI can help encourage their use earlier in the regulatory design process where changes are more possible and status quo bias less overwhelming. In many respects, the gap between the intended use and the realised use of such tools is a class challenge addressed in the behavioural science literature. Regulators can make use of the behavioural methodology to analyse behavioural barriers and biases that may limit the use of these tools, and begin testing the application of BI to help remedy any issues.

For regulatory policy makers looking for practical starting points, several areas have come to light during the course of the paper:

- *Test common behavioural solutions as quick wins:* Through a decade of research, the field of BI has discovered many effective behavioural solutions for regulatory policies that could be explored rapidly to demonstrate the effectiveness of the tool for improving regulatory governance. This could include, amongst others, the use of reminders, setting defaults and using implementation intentions, especially by oversight bodies seeking to improve the implementation of reforms.
- *Learn more about behaviour applied to regulatory economics:* The foundations of many evidence-based regulatory policy making tools is in economics, which encourages decisions that maximise benefits and minimise costs. Just as economics has developed behavioural economics, a further focus could be in discovering “behavioural regulatory economics”. For instance, this paper noted an avenue for possibly improving cost-benefit analyses in RIAs – which is more broadly being explored as part of the “Regulatory Policy 2.0” agenda that has motivated this paper.
- *Foster greater understanding of regulatory governance through a BI lens:* This paper has highlighted several issues, such as how transparency may affect loss or risk aversion with regards to stakeholder engagement or how status quo bias may affect organisational decision making when adopting new reforms. Understanding more deeply how these and others affect regulatory governance can provide many new avenues for improving the system of regulatory policy making.

However, doing so will require an investment into more research. The evidence base on the application of BI to regulatory governance frameworks is still nascent, and the above suggestions are based on what has worked in other locations. The core to the BI methodology is to always test and adapt to each context, culture and situation.

There are two mutually-reinforcing paths that governments can take if interested in applying this approach to regulatory governance. First, from the design side, practitioners can focus on experiments testing some of the individual findings of this paper in lab experiments, or even a real-world application inside a government. Taking this one step further, the experimental approach could be broadened to include more systems-level issues, which may require a more diagnostic approach that could then lead to individual interventions. Such experimental approaches are valuable in identifying new ways of working, which could then result in the design of reforms to new or existing regulatory governance systems.

This could also be approached from the *ex post* review perspective whereby the premise of “is our governance framework systematically biased” can be further challenged, evaluated and determined. From this perspective, the goal would be less focused on assuming a problem and test options, but rather running diagnostic reviews that seek to concretely identify issues that can then inform potential design-focused experiments. The BI community is developing tools to help government do this in practice, such as “sludge audits” that help diagnose frictions that may be depriving people of access to important government goods, opportunities and services (Sunstein, 2020<sup>[161]</sup>), or “noise audits” that help to illuminate systematic inconsistencies in decision making that lead to sub-optimal outcomes (Kahneman, Sibony and Sunstein, 2021<sup>[162]</sup>). For example, a sludge audit could be used to help evaluate how burdensome it is to conduct a RIA or stakeholder engagement. Alternatively, a noise audit could look at how consistently scrutiny is applied by individuals in ROBs, or how variable are the decisions of inspectors within enforcement authorities in their pursuit of compliance.

BI practitioners and policy makers also need to consider some cross-cutting issues as this research agenda is pursued, especially related to ethics and fostering learning amongst the regulatory policy and BI communities. In terms of ethics, this was outside the scope of this paper as it is a diverse and deep topic that requires adequate space to discuss. However, it is an important topic to the BI community – increasingly so as the community continues to develop. Ethical considerations have been reflected in the OECD (2019<sup>[41]</sup>) *BASIC Toolkit* and by community members, such as the FORGOOD framework developed by Lades and Delaney (2020<sup>[163]</sup>). The OECD is also currently developing more detailed

guidance for ethics in the application of BI. As research on BI applied to regulatory governance progresses, practitioners and policy makers need to be sure they are ethically and responsibly applying behavioural science to ensure the tools of BI are being used responsibly to positively improve outcomes and ensure that the credibility of field is maintained. To facilitate community learning, practitioners and policy makers need to commit from the onset of future research to the pre-registration of experiments and writing up of results, especially regarding what does not work, to ensure the community progresses together.

Ultimately, considering behaviourally-informed approaches to improving regulatory governance is necessary. This has possible positive benefits of improving not only the way regulations are made, which can help “future proof” regulatory policy making as it seeks to address current and future challenges, but also help governments rebuild trust in regulators as policies become more fit-for-purpose and responsive to the demands of modern day society.

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