



Australian Government

Department of the Prime Minister and Cabinet

ANDREW FISHER BUILDING
ONE NATIONAL CIRCUIT
BARTON

Mr Kevin Hogan MP
Chair
Standing Committee on Tax and Revenue
Parliament House
CANBERRA ACT 2600

Via email to taxrev.reps@aph.gov.au

Dear Mr Hogan

Thank you for your letter dated 16 December 2016 to the Hon Dan Tehan MP, Minister Assisting the Prime Minister for Cyber Security inviting a submission to the inquiry into taxpayer engagement with the tax system.

Attached is the submission from the Department of the Prime Minister and Cabinet. **Attachment A** covers the cyber security issues I see in the taxpayer engagement with the tax system. **Attachment B** is a separate paper from the Department's Behavioural Economics Team. Both of our areas welcome the opportunity to appear before the committee to give oral evidence. My contact details are below.

The relevant contact for the Behavioural Economics Team is Michael J Hiscox. Michael's can be contacted on Ph: or via email at

Alastair MacGibbon
Special Adviser to the Prime Minister on Cyber Security
cyber@pmc.gov.au

7 March 2017

UNCLASSIFIED



CYBER SECURITY

Overview

Opportunities

Our society is rapidly undergoing a digital transformation. We estimate that 90% of Australians are already online with that proportion continuing to grow. Similarly, 84% of Australian small and medium-sized businesses are already have online presences, with half receiving payments online.

As the Prime Minister said when he launched Australia's Cyber Security Strategy in April 2016, "there is no global institution or infrastructure more important to the future prosperity and freedom of our global community than the Internet itself." As majority of Australian businesses have done, the Australian Government has embraced the opportunities the internet offers in the provision of services to the Australian people. This is being pursued with the Digital Transformation agenda. But the potential of digital transformation depends on the extent to which we can trust cyberspace.

Threats

With the vast opportunity of the internet comes risk. We are not immune from threats to our systems posed by cyber criminals and state-sponsored actors. As people and systems become increasingly interconnected, the quantity and value of information held online has increased and so have efforts to steal and exploit that information.

Australian and overseas organisations across both the public and private sectors have been compromised by either criminal or state-sponsored intrusions. A substantial amount of sensitive commercial and personal information has been lost and significant damage has been incurred to businesses and reputations. Figures vary, but cybercrime is estimated to cost Australians over \$1 billion each year and by some estimates the real impact of cybercrime to Australia could be around \$17 billion annually.

The Australian Cyber Security Centre's *Threat Report 2016* advises that Australian government networks are regularly targeted by the full breadth of cyber adversaries, from foreign states through to criminals and issue-motivated hacktivists. Foreign states represent the greatest level of threat, but cybercriminals pose a threat to government-held information and provision of services through both targeted and inadvertent compromises of government networks with ransomware.

The Australian Taxation Office's ICT systems, particularly the public-facing system hosted on MyGov, are as much a part of the digital jungle as the systems of any other government

UNCLASSIFIED

UNCLASSIFIED

agency or private company. Many of the observations included in this submission are drawn from our recent experience of the events surrounding the Australian Bureau of Statistics's 2016 eCensus. There are lessons learnt from that event that are relevant to all Australian Government systems owners that engage the public online, including the Australian Taxation Office.

Key Lessons from the Events surrounding the 2016 eCensus

The events surrounding the 2016 eCensus showed the Australian Government and the public that cyber security is no longer the sole preserve of national security policy-making. Cyber security now includes ensuring the availability of services and confidence in government in a digital age.

The Distributed Denial of Service (DDoS) attacks suffered by the ABS on the first day of the census period were predictable for such a well-publicised event. Furthermore, the Australian public has real and legitimate concerns about privacy and the security of their personal information being collected by the ABS, as the public would for their personal information collected by the ATO.

Without reflecting on the services offered to the public by the ATO, the ABS is likely not alone. All agencies need to transform their thinking to support truly digital engagement with Australians. And cyber security and privacy were shown to be critical to the confidence of Australians in the online services delivered by government.

As Government services move online there is a new imperative to embrace cyber security as a core objective for digital transformation. No system connected to the Internet can have guaranteed security. But as more government services move online, project managers will need to address security and respond to security incidents as critical business risks. By making cyber security a core part of system design we will strengthen trust online and build Australia's digital potential.

Digital awareness, including security risks and consequences, needs to be a core part of agencies' toolkits to deliver services in a modern online economy. Not all agencies, especially smaller ones such as the ABS, are equipped to deliver technology outcomes of scale. Agencies will need to consider alternate service options, such as cloud service provision. Cloud computing can offer significant security, cost and efficiency benefits.

I advised Government that there are opportunities to adopt learnings from the eCensus incident in Phase Two of the government's Digital Transformation Agenda. A key lesson is that security must be 'baked in' to design and delivery. Government can develop a more 'shared service' consultancy approach to cyber security to boost agency capacity and allow resources to be reallocated to service delivery.

There are also issues arising with the security culture in Commonwealth agencies. There is a prevailing "Tick box" compliance culture. That is, agencies will consider themselves secure if they get their internal ICT area and their subcontractors to put in place and uncritically follow prescribed security procedures. But compliance does not equal security. It is more important

UNCLASSIFIED

UNCLASSIFIED

that agencies have a culture of security; that they adapt to changing threats and educate their staff on good cyber hygiene. My objective is to have security culture permeate through agencies, so that they habitually test their systems and arrangements and complacency does not set in. Such an approach will significantly reduce risks to our systems. But I should note that we can never eliminate them.

Commonwealth agencies also need to think critically about how they manage their relationships with their vendors. Out-sourcing of technical capabilities is the norm for the Commonwealth and brings challenges to how we manage cyber security risks. Many agencies have long-standing relationships with their vendors, which can lead to complacency in risk management. Trust is good, but trust without verification is dangerous. Contracts can cover the Commonwealth in the event of unavailability of services and lost reputation but they do not do enough to prevent potential damage. Agencies need to verify the security capabilities of their vendors through regular testing and exercises. Agencies should also be cognisant that their ICT contractors also have downstream sub-contractors involved in the service delivery who need to be trusted and verified as well.

Another critical lesson learnt from the eCensus event was how we in Government engage with the public in an event or crisis. Social media engagement goes hand in hand with digital transformation. Agencies need to actively communicate with the public when they seek information and reassurance. Press releases are not enough. Clear, simple messaging from the Government through its social media channels can permeate quickly when the public is hungry for useful and meaningful information. This is of critical importance in crisis management, but also has a key role in building trust with public over time as part of business as usual. Agencies that do their business online with the public online need to speak to the public online too. Social media skills need to be raised across the Commonwealth.

Related cyber security issues

Security of personal and financial information relating to tax is not solely the ATO's responsibility. The ATO can only protect what it possesses. Members of the public and businesses dealing with tax information should also be aware that their personal information, including but not limited to taxation information, is in their own possession and potentially vulnerable.

Everyone must take responsibility for their online security. Partnering with business and the community to work together to raise the awareness of all Australians to online opportunities and risks is an important element of the Government's Cyber Security Strategy. Fortunately, there are simple steps that any individual or business can take to protect themselves. This includes creating strong passwords, regularly updating software to repair vulnerabilities, being wary of unsolicited emails and avoiding malware by keeping to trusted websites.

Individuals and small and medium businesses are of particular importance in cyber security. The Australian Government has published a Stay Smart Online Small Business Guide and Stay Smart Online My Guide for individuals. These guides provide advice on vital areas of online security including: privacy, passwords, suspicious messaging, browsing safely, online

UNCLASSIFIED

UNCLASSIFIED

finances and payments, tablets and mobiles, security software and reporting and can be downloaded from the Stay Smart Online website.

Email Scams purporting to be from the ATO seem to arise each year at tax time. Warnings to the public about those scams are published by the ATO, the Australian Consumer and Competition Commission's ScamWatch program and by Stay Smart Online on their websites, social media channels and through their alerts subscription service.

For SMEs, cyber security should be a part of every business's risk management and resilience structures and planning. This includes developing and implementing business continuity, response and remediation plans in the event of cyber security incident. For individuals and business, the cost of implementing measures to protect themselves may be time consuming or in some cases very costly.

Opportunities

The online engagement by the ATO with the public is not all about negative risk. The efficiencies and convenience of lodging tax returns online are clear. And there are other opportunities to consider as well. Government agencies' should emulate the best practice of successful e-commerce sites in the private sector by utilising off-the-shelf, scalable analytics software. There are many vendors that offer sophisticated pattern detecting software that can help prevent fraud, identity theft and provide a better experience for the user. To my knowledge this is not common practice across the Commonwealth, and yet it should be.

UNCLASSIFIED



Australian Government
Department of the Prime Minister and Cabinet

BEHAVIOURAL ECONOMICS TEAM OF THE AUSTRALIAN GOVERNMENT

Key points

This submission provides some background to behavioural economics and discusses select practical applications of behavioural economics in the area of tax compliance and service delivery. In order to improve compliance and engagement with the taxpayer, we submit that the committee should consider the important role that behavioural economics and randomised controlled trials could play in:

- making it **easy and simple** for taxpayers to comply;
- using emerging technologies to hardwire and **embed defaults** into the tax system;
- making information **salient and personalised** to draw attention and induce action;
- applying **social norms and rewards** to encourage compliance;
- **prompt honesty** at key moments to encourage greater voluntary compliance; and
- improving **operational and process transparency** in the tax and transfer system to strengthen trust and reciprocity and improve engagement with the taxpayer.

Role of the Behavioural Economics Team of the Australian Government

The Behavioural Economics Team of the Australian Government (BETA) is the Australian Government's first central unit dedicated to the application of behavioural economics to improve government policy, programs and services. BETA's mission is to drive the use of behavioural economics and randomised controlled trials in the design and testing of those policies, programs and services. We strive to remove barriers to optimal behaviour and support people in making the right decision which in their best interest, without mandating or restricting choices.

BETA has partnered with 19 Commonwealth Government agencies including the Australian Taxation Office (ATO) to build institutional capability in behavioural economics and to design and test policies and programmes, backed up by the best behavioural economics theory and evidence. BETA has delivered training on introduction to behavioural economics and randomised controlled trials and published detailed [guidance material](#) to support our partner agencies develop behavioural interventions for randomised controlled trials. In particular, BETA is actively supporting partner agencies including the ATO (which also has its own Behavioural Insights Unit), on a number of active trials that use behavioural insights to improve program or policy outcomes.

Introduction to behavioural economics and randomised controlled trials

Behavioural Economics is focussed on examining and testing the biases and influences that impact on our behaviours and choices and how we respond to real-life situations. At a fundamental level, behavioural economics examines why people's actions deviate from the predictions of standard

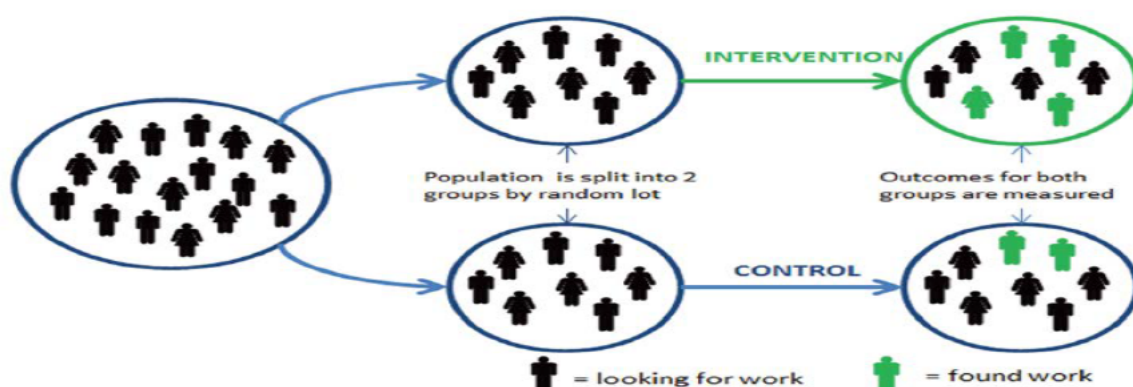
economic theory, which assumes that individuals always make choices that are rational and maximise their welfare. It combines experimental and field evidence with insights from disciplines such as psychology to develop richer economic models of decision-making.

The growing applications of behavioural economics within the public sector should be understood within the context of a broader public sector reform agenda. Fiscally-constrained governments are simultaneously using a range of tools—from emerging digital technologies to new interventions built on behavioural economics—to transform revenue collection, expenditure payments and service delivery within the public sector. Although traditional economic interventions such as financial incentives and regulation continue to be the main driver of policy and program development, there is scope for behavioural economics to complement (and sometimes substitute) traditional policy tools across the wide spectrum of public policy and services – health care, education, pensions, back-to-work initiatives, reducing reoffending rates, and the collection of taxes, fines and charges.

A key pillar of behavioural economics is to test the application of potential biases and finding ways to mitigate or harness those biases that may prevent people from acting in their own best interest. Behavioural economics relies on rigorously testing the effectiveness of a policy intervention by using randomised controlled trials. Trialling takes account of the social context and any nuances in the policy area concerned. Increasingly, the policy development process requires that policies are underpinned by evidence, and randomised controlled trials are one avenue through which strong empirical evidence can be gathered.

Randomised control trials work by randomly assigning individuals or other units (e.g. schools) into different groups – usually there are one or more ‘treatment’ groups that participate in a new intervention/s being tested, and a ‘control’ group that does not. Outcomes for both groups are measured, and because the only difference between the groups is the intervention that has been applied, any difference in outcomes can be attributed to the intervention. **Figure 1** below shows the basic design of a randomised controlled trial in the context of a new ‘back to work program’.

FIGURE 1: BASIC DESIGN OF A RANDOMISED CONTROL TRIAL



Source: ‘Test, Learn and Adapt: developing Public Policy with Randomised Controlled Trials’, UK Cabinet Office Behavioural Insights Team

In a fiscally constrained environment, demonstrating the efficacy of a new policy proposal or evaluation of an existing program by using randomised controlled trials is an increasingly attractive option for governments seeking to verify the effectiveness of, and accurately estimate the cost of implementing a policy or a program. Policy interventions that are supported by empirical evidence using behavioural economics and randomised controlled trials are an innovative means of facilitating the drive for delivering existing services and new programs and policies at a relatively lower cost (in terms of gains from improved efficiency and effectiveness) compared to an alternative option.

Behavioural models of tax compliance and engagement

Attachment A adopted from Holzinger and Biddle (2016)[6] summarises some key models of tax compliance and taxpayer engagement. A glossary of behavioural biases that are referred to in this submission is also provided at **Attachment B**.

Using behavioural economics to improve compliance and taxpayer's engagement

Behavioural models underpinned by the concept of '*Tax Morale*' can more accurately explain how taxpayers engage with the tax system and their willingness to comply with their tax obligation. These models view the tax decision as being influenced by informal or formal networks or other agents. Particularly, the taxpayer's decision making process is influenced by the propensity of others to pay taxes, the normative influences of colleagues, friends and family, the advice of tax intermediaries and perceptions on the role and legitimacy of government.

Long recognised informally by tax administrators, laboratory and field experiments including randomised controlled trials have begun to probe these motives—and how they might be leveraged to better engage taxpayers and improve compliance —more systematically.

In a 2012 report[7], the UK Behavioural Insights team compiled a list of seven key insights gathered through a growing body of research on behavioural motives. Below we reproduce and explain these insights with reference to supporting empirical research. The inquiry may find these insights useful in developing recommendations to boost compliance and improve taxpayer's engagement with the tax system.

Insight 1 - Make it easy: A key lesson for tax authorities from behavioural research is that they should make it as easy as possible for people to pay their taxes, for example by automating tax withholding at source and pre-populating lodgement forms with information already held. This insight harnesses the power of the default by reducing the *Status quo Bias* and the use of *Heuristics* (mental shortcuts that use decision making strategies derived from experience with similar problems) that negatively impact taxpayer's 'capacity to comply', given the complexity of the tax system and taxpayer's preference for *Loss Aversion*.

The UK BIT report points to a 2009 benchmarking study of tax administrations in 13 countries that found that "most high performers tend to pre-populate all the fields for individuals' tax forms... thereby

helping taxpayers improve the accuracy of their submissions by ensuring that the forms are correct from the beginning". We note that the ATO already has a robust withholding income tax regime that incorporates some pre-filled data during lodgements. There may be an opportunity to use emerging technologies to hardwire and embed default mechanism in the tax system to boost engagement and make it easier for taxpayers to comply.

Insight 2 - Highlight key messages: Behavioural models have identified that people tend to apply heuristics more extensively and ignore new information in the face of increasing complexity. Consequently, how choices are framed (*Framing Effect*) often determine what action people would take. One important insight is that people commonly focus on information given at the start of a letter or email. As such, drawing people's attention to important information or actions required of them, for example by highlighting them upfront in a letter, should improve compliance.

Eye-tracking studies such as those conducted by the British Royal Mail have found that people focus mostly on the first page of a letter, headings, boxes and images and pay attention to coloured text while ignoring plain text. In fact, the use of visual aids in letters and emails can not only capture the reader's attention, but also aid their comprehension and memory by facilitating what psychologist Daniel Kahneman refers to as '*Cognitive Ease*'.

The ATO has used these insights to run a trial to test the effectiveness of debt letters that included more overt messages of support to nudge the taxpayers to engage with the ATO and repositioned or changed phrases to better focus on key messages. Among taxpayers who had received the new letters, the ATO found an increase in those making payment in part or in full, or entering into a payment arrangement.

The UK BIT also tested these insights through a series of trials with the National Health Services that involved redesigning prescription charts, simplifying forms, and using colours and boxes to draw attention to key information requirements. The committee may wish to examine the potential of redrafting key communication to make information salient and facilitate 'cognitive ease'.

Insight 3 - Use personal language: People are more likely to respond to messages that are salient and personalised. Personalised language also helps people better understand why a message or process is relevant to them. Although mass communication is cheaper, new technologies have been able to deliver personalised messages at low cost. A US study shows, for example, that people are more likely to respond to messages indicating extra effort and a personal touch, for example through handwriting an individual's name or using post-it notes to summarise the request. These types of personalised messages are increasingly being used by charities such as Oxfam and CARE to draw attention to their cause and make people form a personal connection to the individual in need of aid and assistance.

Another key insight is that giving an individual a unique opportunity that they know is not available to all, or only available for a limited period, could motivate them to act. In a successful trial, the UK HMRC used this insight by giving a particular group with significant risk of non-compliance – plumbers, medics and private tutors – a time-limited opportunity to disclose information about their tax liabilities. The

campaign bought in over £500 million in disclosures and a further £100 million from follow-up work on non-compliant taxpayers.

Insight 4 - Prompt honesty at key moments: Ensuring that people are prompted to be honest at key moments when filling in a form or answering questions could lead to more accurate information disclosure. This key insight draws on the power of the *Anchoring Bias* that people frequently exhibit, which shows that even irrelevant information, when presented at the right time can have a significant effect on how we make a decision.

For example, a US study found that moving a signature box from the end of a form to the beginning can help to promote more honest declarations. Other research has found that it may also be possible to reduce fraudulent claims by creating short honesty statements or declarations that applicants have to sign or even manually type out. People are also more likely to be honest when actively asked to confirm or update information.

Tax authorities could use these insights to target taxpayers and tax agents exhibiting high fraud risk or aggressive tax planning behaviour. For example, tax authorities could prompt taxpayers and their tax agents to file a nil tax return or ask them to confirm that taxpayer's circumstances have not changed when re-applying for a deduction or an offset.

Finally, research conducted by the London Business School suggest that people are maybe least likely to act honestly at the end of a transaction. This is because they want to avoid feeling regret about passing up a final chance for personal gain. This insight could help tax authorities design interventions to prompt honesty at the time when the likelihood of non-compliance is high, e.g. at the end of the financial year instead of quarterly business activity statements.

Insight 5 - Tell people what others are doing (use *Social Norms*): Empirical studies have pointed to the prevalence of cooperative values that characterise compliant taxpayers over non-compliant ones. For example, studies have found that being empathetic to other taxpayers as well as priming participants to induce empathy could lead to higher tax compliance.

By highlighting the positive behaviour of others, for instance that '9 out of 10 people pay their tax on time', descriptive social norms could be reinforced and lead to better compliance. In a field study, the UK BIT sent letters to non-compliant taxpayers reminding them of the high levels of tax compliance nationally, thereby raising compliance by about 16 percentage points among debtors. The ATO also ran a successful trial highlighting social norms by changing the structure of tax debt letters, pointing out that the majority of taxpayers pay in full and those with a debt may not be fulfilling their obligations to the community.

However, it is important to note that in some circumstances, highlighting certain descriptive social norms (such as high rates of non-compliant behaviour) may have an undesirable effect; it could indicate that non-compliance is widespread and is socially acceptable. Also injunctive social norms are intrinsically intertwined with the perception of fairness and trust in the system in terms of citizen's

interaction with the government. Please see **Box A** below for a description of how taxpayer's engagement could be improved by building and reinforcing trust in government and the public service.

Box A - Trust and reciprocity – a key ingredient for better taxpayer engagement

The issue of trust and reciprocity is central to better compliance and improved engagement with taxpayers. Tax systems that are perceived as fair and transparent are also characterised by high compliance levels. Social norms built through inclusive policymaking and transparency play an important role in building trust and give people an analogous comparative tool against which to measure government performance. The OECD (2015)[1] identified 6 key areas for governments to build and grow trust including reliability, responsiveness and openness, better regulation, integrity and fairness, and inclusive policymaking.

Behavioural research looking at curbing tax avoidance has found that tax morale depends strongly on the extent of trust the citizens have in the political system. Lind's (2015)[2] research on 'brain wiring' further reveals that reactions to pain and exclusion occur in the same place in our brain. Trust as such is closely connected with feeling 'included'. Better operational and process transparency could incite a feeling of being included. This could lead to increasing perceptions of effort, reciprocity and gratitude by revealing the process behind a decision. This in turn can improve consumers' perceptions of service value and allow citizens to see the often-hidden work that government performs (Buell et al 2013)[3].

Although it may be beyond the scope of this inquiry, we note that 'inclusive decision making' may be a good way for governments to build trust. For example, experiments conducted by Lamberton et al (2014)[4] showed that allowing taxpayers to signal their preferences on the distribution of government spending resulted in a 15 per cent reduction in the stated take-up rate of a questionable tax loophole.

In addition to enhancing taxpayer satisfaction, the authors also found that an allocation program, if well-implemented, could also provide some hope for correcting existing lack of voices, address disconnects between spending and taxpayers' priorities and increase civic engagement in general.

Insight 6 - Reward desired behaviour: A central insight from behavioural economics is that economic and psychological factors together influence people's decisions. While most jurisdictions use penalties and other negative incentives to discourage undesirable behaviour, evidence from behavioural science suggests that actively incentivising or rewarding positive behaviour might be an effective way of reinforcing and internalising that behaviour.

A number of jurisdictions in Europe including Slovakia, Italy, Portugal, Greece, Austria and Romania have either experimented with or are planning to introduce lotteries tied to sales receipts at the point of sale. These measures aim to encourage customers to demand tax receipts for goods and services purchased, by entering them into a lucky draw, with prizes in cash and kind being offered to the holders of the lucky numbers.

In Portugal, the introduction of a lottery scheme as described above has had a positive effect in terms of generating more transactions being recorded in the formal economy. During the trial period, the number of companies issuing tax receipts increased by almost 40 per cent. In terms of revenue collection, the four sectors that were targeted for non-compliance, performed noticeably better with a 2.5 per cent - 9.5 per cent higher growth in revenue numbers in 2013 compared to the previous year.

Insight 7 - Highlight the risk and impact of non-compliance: Emphasising or magnifying the impact of fraud or late payment for public services, as well as the risk of audit and the consequences for those caught could deter non-compliant behaviour. The insight draws upon '*Prospect Theory*' and 'framing effects' and emphasises that people's preferences change according to how a piece of information is presented. People are more likely to be non-compliant if the risk of getting caught is low or unclear or if the taxpayer or the tax agents thinks that they can remain anonymous or can't be implicated. Non-compliance also increases if the penalties and the impact on the taxpayer and others from non-compliance are not clearly defined,

Dan Ariely's work on dishonesty also point to the fact that allowing people to 'reset their honesty levels' could lead to reduced incidence of non-compliance. If non-compliant behaviour is prevalent in an industry sector, Ariely's research suggests that time-limited tax holidays and voluntary disclosures, combined with tougher penalties that highlight the risk of dishonest behaviour could help people reset their honesty levels, and ensure ongoing compliance. These insights are being used by the UK HMRC to frame tax debt in a way that emphasises the loss to a vital public service due to the non-payment and allowing people to reset their honesty levels.

Concluding remarks

There is increasing interest in using behavioural economics driven by the success of behavioural economics teams internationally and in Australia and the establishment of several behavioural economics teams in line agencies as well as BETA. These teams are helping to develop the skills and expertise in the public service necessary to apply behavioural economics to public policy. As mentioned above, the BETA team is currently working with the ATO on a number of projects that test some of the key insights identified above such as the use of social norms, planning prompts and reminder messages to improve compliance.

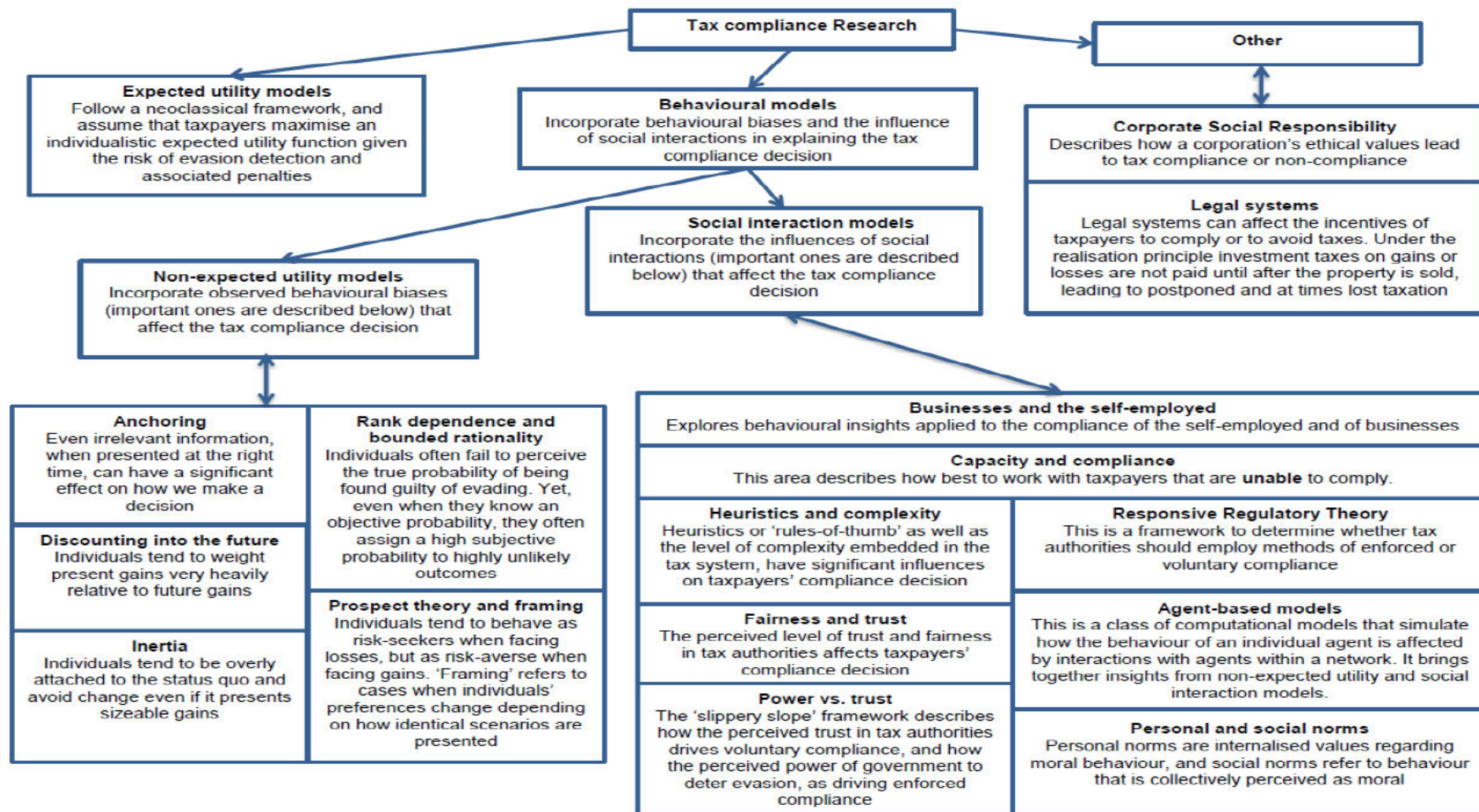
However, we note that a better understanding of the behavioural biases that guides taxpayer's behaviour alone will not necessarily deliver the intended outcomes. This is because human behaviour is complex and can be context specific. Behavioural interventions therefore rely heavily on the use of randomised controlled trials to confirm the efficacy of an intervention, because an intervention that works well for a particular group may not be easily replicable. Well-designed randomised controlled trials are therefore considered the gold standard for measuring a behavioural intervention's impact. When properly designed and implemented, a randomised controlled trial is superior to other study designs in measuring an intervention's true effect and have proven their usefulness in the field of medicine, welfare and employment policy.

The Australian Government's recently announced [*Try, Test and Learn Fund*](#) and the Department of Health's trial rollout of [*Health Care Homes*](#) are examples that suggest that there may be a pent-up demand for testing and trialling an intervention before scaling it up. Applying a similar framework to rigorously evaluate the impact of behavioural-designed interventions to improve compliance and taxpayer engagement is not only prudent, but could also prove more cost-effective and productive in the long-run.

References

1. OECD *Government at a Glance*. 2015.
2. Lind, A., Australian and New Zealand School of Government, *Value of Transparency and Citizen Engagement* 2015.
3. Buell, R.W., E. Porter, and M.I. Norton, *Surfacing the Submerged State: Operational Transparency Increases Trust in and Engagement with Government*. 2016.
4. Lambertson, C.P., J.E. De Neve, and M.I. Norton, *Eliciting taxpayer preferences increases tax compliance*. 2014.
5. Alm, J., 12. *Expanding the theory of tax compliance from individual to group motivations*. A Handbook of Alternative Theories of Public Economics, 2014: p. 260.
6. Lilia, M. and A. Holzinger, *Behavioural insights of tax compliance: An overview of recent conceptual and empirical approaches*. Tax and Transfer Policy Institute, 2016.
7. BIT, *Applying Behavioral Insights to reduce Fraud, Error and Debt*. 2012: p. 38.

Attachment A



Source: Lilia, M. and A. Holzinger, *Behavioural insights of tax compliance: An overview of recent conceptual and empirical approaches*. Tax and Transfer Policy Institute, 2016

Attachment B

Glossary - Key behavioural concepts

Prospect Theory	Prospect theory assumes that losses and gains are valued differently and individuals make decisions based on perceived gains instead of perceived losses. Also known as "loss-aversion" theory, the general concept is that if two equal choices are put before an individual, with one presented in terms of potential gains and the other in terms of possible losses, the former option will be chosen.
Framing Effect	A "framing effect" is a cognitive bias and is usually said to occur when equivalent descriptions of a decision problem lead to systematically different decisions. The framing effect has been known to be one of strongest bias that impacts decision making.
Loss Aversion	Loss aversion can explain differences in risk-seeking versus risk aversion and is linked to the <i>endowment effect</i> (a strong preference for things people own) and the <i>sunk cost fallacy</i> (future behaviour determined by past investment). It may also play a role in the status quo bias. (See prospect theory above for the definition of loss aversion).
Anchoring Bias	Anchoring is used to describe the common human tendency to rely too heavily or "anchor," on one trait or piece of information when making decisions. Usually once the anchor is set there is a bias toward that value in decision making.
Tax Morale	Tax morale is often described as taxpayer's intrinsic motivation to voluntarily pay their taxes. Tax morale is highly correlated with personal and social norms, the perception of fairness and trust, increasing complexity in the tax system and the type of relationship between taxpayers and tax authorities.

Status quo bias	Status quo bias or inertia is one of the strongest biases that impact decision making. It manifests itself through people's actions in situations where they prefer things to stay the same by doing nothing or by sticking with a decision made previously (existing default).
Heuristics	Heuristics are usually defined as cognitive shortcuts or rules of thumb that simplify decisions and represent a process of substituting a difficult question with an easier one. These mental shortcuts are an efficient way for the brain to process complex information and make decision quickly. However, these decisions may or may not be in the best interest of the decision maker.
Cognitive Ease	Cognitive load refers to the total amount of mental effort being used by the working memory. Cognitive load could lead to people forgetting things or delaying decisions. Cognitive ease on the other hand refers to an intrinsic or extrinsic action to simplify and reduce the amount of mental effort involved in the decision making.
Social Norms	Social norms signal appropriate behaviour and are classed as behavioural expectations or rules within a group of people. Social norms have been used quite extensively to encourage people to do the right thing and broadly fall under two categories, injunctive norms (what a group approves or disapproves) and descriptive norms (what a group actually does).