This paper has been prepared by IGEES staff in the Department of Public Expenditure & Reform. The views presented in this paper are those of the author alone and do not represent the official views of the Department of Public Expenditure and Reform or the Minister for Public Expenditure and Reform. The paper was prepared in the context of an on-going budget negotiation process and reflects the data available to the author at a given point in time.
Executive Summary

In 2014, DPER published a paper setting out the potential for Behavioural Economics in Ireland. Many Departments have begun Behavioural Economic projects since then, and DPER continues to drive the development of Behavioural Economics in Irish policy. This report provides examples of applications of Behavioural Economics across a number of Government Departments as shown in Figure 1.1 below.

The DPER IGEES Unit is working with the Department of Social Protection and the Department of Health on Randomised Control Trials (RCTs) as well as continuing to support other Departments seeking to apply Behavioural Economics in their policy areas. The DPER IGEES Unit will continue to progress the use Behavioural Economics in Ireland and is developing toolkits that will help guide Departments through the initial phases of conducting a behavioural change project.

Of the 13 examples summarised in this paper some of the projects are tested using randomised control trials, while others use behavioural findings or insights to inform delivery.

Figure 1.1: Overview of the Behavioural Economics projects included in this paper

<table>
<thead>
<tr>
<th>Department</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office of the Revenue Commissioners</td>
<td>Encouraging Publicans to Renew their Licence Early</td>
</tr>
<tr>
<td></td>
<td>Increasing Filings from Late Income Tax Returns</td>
</tr>
<tr>
<td></td>
<td>Increasing Responses to the SME Survey (2013)</td>
</tr>
<tr>
<td></td>
<td>Increasing Responses to the PAYE Survey (2015)</td>
</tr>
<tr>
<td>Department of Public Expenditure and Reform</td>
<td>Increasing Land Registration</td>
</tr>
<tr>
<td></td>
<td>Reducing Carbon Emissions</td>
</tr>
<tr>
<td>Department of Agriculture, Food and the Marine</td>
<td>Reducing Non-Compliance with Nitrate Regulations (Letters)</td>
</tr>
<tr>
<td></td>
<td>Reducing Non-Compliance with Nitrate Regulations (SMS)</td>
</tr>
<tr>
<td>Department of Social Protection</td>
<td>Reducing Did-Not-Attends at Group Information Sessions</td>
</tr>
<tr>
<td>Department of Foreign Affairs and Trade</td>
<td>Managing Passport Demand</td>
</tr>
<tr>
<td>Department of Jobs, Enterprise and Innovation</td>
<td>Using Fast and Frugal Heuristics to Monitor Employment</td>
</tr>
<tr>
<td></td>
<td>Sustainability</td>
</tr>
<tr>
<td>Department of Justice and Equality</td>
<td>Improving Anti-Money Laundering Forms and Compliance</td>
</tr>
<tr>
<td>Department of Health</td>
<td>Encouraging Responses to the National Health Experience Survey</td>
</tr>
</tbody>
</table>
1. Introduction

In 2014, DPER published a paper setting out the potential for Behavioural Economics in Ireland. It set out theoretical underpinnings, provided examples from Ireland and abroad, and set out how Behavioural Economics can improve policy design, implementation, and improve operations. Many Departments have begun Behavioural Economic projects since then and DPER continues to drive the development of Behavioural Economics in Irish policy.

Section 2 of this report provides a summary of Behavioural Economic projects across a number of Departments. A detailed overview of the application of Behavioural Economics will then be given for two example projects, a trial run by the DPER IGEES Unit with the Department of Social Protection to improve attendance at Group Information Sessions for jobseekers, and a trial carried out by the Office of the Revenue Commissioners to increase responses to the 2013 survey of SME Taxpayers. Short summaries will then be provided for 11 other Behavioural Economics projects which have been carried out by a number of different Departments. Of the 13 examples summarised in this paper some of the projects use randomised control trials, while others use behavioural findings or insights to inform delivery.

While this report contains 13 example applications of Behavioural Economics across Government Departments, it is important to note that detailed research is also being carried out by the ESRI on behalf of the Central Bank of Ireland, Commission for Communications Regulation, Commission for Energy Regulation, and the Competition and Consumer Protection Commission. The work of the PRICE Lab\(^2\) in the ESRI has been investigating consumers’ ability to deal with complex products and the lab’s research is likely to impact on regulatory policy in the future.

IGEES members across a number of Departments have been active in incorporating behavioural insights and trialling in policy development and operations. IGEES is well-placed to act as a catalyst to assist in the mainstreaming of Behavioural Economics given the intrinsic link to evidence-informed policy making and the role of behavioural insights in improving efficiency and effectiveness.

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2 PRICE stands for Programme of Research Investigating Consumer Evaluations
**What is Behavioural Economics?**

Behavioural Economics examines why people’s actions deviate from the predictions of standard economic theory. Through a better understanding of people’s decision making, Behavioural Economics provides for the better design, implementation, and targeting of public policy. Behavioural Economics provides the opportunity to further a culture of evidence-informed policy making in Ireland through testing and trialling; providing opportunities for innovation.

A key feature in Behavioural Economics is its empirical approach. Where possible, an intervention is designed and tested (trialled) using counterfactual methods, preferably a randomised control trial, to establish if the intervention is effective and to what degree. By testing the application of behavioural insights, policymakers can robustly quantify the impact of the intervention and identify ways to modify interventions to enhance their impact. The empirical approach of Behavioural Economics is at the heart of the principles of evaluation embedded within IGees.
2. Applications of Behavioural Economics in Irish Policy Making

Section 2 provides an overview of the application of Behavioural Economics across 8 Government Departments. Detailed summaries are given for 2 example projects, a trial run by the DPER IGEES Unit with the Department of Social Protection to improve attendance at Group Information Sessions for jobseekers, and a trial carried out by the Office of the Revenue Commissioners to increase responses to the 2013 survey of SME Taxpayers. Short summaries are then provided for 11 other Behavioural Economics projects which have been carried out by a number of different Departments.

Department of Social Protection

Increasing Attendance at Group Information Sessions

Conducted by: The DPER IGEES Unit, the Statistics and Business Intelligence Unit, Dublin North Division Intreo Offices, and West Division Intreo Offices

Background

Missed appointments are costly and inefficient. They create the need for follow-up with clients by front line staff who could be working to deliver much needed services, lead to frustrating re-work, and incur additional costs when letters are reissued. Perhaps more importantly, clients who miss their appointments do not benefit from the service they were scheduled to receive. This may result in worse outcomes for the client.

Group Information Sessions are the first point in a process of activation and engagement with jobseekers in the Intreo Centres of the Department of Social Protection (DSP). In December 2015, the Divisional Manager for Dublin North Intreo Centres approached the DPER IGEES Unit to investigate and address the problem of high rates of did-not-attends (DNAs) among job seeking clients. Dublin North Division had started to plan a behavioural change intervention to tackle the problem and enlisted the assistance of the DPER IGEES Unit after learning of its availability to support its project.

On foot of a design being agreed for the behavioural insight trial between Dublin North and IGEES, additional Intreo offices were enlisted from the west of Ireland. This was to ensure that any findings from this project would generalise to the rest of the country and to speed up the data collection process. DNA rates were relatively high in both the Dublin North and the West Division Centres, with some Centres having DNA rates as high as 52 percent.

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3 Department of Social Protection, Intreo Office Administrative Data.
At Group Information Sessions, presentations are given to jobseekers after a client receives a decision regarding their entitlement to a jobseekers payment. Group Information Sessions provide jobseekers with information about the services they can avail of to help them find employment, find suitable educational courses or opportunities for work experience. Attendance at these sessions is mandatory.

The first stage of interaction between Intreo and the client is critical and the letter of notification to attend a Group Information Session is the first communication to the client to start them on their journey back into the workforce. The sooner that engagement starts, the earlier their potential participation in the active workforce.

The Dublin North Division invited the DPER IGEES Unit, along with the Statistics and Business Intelligence Unit from DSP, to meet with representatives from each of the Intreo offices in the Dublin North Division to discuss potential solutions to reduce the number of DNAs by applying principles from Behavioural Economics. After reviewing the invite letter that was issued to clients for Group Information Sessions, both groups agreed that a re-design of the letter should be evaluated. An RCT was conducted to assess the effectiveness of the re-designed letters in reducing DNAs.

It was decided to trial two newly designed treatment letters against the original letter (control). The two revised (treatment) letters and the original can be seen in Figure 2.2. Figure 2.1 highlights the changes made to the letters and the evidence from the Behavioural Economics literature which informed those changes.

**Results and Learnings**

While the results from this trial and the major learnings from this project will be published separately at the start of 2017, it is important to recognise the efforts that have been made to design, resource, and trial this behavioural change project. As Group Information Sessions are scheduled weekly, and letters are only sent once the session has been scheduled, it was necessary to randomly assign jobseekers to receive one of the letters each week. While invite letters for Group Information Sessions are usually issued automatically to jobseekers, it was not possible to randomly assign jobseekers using the existing invite system. This required staff in each of the Intreo Offices to follow a randomisation procedure and manually create each batch of letters using mail merge. The DPER IGEES Unit would like to acknowledge the considerable effort undertaken by these staff members to make this trial a possibility.
This experience also proved valuable as a learning opportunity highlighting two points for consideration:

1. When a Department is considering undertaking a behavioural change project involving an RCT, the randomisation procedure’s compatibility with the operations of the relevant policy area should be considered. Trials where all participants can be randomised at the one time, rather than on a continual basis, will be easier to implement. A guide to choosing initial behaviour change projects will be published on the IGEES website shortly.

2. Many IT systems are built to robustly perform a specific function. Often, it can be challenging to make changes to these systems, and while automating processes can often help to improve efficiency, it may limit the scope for testing changes to processes in the future. This emphasises the importance of trialling before deciding on a final process or operation, as it can be difficult to make changes once the system has been fully implemented. It should be considered in the future whether Government websites and IT services should be specifically designed to allow for testing of new communications/processes.
Figure 2.1: This table shows how Behavioural Insights based on existing evidence were applied to the redesign of the letters.

<table>
<thead>
<tr>
<th>Behavioural Design Element</th>
<th>Message Formulation and Evidence</th>
<th>Present in Letter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personalisation</strong></td>
<td><strong>Design:</strong> The client is addressed by their first name in the opening line of the letter.</td>
<td>2,3</td>
</tr>
<tr>
<td></td>
<td><strong>Evidence:</strong> Research has shown that people are more likely to respond to communications utilising their first name.</td>
<td></td>
</tr>
<tr>
<td><strong>Reciprocity</strong></td>
<td><strong>Design:</strong> The client is told that the case officer has “booked you a place in an Intreo jobseekers Information Session”.</td>
<td>2,3</td>
</tr>
<tr>
<td></td>
<td><strong>Evidence:</strong> Previous studies have shown that people are more likely to enact a behaviour when someone has already done something for them.</td>
<td></td>
</tr>
<tr>
<td><strong>Salience</strong></td>
<td><strong>Design:</strong> By placing important pieces of information in boxes, bolding important messages, and using simple pictures, the client’s attention is drawn to important messages.</td>
<td>2,3</td>
</tr>
<tr>
<td></td>
<td><strong>Evidence:</strong> People’s attention span is limited. Highlighting key features using pictures and bolding can draw people’s attention to important information quickly.</td>
<td></td>
</tr>
<tr>
<td><strong>Simplification</strong></td>
<td><strong>Design:</strong> The language within the letter has been simplified to make the letter easier to read. Additionally, pictures have been added to communicate key messages.</td>
<td>2,3</td>
</tr>
<tr>
<td></td>
<td><strong>Evidence:</strong> Simplification is somewhat related to the fact that people have a limited attention span or limited “cognitive capacity”. Research has shown that the easier it is for people to understand and process information, the more likely they are to enact a behaviour. The use of pictures also helps to convey information quickly and easily.</td>
<td></td>
</tr>
</tbody>
</table>
| Timely Prompt/Channelling Effects | Design: The client is prompted at the end of the letter to make contact if they cannot attend their scheduled appointment. The phone number to call is provided directly beside this prompt.  
Evidence: It is likely that the client will be in a place where he/she can make a phone call when reading the letter. By placing the phone number beside the prompt, it makes it easier for the client to enact the behaviour immediately. | 2,3 |
| Rule of Thirds | Design: The layout of the third letter follows the rule of thirds which states that if you divide the page into 9 equal sections (3x3), the 3 parts of the document where the lines intersect represent the sections which people’s eyes first scan.  
Evidence: By placing important information on the sections of the page where people first look, it is more likely that they will read the key information. | 3 |
| Observer Effect | Design: The client is told “if you do not [contact us] we must record this as a missed appointment which could affect your payment”.  
Evidence: Previous research by the BIT in the UK has shown that this message was the most effective at reducing “did-not-attends” in local hospitals. This is likely because people’s behaviour changes when they feel like they are being observed. | 3 |
| Experiential Avoidance | Design: The word “group” has been removed from the letter.  
Evidence: The use of the word group may make some people feel uncomfortable by making them feel that they will be forced to interact in group activities at the session. Research has shown that people are likely to avoid situations that may make them feel uncomfortable. | 2,3 |

The data collection for this project is now complete. The data are currently being analysed and the results of the intervention will be published in early 2017. In addition to the results of the trial, an additional paper will be published highlighting learnings from the implementation of this trial, as well as a technical paper detailing the analytical process.
Figure 2.2: Existing Letter

Dear Mr/Mrs. <<Surname>>,

The Department of Social Protection helps jobseekers to secure work by providing employment advice, assisting in job search and providing access to work experience and further education and training opportunities.

We are pleased to invite you to avail of these services and in particular to invite you to attend an information session along with other jobseekers at the following date and time:

Date: <<Appointment date>>
Start Time: <<Start time>> End Time: <<End time>>
Location: <<Location of appointment>>

The purpose of this meeting is to give you some details of the range of supports available to you, including employment, work experience, education, training and development opportunities, and to give you the chance to ask questions about the options available.

Following this meeting, you may also be invited to attend an individual meeting with a Case Officer, to review your particular employment objectives, to assess your education, training, or development needs and agree a Personal Progression Plan. This Plan will set out the steps you can take, with our support, to advance your progress to work.

People in receipt of jobseekers payments from the Department of Social Protection are expected to work with the Department and to take up any offers of support including offers of group and individual meetings and any subsequent offers of training, education and development opportunities.
Accordingly any refusal or failure without good cause, to take up such offers will result in your jobseeker payment being reduced.

If you feel it will not be possible to attend, you must contact the office above as soon as possible to see if an alternative can date can be arranged.

We look forward to seeing you at the Information Session.

Yours Sincerely,

Employment Support Team
Figure 2.2: Treatment Letter 1

Dear <<First Name>>,

I have booked you a place on an Interac Jobseekers Information Session

The session will include useful information to help you find work, including some tips on how to:

- find a job that suits you
- identify options for work experience and
- learn about possible education and training options

The information session will also set out the plans for you to meet with your Case Officer to discuss your employment options in more detail and agree your own Personal Progress Plan to find a job.

Do you know almost three out of four jobseekers from your area said the “information session was useful to understand my options”? Find out why they said that and please check the notes below to make sure you are ready. I look forward to meeting you soon.

Yours sincerely,
<Activation Service Team Member Name >
Employment Support Team

What you need to know:
- If you cannot attend for a good reason, please ring me directly at <<Phone Number>> as soon as possible so that I can arrange a more suitable date for you.
- Please remember, if you do not attend without a good reason, your payment could be reduced or suspended.
Dear <<First Name>>,

I have booked you a place at our next Information Session for Jobseekers - the date, time, and location of your information session are shown in the box across.

At this session, you will learn more about the range of supports that are available to you to help you find work.

These include employment, work experience, education and training options. Any questions you have can be answered after the session also.

Almost 3 out of 4 jobseekers in your area said they found the session helpful.

I look forward to seeing you there,

Carol McGann,
Employment Support Team

<table>
<thead>
<tr>
<th>Why Should I Attend?</th>
<th>What If I Cannot Attend?</th>
</tr>
</thead>
<tbody>
<tr>
<td>To continue receiving your welfare payments</td>
<td>To re-arrange your appointment, please call &lt;&lt;Phone Number&gt;&gt;.</td>
</tr>
<tr>
<td>To help you find jobs, educational and training courses.</td>
<td>If you do not, we must record this as a missed appointment and this could affect your payment.</td>
</tr>
</tbody>
</table>

Observer Effect: The BIT (UK) found this message to be most effective in reducing “did-not-attends” at the hospitals they studied.
The Office of the Revenue Commissioners

Using Personalised Post-it® Notes to Improve Survey Responses

Conducted by: The Office of the Revenue Commissioners

Response rates can often be low in surveys that ask participants a large number of questions, and following up with non-respondents can be costly and take time. In line with Revenue’s objective of improving understanding of compliance behaviour, Revenue undertook an RCT to test the impact of personalisation on survey responses to the 2013 survey of SME Taxpayers. While most of Revenue’s correspondence with the public is mass-mailed and generic, new research has shown that more personalised correspondence may have certain benefits.4

From a sample of approximately 2,000 business customers, 15 percent were randomly assigned to a treatment group while the remaining 85 percent were assigned to a control group. Following a similar approach to that explored by Garner (20055), those in the treatment group had a personalised handwritten Post-it® note attached to their survey pack, requesting their completion of the survey, while those in the control group received surveys only.

Specific Features in Each Note

1) Handwritten, on a yellow post-it®, and placed in the centre of the cover letter

2) Personalised. Person’s full name used where possible.

3) Included the line: “Please take a few minutes to complete this survey questionnaire for us”.

4) Thanked the customer

5) Signed by a Revenue Official

Source: Communication with Seán Kennedy, Research and Analytics, Revenue Irish Tax and Customs, December 2015


Revenue found that response rates to survey questionnaires were significantly higher if a **personalised note was attached**. Revenue also found that responses were also received more quickly when the survey was accompanied by the personalised Post-it® note. After 15 working days, response rates were 36 percent for the treatment group and 19.2 percent for the control group (p < 0.001⁶).

In other words, the Post-it® note roughly doubled response rates (see figure 2.5 below), with the biggest impact occurring just after the request was received.

Figure 2.4 below shows the cumulative trend in responses received by day. Cumulative response rates were consistently higher at every stage of the process when a personalised note was attached.

**Figure 2.4: Cumulative response rates were consistently higher at every stage of the process when a personalised note was attached.**

![Cumulative Response Rates](image)

Source: Survey of SME Taxpayers 2013, the Office of the Revenue Commissioners.

The main results, shown in Figure 2.5, indicate substantial and statistically significant differences in the response rates of business customers who received personalised notes with surveys (treatment) compared with those who received surveys only (control). The final overall difference in response rates was 17 percentage points (P<0.001), with those who received personalised notes on their survey pack being more likely to return the survey.

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⁶ A result is commonly referred to as statistically significant if its associated p (probability) value is less than 0.05. This is because most statistical tests are conducted with a confidence level (alpha) of 0.95. This means that there is less than a 5% chance that these results are simply due to random chance. In other words, we can say with a strong level of certainty that the personalised notes truly were the cause of the increase in response rates.
Revenue also undertook two additional experiments in the reminder letter which was sent to non-respondents 35 days after the original survey pack was sent. Revenue sent out three distinct batches of reminder letters to those who did not respond to the first request to complete the survey. Revenue tested the effect of personalisation (“Dear Mr O’Connor”) and social norms (“Most businesses in your area have completed and returned this survey”) against a standard (control) reminder letter. However, the results from these experiments showed no statistically significant differences in the response rates. This may be because the non-responding cohort was systematically different in terms of its average propensity to respond.

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7 This example is only illustrative and is not the actual personalisation used by Revenue as part of this trial.
8 This example is only illustrative and is not the actual social norm message used by Revenue as part of this trial.
Department of Public Expenditure and Reform

Applying Behavioural Economics to Tackle Climate Change Emissions

Conducted by: Climate Change Expenditure Evaluation Unit with assistance from DPER IGEES Unit

Ireland’s EU target for 2020 is to reduce greenhouse gas emissions from the non-Emissions Trading Scheme (non-ETS) sector by 20% on 2005 levels. The non-ETS sector covers emissions from agriculture, transport, residential, commercial, non-energy intensive industry and waste sectors. New obligations for Ireland to reduce greenhouse gas emissions for the years 2021-2030 are currently being negotiated at EU level.

The most recent Environmental Protection Agency (EPA) projection estimate is that by 2020 non-ETS emissions will be 6% below 2005 levels (in a with-measures scenario) compared to the 20% reduction target for 2020. Emission trends from agriculture and transport are key determinants in meeting targets, however emissions from both sectors are projected to increase in the period to 2020 according to the EPA\(^\text{10}\).

The Climate Change Expenditure Evaluation Unit (CCEEU) in DPER has been developing a series of papers, with the assistance of the DPER IGEES Unit, identifying opportunities for applying Behavioural Economics to the transport, energy, and agriculture sectors which may assist in reducing emissions. The papers examine the possible behavioural biases that are making it difficult to encourage more environmentally sustainable behaviours in each of the three areas.

The CCEEU is undertaking a preliminary examination of innovative ideas emerging in the field of Behavioural Economics which may assist Government Departments in the design of policies, measures or regulations, having regard to the climate change and energy agenda, and Ireland’s associated targets. The CCEEU has reviewed, for example, how messaging can be used to draw attention to the connection that exists between the consumption of fossil fuels in transport and climate change. Examples of this include making the impacts of climate change more salient to consumers at the point of consumption (petrol pumps) and prompting people to employ more eco-friendly driving behaviours. The papers also highlight a number of potential applications of Behavioural Economics to encourage people to switch to more sustainable modes of transportation to support a reduction of emissions in the transport sector.

Improving Land Registration at the Property Registration Authority

Conducted by: Members of the Graduate Development Programme with assistance from DPER IGEES Unit and the Property Registration Authority of Ireland

As part of the 2016 Civil Service Graduate Development Programme for new Administrative Officers in the Civil Service, participants were asked to complete a project that would provide Departments or Government agencies with an actionable implementation plan to solve a problem faced by the Department/agency. A project to apply Behavioural Economics to improve land registration at the Property Registration Authority of Ireland (PRAI) was undertaken and completed by a group taking part in the Graduate Development Programme, with assistance from the DPER IGEES Unit.

While the Irish land registry is largely completed, with 93 percent of land in Ireland currently registered, the PRAI, as part of its Strategic Plan, have set the goal of completing the Land Registry to register all land in Ireland. Completing the land register at current levels of registration, would take a further 30-35 years and would delay the benefits that could arise from introducing e-conveyancing and hinder property law reform.

The benefits for the land owner to register with the PRAI include protection against fraud; allows the landowner to raise finance using their property as collateral; and makes future sales of the property more efficient. However, there are also a number of barriers to registration:

- some property owners may not be aware of the land registration process and the benefits it can provide;
- there is no legal obligation to register land unless a conveyance on sale is involved; and
- there can be costs involved and the registration process can take between 6 and 12 months.

Registering land has, up to now, required a prompt (e.g. a compulsion brought on by a bank’s conditions, conveyance of sale, etc.).

A number of behavioural biases were identified that might deter registration. These biases are presented below in figure 2.6.
Figure 2.6: Behavioural biases impacting people’s decision to register their land with the PRAI

<table>
<thead>
<tr>
<th>Behavioural Bias</th>
<th>Description</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Present Bias</strong></td>
<td>Immediate effects are often given too much weight while future impacts are often undervalued⁴¹.</td>
<td>People delay registration as the costs of registration are borne immediately, while the benefits are realised in the future.</td>
</tr>
<tr>
<td><strong>Procrastination</strong></td>
<td>Procrastination, is the (temporary) behavioural avoidance of an undesirable activity⁴².</td>
<td>People may delay property registration as they perceive it to be a lengthy and complex process, especially since there is often no penalty for delaying this process.</td>
</tr>
<tr>
<td><strong>Mental Accounting</strong></td>
<td>People perceive money differently depending on its origin and intended use⁴³.</td>
<td>Convincing people to part with money that they do not associate with the land they hold may prove difficult.</td>
</tr>
<tr>
<td><strong>Perceived Complexity and Uncertainty</strong></td>
<td>People’s perception of the complexity of a process influences their decision more than the actual complexity involved.</td>
<td>Given the necessity for a solicitor to navigate the registration process, people’s perception of the process is that it is complex, when in fact most applications do not require further revisions.</td>
</tr>
<tr>
<td><strong>Loss Aversion/Status Quo Bias</strong></td>
<td>People dislike losses more than they value gains of an equal amount. Where there is a risk of loss, people are averse to making a decision which changes their circumstances⁴⁴.</td>
<td>Though the vast majority of title is good title, owners may hold the belief that in some way they will incur difficulties in processing their application or that a worst case scenario (where title is not granted to them or is contested) might materialise.</td>
</tr>
</tbody>
</table>


The project group provided a number of recommendations to the PRAI that could be trialled to increase property registration. These recommendations included:

- Using a targeted communication plan on a focused set of land holders. This approach should include short letters using plain English. All communications should have action points and should be aided by personalisation;
- Launching a general awareness campaign which would give the PRAI an opportunity to encourage people to be part of the “norm” by registering land using messages like “93 percent of people have registered their land with the PRAI”;
- Creating a simple webpage dedicated to first time registrations outlining in plain English the steps for first time registration;
- Moving all first time registrations online to simplify the procedure and ensure errors on the application form are reduced; and
- Changing the fees structure to offer a strong incentive to encourage first time registrations. A time bound offer may be particularly effective.

The report has been supplied to the PRAI who are considering its recommendations.
Department of Justice and Equality

As part of their commitment to drive evidence based policy making through the use of Behavioural Economics, Department of Justice and Equality (DJE) have included Behavioural Economics in their Communications Strategy for 2016 to 2018, ‘Communicating Change’.15 This will include the “establishment of [a] Behavioural Economics Initiative” to “promote the importance of staff engagement, and the sharing of information, knowledge and expertise”.

Increasing Compliance with Anti-Money Laundering Regulations

Conducted by: The DJE IGEES Unit with input from the DPER IGEES Unit

In 2010, the DJE introduced legislation, the Criminal Justice (Money Laundering and Terrorist Financing) Act 2010 as amended by the Criminal Justice Act 2013, stating that certain businesses dealing with the administrative aspects of forming a company must comply with additional background checks and provide additional information about their operations in an effort to combat money laundering.

The IGEES Unit within DJE have recently undertaken a behaviourally informed initiative to increase compliance with anti-money laundering regulations by improving the design of the forms used to collect information from firms.

Due to the small number of firms involved (~150) and how the form is currently hosted on the DJE’s website, it was not feasible to test the effectiveness of the improvements to the forms through an RCT. The project is considered a behaviourally informed initiative because the project was designed explicitly on previously existing behavioural evidence.

Companies that fall under the remit of the legislation are obliged to fill out two forms. Companies must complete a “Fit and Proper” form and a “Company Application” form. Members of staff from the Anti-Money Laundering Unit (AMLU) had highlighted that a significant number of forms were returned incomplete and/or late. Staff from the AMLU highlighted a number of areas on the forms that seemed to be the most problematic for companies.

The IGEES Unit in DJE reviewed the forms and made a number of changes based on comments from staff members, a review of previously submitted forms, and Behavioural Economics’ principles. Figure 2.7 shows how principles from Behavioural Economics informed the redesign of the forms.

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### Figure 2.7: Behavioural Principles applied to ALMU forms

<table>
<thead>
<tr>
<th>What change was made?</th>
<th>What does that change mean?</th>
<th>How was the change incorporated into the design?</th>
<th>What evidence supports the change?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Honesty Prime</strong></td>
<td>Priming exposes people to a particular stimuli which then influences their behaviour on a subsequent task.</td>
<td>The signature box and declaration of honesty were moved from the bottom to the top of the form.</td>
<td>Shu et al. (2011)&lt;sup&gt;16&lt;/sup&gt; provide evidence showing that people who sign at the beginning of the form report more honestly and steal less.</td>
</tr>
<tr>
<td><strong>Simplification</strong></td>
<td>Simplification is somewhat related to the fact that people have a limited attention span or limited “cognitive capacity”. Research has shown that the easier it is for people to understand and process information, the more likely they are to enact a behaviour.</td>
<td>Previously, a number of business members were asked to complete the forms, this requirement was removed to simplify the process as it was not legally required.</td>
<td>Simplification has previously been shown to improve access to third level education by helping students’ access financial aid and to increase survey response rates&lt;sup&gt;17&lt;/sup&gt;.</td>
</tr>
<tr>
<td><strong>Cognitive Scarcity</strong></td>
<td>People have a “mental bandwidth,” or brainpower, made up of attention, cognition, and self-control (Mullainathan &amp; Sharif, 2013)&lt;sup&gt;18&lt;/sup&gt;, which consists of finite resources that may become reduced or depleted.</td>
<td>A checklist was provided at the start of the form highlighting the required documentation and fees to be included with the application.</td>
<td>Checklists can be effective in reducing errors in a number of domains. Haynes et al (2009)&lt;sup&gt;19&lt;/sup&gt; found the rate of death for patients undergoing surgery fell from 1.6 percent to 0.8 percent following the introduction of checklists. Inpatient</td>
</tr>
</tbody>
</table>

---


<table>
<thead>
<tr>
<th>What change was made?</th>
<th>What does that change mean?</th>
<th>How was the change incorporated into the design?</th>
<th>What evidence supports the change?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salient Reminders</td>
<td>Information that stands out, is novel, or seems relevant is more likely to affect our thinking and actions (Dolan et al., 2010)(^{21}). Reminders help people to remember to carry out actions.</td>
<td>A notice in bold font was put at the end of the form redirecting the person to double check the checklist to ensure all the relevant information had been included.</td>
<td>Numerous studies have found that reminders are effective in encouraging people to enact various behaviours such as attending appointments(^{22}) and paying existing debt.</td>
</tr>
<tr>
<td>Loss Aversion</td>
<td>Losses are felt more keenly than gains, even when they may be equal.</td>
<td>It was highlighted that businesses would lose their authorisation to conduct business on the cover letter and application form.</td>
<td>A study by Fryer et al. (2012(^{23})) found that giving teachers a bonus at the start of the year that they would lose if students’ performance did not increase was more effective in improving student performance than offering teachers a bonus at the end of the year conditional on student performance.</td>
</tr>
</tbody>
</table>

Source: Internal Documents from Department of Justice and Equality

As the project is a behaviourally informed initiative, it will not be tested with a counterfactual method such as an RCT. However, a before/after comparison of the compliance rates will be possible with figures from previous years. Updated versions of the forms have been on the Department website since August 2016 and initial results will emerge by November 2016.

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Department of Health

Using Behavioural Insights to Encourage Responses to the First National Patient Experience Survey (NPES)

Conducted by the DoH Research Services Unit and the DPER IGGES Unit on behalf of the National Patient Experience Programme

The National Patient Experience Survey Programme (NPES) is a joint partnership programme between the Department of Health (DoH), the Health Information and Quality Authority (HIQA) and the Health Service Executive (HSE). It has been established to put in place a model, develop a methodology, and implement a national patient experience survey programme. The first NPES will take place in 2017 to learn more about patient experiences in acute care hospitals.

Response rates can often be low in surveys that ask participants a large number of questions, and especially in surveys which ask respondents about personal details, such as their health status. Following up with non-respondents to encourage them to complete surveys can be costly and time consuming. The NPES Programme has decided to trial an intervention to increase survey responses to the NPES.

The DPER IGEES Unit is working with the Research Services Unit in the DoH to design an intervention that will be trialled with an RCT to identify methods for increasing response rates to the NPES. These methods can be included and improved upon in future versions of the survey under the NPE Programme.

Designing the Intervention

A work programme to undertake the trial has been designed by the Research Services Unit in the DoH with input from the DPER IGEES Unit, see figure 2.8. As well as providing an advisory role throughout the process the DPER IGEES Unit will have a significant input into identifying the behavioural design principles and elements to be considered; designing a set of behaviourally informed candidate invites; and developing a guidance note for staff involved in the invitation process on risks to randomisation and how to minimise risks.

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Next Steps to Encourage Higher Response Rates to the NPES

There is substantial existing evidence to inform the design of the intervention that highlights the importance of personalisation, salience, reciprocity, and making it easy, which can all increase survey response rates. The DPER IGEES Unit and the Research Services Unit in the DoH will examine the most suitable option to trial and discuss potential solutions to trial with the member organisations of the NPES Programme. The trial will take place in the first half of 2017 and results of the trial will be published on the IGEES website upon completion.

Figure 2.8: The Work Programme for the National Health Experience Survey Trial also represents the work components involved in most Behavioural change projects.
Department of Foreign Affairs and Trade

Managing Demand at the Passport Service

Conducted by: The DPER IGEES Unit, the Passport Service, and the Department of Foreign Affairs and Trade Evaluation & Audit Unit.

The DPER IGEES Unit has been working with the Passport Service and the Department of Foreign Affairs and Trade (D/FAT) to tackle problems related to seasonal trends and sudden increases in demand for passports.

Many Public Services are subject to seasonal demand. Hospital services often experience surges in demand in the winter months when temperatures drop. Unemployment services regularly see increases in demand after the summer period when seasonal workers who work in the tourism industries become seasonally unemployed. Seasonal demand can create problems for delivering efficient Public Services as different levels of staff are required at different periods during the year. It is especially troublesome when it is difficult to predict the level of increase in demand in busy periods.

While “peaky” seasonal demand can create problems in delivering Public Services generally, it is a particularly pronounced problem for the Passport Service. The combination of a rigid renewal cycle and the strong seasonal nature of passport demand create large peaks of demand for passports each year. The change in demand from the quietest period to the busiest period each year is quite large making it difficult to ensure an optimal level of staffing.

For example, if the Passport Service was to hire too few temporary staff to deal with peak levels of demand, citizens may experience long delays in their passport application/renewal process. This can be especially problematic when citizens are renewing passports ahead of an upcoming holiday/business trip. Alternatively, if the Passport Service hires too many staff, it may waste public resources. There are three potential solutions to this problem:

A) Generate accurate predictions of passport demand far enough in the future to give sufficient time to hire additional temporary staff or;

B) Change people’s behaviour to renew/apply for passports during less busy periods of the year to smooth demand so that an efficient constant level of staffing can be maintained; or

C) A combination of both measures.

This project is an excellent example of the strengths and limitations of behaviourally informed interventions. Behavioural Economics can provide insights into the reasons why people may delay renewing their passports and offer solutions to encourage some of those people to renew at quieter
times of the year. However, it is unlikely that this problem could be solved entirely by the use of Behavioural Economics alone. It is likely that a combination of accurate forecasting, behaviourally informed communications, incentives, and administrative measures would be required to tackle this problem.

Changing Passport Applicants’ Behaviour

As explained above, the combination of a rigid renewal cycle and the strong seasonal nature of passport demand create large peaks of demand for passports each year.

Due to international restrictions, the maximum period of validity for a passport is 10 years. All applicants between the ages of the age of 3 and 17 may only be granted a passport with maximum period of validity of 5 years. All applicants aged 3 or under may only be granted with a passport with a maximum validity of 3 years. However, it should be noted that 3 year passports will be phased out in the next few years. This creates a rigid renewal cycle where people only renew their passport every 3, 5 or 10 years. Additionally, the date of renewal for a passport is the date the passport was issued plus 3, 5 or 10 years.

For example, if you renew/apply for a passport on July 1 2016 and are issued a passport on July 10 2016, your passport will be due for renewal on July 9 2026. This means that the cycle of strong seasonal demand in the summer months is perpetuated into the future as large amounts of passports come up for renewal during peak travel times. The problem is further compounded by the fact that people whose passport expires during quieter months like December, are likely to wait until the summer months to apply for a passport when they need it to travel abroad for holidays. These people now receive a passport with a renewal date during the peak travel season in 10 years’ time adding to the demand for passports during an already likely busy period.

There is a clear need to identify possible solutions to help shift the demand for passports from peak summer months to less busy periods of the year. As part of the DPER IGEES Unit’s work with the Passport Service, the Unit looked at some of the potential behavioural biases that may cause people to defer their renewal to later than the validity of their passport and identified some potential solutions to encourage people to renew their passport at different times of the year.

Loss Aversion, Status Quo Bias and Present Bias

Loss aversion refers to the observed phenomenon that people prefer to avoid losses than acquiring gains. People are prone to avoid changing their behaviour if that change could potentially lead to a loss, even if there are potential significant gains available to them by changing their behaviour. This is commonly referred to as “status quo” bias. It is likely that people may be reluctant to renew their
passport before its expiration date, even if there are benefits for the State and the individual, as passport holders feel as though they are losing value from their passport by renewing early.

A possible solution to these problems may be to enter applicants who renew at non-peak periods into a lottery for a prize. Lotteries can be an effective and low cost method of encouraging a desired behaviour, as people overestimate their chances of winning.

To tackle the problem of repeated peak periods of demand due to the rigidity of renewal criteria, passport renewal dates could be changed to not renew exactly every ten years, but instead renew based on some other criteria not linked to seasonal trends. The DPER IGEES Unit plan to continue working with the Passport Service to identify possible criteria on which to base renewal.

**Complexity, Present Bias and Procrastination**

Further complicating the problem, present bias explains that people place stronger importance on immediate consequences compared to those in the future. People may not renew their passport before its expiry date as the immediate costs of applying in terms of hassle, and financial cost, may outweigh the potential future costs of having to pay for an expedited passport or missing a holiday.

Samuelson & Zeckhauser (2009\(^{25}\)) highlight that people are more likely to put off making decisions or taking action as the complexity of the task increases. The current process of applying for a passport, while simplified considerably in recent years, may be perceived to be complex as there are a number of unconnected steps, such as having your identity verified in a local Garda station, involved in applying for/renewing a passport.

The Passport Service are currently focusing on developing a new website which will allow for online applications. The DPER IGEES Unit intends to work closely with the Passport Service on the design of the site advising methods for reducing the impact of behavioural barriers on people’s applications.

**Social Norms and Expectations**

Other people’s behaviour influences our behaviour. People often act as others do and our expectations are informed by the results of other people’s actions. Social norms play a large part in decision making and can strongly influence people’s expectations and perception. The majority of people wait until the peak travel season to apply for/renew their passport. There is a clear social norm relating to passports, in that people tend to wait until the last minute to apply for their passport. In addition, people expect the Passport Service to provide passports in a short amount of time when they need them. This expectation has likely been formed by a combination of the existing social norm,

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the unintended consequences of the branding of Passport Express, and messaging on the Passport Service’s website that emphasises quick turnaround times despite smaller notes highlighting that the process can take up to six weeks.

Challenging existing norms around passport applications is likely to be a difficult task. It may be worthwhile to trial different messaging on the Passport Service’s website highlighting the cost of processing large amounts of applications during the summer months to the taxpayer. A targeted information campaign may also help to tackle this perception.

**Cognitive Scarcity**

People have a “mental bandwidth,” or brainpower, made up of attention, cognition, and self-control (Mullainathan & Shafir, 201326), which consists of finite resources that may become reduced or depleted. More simply put, people often have a lot on their minds and may not regularly check their passport if they do not travel often, making it difficult for them to know when their passport expires. It is possible that a simple reminder, sent to the passport holder in advance of their expiry date, may increase the likelihood that the person will renew their passport before it expires.

The Passport Service currently offers an email based passport reminder service, however the service is currently only available on an opt-in basis and currently sends reminders six months before the expiration date of the passport. In developing the new Passport Service website, the Passport Service plans to change the default to opt-out for this reminder to increase the number of people eligible to receive a reminder. This change will be implemented in phase 2 of the online application process which is currently scheduled to take place in Quarter 4 of 2018.

**Next Steps in Managing Passport Demand**

The DPER IGEES Unit is, at the time of writing, still working with the Passport Service to manage demand and the details of any interventions may be published at a later date.

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Encouraging Publicans to Renew their Licence Early

Conducted by: The Office of the Revenue Commissioners

The Office of the Revenue Commissioners (Revenue), as part of its focus on understanding tax payers’ compliance behaviour, conducted an RCT to increase the number of publicans renewing their licence on time.

Publicans must renew their licence on an annual basis if they wish to continue to sell alcohol on their premises. Publican licences expire each year on the 30 September and are therefore required to be renewed before this date. However, each year there are a number of publicans who do not renew their licence immediately and it can be close to the following expiry date (in this case 30 September 2012) before they renew their licence. Revenue wished to increase the number of publicans renewing their licence in reaction to a reminder letter sent at the beginning of September. The more publicans that respond to the reminder letter sooner and renew their licence, the quicker Revenue can realise tax revenues and reduce the administrative cost of following up with those who do not renew their licence, as well as assisting publicans in meeting their obligations.

Revenue wished to investigate whether making small behaviourally informed changes to renewal letters and including a social normative message such as “9 out of 10 publicans renew their licence on time”27 could increase the number of publicans renewing their licence on time.

Revenue randomly assigned a small portion (400) of publicans whose licence was due for renewal to receive a simplified letter containing a social normative message (treatment group). The remaining publicans (7,800) received the standard renewal letter, acting as a control group.

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27 This example is illustrative only, the wording on the actual letter may have differed.
Figure 2.9: Social norms can be effective in driving compliance

As can be seen from Figure 2.9, renewal rates in the treatment group on 1 October 2011 were 35.5 percent compared to 29.4 percent in the control group, representing an increase in the renewal rate of 6 percentage points. This difference persists with 97 percent of publicans in the treatment group renewing by the end of the licensing year compared to 89 percent in the control group. While 6 percentage points may seem like a small increase in renewal rates, it is interesting to note that this increase was achieved by simply changing the wording and layout of letters that would have been sent out to publicans anyway, meaning the intervention is almost costless. Additionally, a 6 percent increase applied to the total population of publicans would represent a significant increase in renewals of licences and decrease in the number of reminder letters required.

It should be noted in the renewal rates that can be seen in Figure 2.9, that there were a number of additional interventions following October 2011 aimed at increasing renewal rates among those who had still not renewed their licence for the year. These further interventions were not conducted as RCTs. However, the differences seen in renewal rates following October 2011 were statistically significant.

A key step in using Behavioural Economics to improve Public Services is integrating successful results into future operations at scale so that Public Services are improved for everyone. In line with this notion, following the success of this trial in 2011, Revenue revised the Publican Licence renewal letter for all publicans in 2012. The licence renewal rate on 1 October 2012 was 38 percent. It would seem that the new behaviourally designed renewal letter continued to be more effective than the previous renewal letter. This trial is a clear illustration of the benefits that Behavioural Economics and RCTs can offer to policy makers and to improving service delivery.
Using Personalisation to Improve Response Rates

Conducted by: The Office of the Revenue Commissioners

Building upon previous successes in improving survey response rates by applying Behavioural Economics, Revenue carried out an RCT to investigate the effects of personalisation on survey response rates as part of the PAYE Survey 2015.

Five-hundred respondents were randomly selected to receive a personalised salutation (for example, ‘Dear Mr. Smith’) in their cover letter, which accompanied the survey pack. The remaining 4,500 taxpayers received the standard salutation, ‘Dear Customer’.

Figure 2.10 below shows the postal response rates by day starting 1 September. According to the results, there was no statistically significant difference observed in response rates between the two groups. The response rate was almost identical over the period.

The most striking impact on response rates was the reminder letter issued on the 30 September, which dramatically increased response rates. This may have been caused, at least in part, by a number of important changes made to the letter following the relatively low initial response rate. These included drafting a more straightforward letter and issuing the letter on better quality headed paper.

Figure 2.10: Responses Rates to Annual PAYE Survey 2015 with & without Personalised Salutation.

The finding differs sharply from the aforementioned personalisation RCT in Revenue’s previous SME Survey (2013), which sampled small- and medium-sized enterprises (SMEs) rather than PAYE
In that case, after the first 15 days, the response rate was 36 percent in the personalised treatment group compared with 19.2 percent in the control group. However, compared to personalising the name on the covering letter only, the SME survey RCT involved multiple elements of personalisation including attaching a signed handwritten yellow Post-it® note to survey packs, thanking the survey participant and requesting completion. The combined findings indicate that personalisation may only be effective at increasing engagement when multiple elements of personalisation are applied simultaneously.²⁹

This trial is also a good illustration of the need for testing solutions before applying them at scale. Seemingly small details such as the fact that a personalised message is written on a Post-it® note rather than simply personalising a letter, or the context in which an intervention is applied (in this case to PAYE customers compared to SMEs), can be crucial to the success of an intervention.

²⁸ It is possible that there are significant differences between SME and PAYE survey respondents which make SME survey respondents more likely to respond and more likely to be influenced by personalisation. For example, SMEs may have a different relationship with Revenue than PAYE customers given that SME customers may have more frequent and detailed dealings with Revenue.

²⁹ A secondary finding is that, based on the appreciable rise in response rates following the reminder letter issue, it may be that more straightforward language and an improved quality of headed paper are impacting on response rates. However, these results were not obtained in a RCT trial setting, and are suggestive rather than conclusive.
Increasing Filings from Late Income Tax Returns

Conducted by: The Office of the Revenue Commissioners

In 2014 and 2015, Revenue conducted separate Income Tax non-filer projects to evaluate the impact of tailored letters on the proportion of taxpayers who file a late return. The previous policy was to issue automated reminder letters to all non-filers. The design of the 2014 trial is explained in figure 2.11.

Figure 2.11: Sample of self-assessed taxpayers were randomly assigned to one of three groups

<table>
<thead>
<tr>
<th>Self Assessed Tax-Payers with Late Income Tax Returns</th>
<th>3,334 Tax Payers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randomly assigned to:</td>
<td></td>
</tr>
<tr>
<td>Control (n=1,450)</td>
<td>T1 (n=940)</td>
</tr>
<tr>
<td></td>
<td>(Third Party Information)</td>
</tr>
<tr>
<td></td>
<td>T2 (n=942)</td>
</tr>
<tr>
<td></td>
<td>(Third Party Info &amp; Simplification)</td>
</tr>
</tbody>
</table>

Third Party Information (T1)

A number of self-assessed taxpayers (n=940) were randomly assigned to receive a reminder letter to file their tax returns which included a message notifying them that Revenue had confirmed through 3rd party information that their business was in operation. Previous research has shown this to be an effective strategy in increasing tax compliance. For example, the BIT in the UK have previously shown that sending letters to non-payers of road tax with a picture of the offending vehicle on the letter increased payment rates from 40 percent to 49 percent\(^\text{30}\). Providing people with evidence of their non-compliance is effective in motivating people to pay their tax as it highlights that the tax collector is aware of their non-compliance/late filing.

Third Party Information and Simplification (T2)

Another group of self-assessed taxpayers (n=942) were randomly assigned to the second treatment condition, to receive a letter which contained third party information that the business was operating and that had been simplified. The letter was simplified by shortening it, emphasising key information, and replacing “legalese” with clear and simple language. Simplification has previously been shown to improve access to third level education by helping students’ access financial aid and to increase survey response rates\(^\text{31}\) and often proves effective in motivating behaviour across a range of domains.


Results
Simplified letters including third party information led to an increase of 17 percent in filing compared to the current bulk issued letter (30 percent compared to 25 percent), see figure 2.12.

Following these 2014 research findings, a simplified letter was issued all Income Tax non-filers in 2015. A further large but non-random trial was conducted on these simplified letters where 28,630 taxpayers were assigned to receive the standard letter and 48,708 to the same letters with TPI. Compared to simplified letters with no TPI, the evidence suggests that simplified TPI letters lead to significant increases in filing compliance.

The isolated impact of simplification can be obtained by comparing total filing for 2014 (approximately 79,000 non-filers who did not receive simplified letters) with 2015 (approximately 86,000 who did receive simplified letters). Measuring over the same number of days in both years, the results show that filing compliance is significantly and consistently higher in 2015 by approximately 3 percent. This represents approximately 2,000 additional filers or €2.8m in additional Income Tax receipts (on the assumption that the cases would not otherwise have filed returns).

Figure 2.12: Simplified letters including Third Party Information lead to an increase of 17 percent in filing compared to the current bulk issued letter.

Source: Revenue

The projects carried out by Revenue highlight the benefits of the methodological approach of Behavioural Economics, identifying solutions from the literature which are effective, robustly testing them through RCTs, and scaling up solutions proven to be effective.
Encouraging Farmers to Meet Nitrate Emission Regulations

Conducted by: The Department of Agriculture, Food and the Marine and the ESRI

The Department of Agriculture, Food and the Marine (DAFM) is working with the ESRI to develop a behaviour change initiative to encourage farmers to meet nitrate regulation stocking rate limits and therefore avoid costly EU fines and penalties.\(^\text{32}\)

Irish farmers are subject to regulations detailing the amount of nitrogen from livestock manure they may apply as fertilizer. Under the Nitrates Regulations (S.I. 31 of 2014) farmers must not apply more than 170kgs of nitrogen from livestock manure per hectare per year.\(^\text{33}\) Farmers are subject to fines from the EU and may put their payments from the Single Payment Scheme, Disadvantaged Area Scheme, REPS, AEOS, and other co-funded scheme payments at risk by not complying with nitrate regulations.\(^\text{34}\)

Despite there being a clear financial incentive for farmers to ensure that they comply with these regulations, non-compliance rates have not fallen. There are a number of behavioural biases, shown in figure 2.13, which may be influencing the relatively high rate of non-compliance.


Figure 2.13: Behavioural Biases impacting Farmers Decision to take action to comply with Nitrate Regulations

<table>
<thead>
<tr>
<th>Bias</th>
<th>Description</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperbolic Discounting/Present Bias</td>
<td>People dislike losses that occur instantly more than losses that happen in the future.</td>
<td>The loss of income, as it does not happen immediately, may not sufficiently motivate farmers to comply with the regulations.</td>
</tr>
<tr>
<td>Complexity &amp; Procrastination</td>
<td>As decisions become more complex, people are more likely to procrastinate.</td>
<td>If complying with regulations is difficult, farmers may procrastinate, especially if the consequences are not felt immediately.</td>
</tr>
<tr>
<td>Optimism Bias</td>
<td>People tend to overestimate the likelihood of positive events.</td>
<td>Farmers may overestimate the likelihood they will meet the regulated emission levels.</td>
</tr>
<tr>
<td>Salience</td>
<td>Events that are easier to remember seem more important in decision making.</td>
<td>If farmers do not remember/strongly remember the consequences of their previous breach of the regulation, they may be less likely to meet them the next year.</td>
</tr>
<tr>
<td>Social Norms</td>
<td>People often act as they perceive others act.</td>
<td>If farmers believe that other farmers routinely breach the regulations, they may be more likely to breach regulations themselves.</td>
</tr>
</tbody>
</table>

In an effort to increase compliance levels the DAFM and the ESRI are conducting an RCT testing the effectiveness of simplified reminder letters with modified messaging. Farmers will receive one of four letters as outlined in figure 2.14.

Figure 2.14: There are four experimental conditions: a control group; and three experimental groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>Standard letter as drafted</td>
</tr>
<tr>
<td>T1</td>
<td>Simplified letter, with detailed information supplied on the reverse (or on a separate sheet)</td>
</tr>
<tr>
<td>T2</td>
<td>Simplified letter, plus localised (by county) social norm message</td>
</tr>
<tr>
<td>T3</td>
<td>Simplified letter, plus localised social norm, plus action box</td>
</tr>
</tbody>
</table>
The letters (T1, T2, and T3) have been designed to tackle a number of the behavioural biases laid out in figure 2.13. By simplifying the letter and adding detailed information explaining what to do next, the first treatment letter attempts to reduce complexity and the likelihood of procrastination. The second treatment letter highlights the fact that the majority of farmers in the recipients area are compliant with the regulations, utilising social norms to increase the likelihood that the farmer will comply too. The final treatment letter includes all of the above as well as a clear action box on the letter that should draw the reader’s attention and increase the likelihood of compliance by making implementable solutions clear to the farmer to tackle procrastination.

The letters trial has been planned and results should be available in 2017.
Using SMS Reminders to Encourage Farmers to Apply for Nitrate Derogations

Conducted by: The Department of Agriculture, Food and the Marine and the ESRI

The DAFM is also conducting a separate trial with the ESRI to investigate the effectiveness of changing the wording in text messages already sent to farmers.

Text messages (SMS) are already sent to both farmers with derogation (170-250 kg/ha) and non-derogation (150-170 kg/ha) herds to encourage them to (re-)apply for the Nitrates Derogation or take other action to remain compliant with the limits. The Nitrates Derogation allows farmers to apply a higher amount of livestock manure than that provided for in the Nitrates Regulations (where the limit is 170kg of nitrate per hectare per year from livestock manure) subject to certain conditions. Successful applicants will be able to apply livestock manure in excess of 170kg/ha in accordance with their fertiliser plan and up to a maximum of 250kg/ha per year, without incurring penalties or fines.

The aim of this RCT is to investigate whether changing the wording of existing text messages, informed by previous findings in the Behavioural Economics literature, can increase the proportion of farmers (re-)applying for Nitrate Derogations, decreasing the number of farmers subject to penalties or fines.

Derogation and Non-Derogation farmers will be randomly assigned to receive either the existing message (control group) or one of the newly designed messages (treatment group). The trial will be designed as shown in figure 2.15. Farmers can be categorised as either Derogation or Non-Derogation. Each group of farmers will then be randomly assigned to receive either the existing message (control) or a new message (treatment). It is important to note that farmers are not randomly assigned to have Derogation or Non-Derogation herds, randomisation only determines whether each type of farmer will receive the control message or the treatment message.

Figure 2.15: Trial Design for Using SMS Reminders to Encourage Farmers to Apply for Nitrate Derogations
**Texts to Derogation Farmers**

As can be seen from figure 2.15, derogation farmers will be randomly assigned to receive the original (control) text message or one of two newly drafted messages (T1 or T2).

**Loss Aversion (T1)**

The first treatment message (T1) is designed to motivate farmers to (re-)apply for their derogation by framing the choice to not (re-)apply as a loss, “don’t lose your Derogation in 2016 by forgetting to re-apply”. Research has shown that losses loom larger than gains and are more likely to take action to avoid a loss than to take action to acquire a ‘gain’.

**Deadline and Prompt (T2)**

The second treatment message (T2) combines the use of loss aversion in the first message with deadlines and prompts. The message has been designed based on findings which show that emphasising deadlines and prompting people to take action motivates people to act. For example, Ideas42 have shown that sending reminders to students about upcoming deadlines to apply for financial aid can increase the number of students registering for financial aid\(^{35}\). As can be seen in figure 2.16, the message includes text stating “XX days to deadline. Act now.” clearly highlighting the need for farmers to take action now to avoid losing their derogation.

**Texts to Non-Derogation Farmers**

Figure 2.17 shows the original (control) and modified (treatment) messages that farmers will be randomly assigned to receive.

**Salience (T1)**

The treatment message for non-derogation farmers focuses on making the chance of incurring penalties more salient by including text stating “Avoid possible penalty: consider applying for 2016 Derogation at www.agfood.ie”. The original message requires “farmers to infer that there is a risk of penalty, by combining the key piece of information in the text (their NPH) with their own knowledge of the NPH limits.”\(^{36}\) By explicitly stating the risk of penalties, it makes it easier for the recipients to understand the need to apply for the derogation.

**Next Steps**

This trial is currently underway and results may be available later in 2017.


\(^{36}\) ESRI, Internal Briefing Documents to DAFM (2015).
Figure 2.16 Texts to Derogation Farmers

<table>
<thead>
<tr>
<th>Original Message (Control)</th>
<th>Loss Frame (T1)</th>
<th>Deadline &amp; Prompt (T2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAFM: 2015 Total Cattle</td>
<td>DAFM: 2015 Total</td>
<td>DAFM: 2015 Total Cattle</td>
</tr>
<tr>
<td>NPH XXXX. Closing date</td>
<td>Cattle NPH XXXX</td>
<td>NPH XXXX. Don’t lose</td>
</tr>
<tr>
<td>for 2016 Online Derogation</td>
<td>Don’t lose your</td>
<td>your Derogation in 2016</td>
</tr>
<tr>
<td>is 31 March 2016. To opt</td>
<td>Derogation in 2016</td>
<td>by forgetting to re-apply,</td>
</tr>
<tr>
<td>out freetext STOP to 50777</td>
<td>by forgetting to re-apply.</td>
<td>XX days to deadline. Act</td>
</tr>
<tr>
<td></td>
<td></td>
<td>now. To opt out freetext</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STOP to 50777</td>
</tr>
</tbody>
</table>

Figure 2.17 Texts to Non-Derogation Farmers

<table>
<thead>
<tr>
<th>Original Message (Control)</th>
<th>Salience Frame (T1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAFM: 2015 Total Cattle</td>
<td>DAFM: 2015 Total Cattle</td>
</tr>
<tr>
<td>NPH XXXX. Consider</td>
<td>NPH XXXX. Avoid</td>
</tr>
<tr>
<td>applying for a 2016</td>
<td>possible penalty:</td>
</tr>
<tr>
<td>Derogation online at</td>
<td>consider applying</td>
</tr>
<tr>
<td>agfood.ie. Closing date</td>
<td>for 2016 Derogation</td>
</tr>
<tr>
<td>31 March 2016. To opt out</td>
<td>at <a href="http://www.agfood.ie">www.agfood.ie</a> by</td>
</tr>
<tr>
<td>freetext STOP TO 50777</td>
<td>31 March. To opt out</td>
</tr>
<tr>
<td></td>
<td>freetext STOP to 50777</td>
</tr>
</tbody>
</table>
Department of Jobs, Enterprise, and Innovation

Scoping the Application of Behavioural Economics to Enterprise Policy

Conducted by: Department of Jobs, Enterprise, and Innovation

The Department of Jobs, Enterprise, and Innovation (DJEI) have been applying Behavioural Economics to a number of employment and enterprise policies in recent years. To date, these applications have been behaviourally informed projects, meaning that Behavioural Economics has informed the design of policy but the policy change has not been explicitly tested using a counterfactual method such as an RCT. The Strategic Policy Division in DJEI is progressing a project to determine if there is scope to further apply behavioural science learnings to enterprise policy, specifically to firm-level interventions to improve their productivity/innovation, or general competitiveness.

The Action Plan for Jobs (2013) included the roll-out of a new scheme to incentivise businesses to recruit persons who were long-term unemployed. The design of that scheme, JobsPlus, took into account findings from the Behavioural Economics literature on framing effects, complexity, salience, and time inconsistency bias to maximise take-up of the scheme. JobsPlus is a scheme designed to encourage employers and businesses to employ people who have been out of work for long periods. This incentive replaced the Revenue Job Assist and Employer Job (PRSI) Exemption Scheme from 1 July 2013, in an effort to simplify the process for employers and employees availing of incentives to help the long-term unemployed find sustainable employment.

In 2015, the Government agreed and published a new national enterprise policy that sets out its longer term ambition for enterprise growth and job creation over the decade to 2025. In preparing the plan, Enterprise 2025, DJEI applied the concept of ‘fast and frugal’ heuristics from behavioural science to propose a new approach to the assessment of the sustainability (or unsustainability) of employment across sectors of the economy. In 2016, DJEI began including such heuristics in its quarterly Dashboard Statistics, the compilation of up-to-date data from DJEI, CSO and other external sources relating to early indicators of change that impact on enterprise policy. These heuristics serve as ‘early-warning’ indicators to prompt further, deeper analysis if required.

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37 Please see figure 2.18 for an example of applying fast and frugal heuristics.
There are numerous examples within the Behavioural Economics literature where the use of heuristics (rules of thumb) can lead people to make sub-optimal decisions as defined by the standard model of economic rationality. For example, the availability heuristic may lead investors to judge the quality of an investment based on information that was recently in the news, ignoring other relevant facts (Tversky & Kahneman, 1974). Gigerenzer (1999) proposes that the use of carefully chosen heuristics can be “ecologically rational” meaning that they can help to make effective decisions quickly when only limited information/time is available.

Gigerenzer uses the example of a doctor trying to assess the risk level of a patient in an emergency department having a heart attack, to emphasise his point. The doctor must make a decision quickly and accurately, and may not have time to calculate the risk of the patient using all of the patients’ health related characteristics. Instead, the doctor may rely on answering a number of questions which have been shown to be the main predictors of the patient’s risk to serious complications as a result of a heart attack, as shown below.

This simplified strategy has been shown to be more effective in classifying heart attack patients according to risk status than other complicated statistical measures (Breiman et al., 1993). This example highlights that while heuristics can lead people to make sub-optimal decisions, they also provide opportunities for simplifying decision frameworks when applied sensibly.

A similar strategy has been adopted by the DJEI using key metrics to assess the sustainability (or unsustainability) of employment across sectors of the economy and highlights how Behavioural Economics can be used to create ‘early-warning’ indicators and help guide internal decision making, as well as improving operations and policy-making at a higher level.

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3. Next Steps

This report contains 13 example applications of Behavioural Economics across a number of Government Departments. Further work has been carried out by other Government bodies and by independent research institutes, for example the work of the PRICE Lab in the ESRI. A number of Departments have also expressed plans to continue the application of Behavioural Economics in their policy areas and have set out commitments in their work programmes to do so. Behavioural Economics is gaining traction in Irish policy making as a vehicle to innovate and improve outcomes, efficiency, and value for money.

The DPER IGEES Unit will continue to drive the use of Behavioural Economics in Ireland and is developing toolkits that will help guide Departments through the initial phases of conducting a behavioural change project.