Behavioural economics – dispelling the myths

When you open up an economics textbook you will meet a very special person – *Homo Economicus*. He is often presented alone, he is selfish, and he is capable of rational decision making.

In this briefing we'll see how behavioural economics and psychology have challenged the version of 'economic man' you meet in textbooks and why this matters for policy.

Who is *Homo Economicus*?

Our friend *Homo Economicus* has two important characteristics:

1. **He is a utility maximiser.**

   The idea of utility as something akin to happiness or wellbeing is widely accepted. The specific way it is modelled in neoclassical economics is not.

   Neoclassical economics assumes that all individuals have a fixed set of preferences about the consumption of goods and services, and that they always choose the set that achieves their highest level of utility.

2. **He makes rational decisions.**

   Rationality simply means acting in a way that is consistent with one's preferences, which sounds reasonable enough. In practice, however, acting in a purely rational way involves (a) being capable of highly complex calculations and (b) being immune to emotion, personal bias, and the influence of other people.

   You might agree, unless you're an utterly rational 'utility maximiser' yourself, that there are some sizeable

differences between *Homo Economicus* and the real humans you know. Part of the work of behavioural economists has been to pinpoint these differences, in order to understand why the underlying assumptions about how individuals behave in the traditional free market model may not always hold true in real life. The examples given below present experiments and their results, in order to illustrate what behavioural economics tells us about how we behave.

Challenge 1: Are people really utility maximisers?

Behavioural economics' first set of challenges to *Homo Economicus* are to do with the concept of utility and the idea that people have fixed and well defined preferences.

People aren't selfish

Utility is often seen as being solely about people's individual self-interest. Viewed as such, the only thing that could increase someone's utility would be for them to own more things in return for as little effort as possible, i.e. being greedy and selfish.

In reality, however, people often exhibit more altruistic preferences than this. These include; caring about other people, having a taste for fairness or justice, and acting kindly towards people they don't know.

> *Example: The Dictator Game gives people an endowment of $10 and gives them a choice of how much to transfer to a partner. A purely self-interested consumer would keep all the money, but over 60% of participants transfer some money, showing a taste for fairness (Forsythe et al, 1994).*

To some extent this isn't a key insight of behavioural economics, because non-selfish preferences aren't always a violation of utility theory (or rationality) and many economic models show that utility can function with altruistic or caring preferences. Nevertheless, it is so common to see human behaviour being presented as purely selfish in policy models that it's worth making this distinction.

People are loss averse

One of most important discoveries in behavioural economics was Kahneman and Tversky's 'Prospect Theory' (1983). Their key insight was that people have a very different set of preferences depending on whether a loss or gain is involved, and will put much more effort into preventing a loss than winning a gain.

> *Example: Consider two people; Jack and Jill. Today, they both have £50,000. Yesterday Jack had £200,000 and Jill had £500. Are they both equally happy?*

Utility theory would predict that they should be equally happy (as they have the same wealth now) but intuitively we think Jill will be elated and Jack very unhappy. This difference is driven by their change in wealth. (Kahneman, 2012).

Prospect theory is important, because it helps explain why people behave very differently when faced with losses and make very risky choices. This applies to policy situations. It helps explain why traders can take large risks and why redistribution of resources can be very difficult (e.g. rich people opposing tax increases for the wealthy).

People discount the future

Standard utility theory assumes time consistency, i.e. that people have the same preferences about their future plans at different points in time (see Briefing 5). In practice, however, people exhibit strong biases for the present – and value things that will happen sooner more highly than things that will happen in the far-off future. This presents challenges for policy-makers who need to prioritise societal good over individual preferences. For example, what policies will be needed to provide

for individuals failing to look after their health or save for retirement? How can we confront systemic issues such as the preservation of natural resources for future generations?

Challenge 2: do people make rational decisions?

Let's look at some lessons from behavioural economics experiments that tell us about how rational we really are;

People are bad at computation when making decisions: they put undue weight on recent events and too little on far-off ones; they cannot calculate probabilities well and worry too much about unlikely events; and they are strongly influenced by how the problem / information is presented to them.[1] 'Making the kind of rational decisions that economists put forward in their models, would involve adherence to rules of logic that a finite mind is not able to implement' (Kahneman, 2012). Obviously, people don't go through life performing complex calculations in order to optimise their every move – and economists like Keen (2011) have spent a long time demonstrating how difficult such maximising behaviour is in practise.

> *Example: Here's a simple arithmetic question - a bat and ball cost a dollar and ten cents. The bat costs a dollar more than the ball. How much does the ball cost?* **(Why not check at the end of the briefing to see if you got it right?)**

People are biased. For a decision to be rational it should be in line with a person's preferences and should not be subject to bias. In reality, however, people are strongly influenced by the way information is presented and how a problem is framed. As the following example shows, the way an issue is framed can even lead to people feeling overwhelmed to the point of inaction.

> *Example: Researchers found that people were willing to give more to a charity that presented the case of one individual than one which exposed the plight of millions. It seems participants were willing to take responsibility for helping one person, but felt discouraged when faced with the scale of a global problem (Banerjee and Duflo, 2012).*

Another important bias stems from the fact that people base their decisions on the most readily available information in their memory.

Unfortunately, such information is not always the best indication of what the future will hold.

Dynamics of memory often affects how people and governments respond to risk. For instance, when people assess risk they will often respond by thinking of the worst disaster they have experienced in their lifetime, which may not necessarily be an accurate representation of the *true risks* that could affect us in the future. (Kahneman, 2012).

As well as exhibiting personal bias, people are also bad at spotting biased information being presented to them.

Example: DellaVigna et al (2007) estimate that Fox News convinced 5–30% of the undecided voters in their audience to vote Republican in the 2000 presidential elections.

Finally, people's decisions vary dramatically according to the emotional mood they are in – so even seemingly trivial factors like what the weather is like, and whether they have had any breakfast can influence their behaviour.

Example: A study of parole judges in Israel found that the likelihood of a person granting parole is linked to the judges' food breaks. The further away from a food break, the less likely parole would be granted (Danziger et al, 2011).

Other people's behaviour matters too. As well as having goals that involve people (as we saw above), people's decisions are often influenced by others and guided by social pressure.

One of the most shocking examples of this is Milgram's infamous "Obedience to Authority" experiment (1963). A group of normal, law abiding people were given the task of monitoring the learning of another person, and were told by the supervising "professor" to inflict electric shocks whenever that person made an error. Despite hearing the subject scream in pain, 63% of the group escalated the strength of their shocks to a deadly level of 450 volts when encouraged by the supervisor.

A less shocking, but no less interesting, experiment was conducted by Asch in 1951. Subjects were asked to identify lines of similar length. When left to perform the exercise in isolation, people generally achieved 98% accuracy. However, when put into a high-social-pressure environment with other subjects who have been planted, a third of subjects gave the wrong answer to avoid disagreeing with the other participants.

As behavioural economics has shown, people's rational decisions can often be blown off course by social pressure. Being aware of these biases can help us structure decision-making forums in a way that allows the best possible decisions to be made.

Conclusion: Why does this matter for policy?

Many free market policies are justified on the basis that people are all rational, utility maximising agents like *Homo Economicus,* and will automatically do best when left alone to trade between themselves. By this reckoning, governments should get out of the way and allow people to act as they choose.

Behavioural economics, on the other hand, urges a much stronger role for coordinated action and regulation, on the basis that people make consistently poor, irrational decisions about things as important as healthcare, saving for retirement and staying in school. The importance of this is magnified when we think of how our society shares resources, not just across our own generation, but across future generations too.

Behavioural economics also offers a warning for policy makers. Many of the human behavioural characteristics discussed in this briefing play out unmistakeably in the policy arena, where information is highly prone to manipulation by vested interests. Policy makers (and the experts they often consult) are often no better placed than the public to assess risk and uncertainty and make rational decisions about the actions needed. Plus, even if they are aware of the need to propose potentially unpopular solutions to tackle systemic issues such as the environmental crisis, they need votes in the present to remain in power.

Glossary

Utility is the level of satisfaction, happiness or wellbeing a person gets from consuming or doing something. It can be applied to small things (like how much utility you get from eating apples compared to bananas) as well as much bigger things like going to university, having children or getting married. To calculate utility economists assume that people have preferences over different combinations of goods. Utility is a subjective measure that varies from person to person depending on their preferences over different courses of action.

Preferences are an ordering of which goods and service people prefer. So people may prefer oranges to apples, or prefer getting more salary than an increase in paid holiday. Whilst economists allow different people to have different preferences, they typically assume that a given individual has preferences that are fixed – so people like what they like and know how much they like it relative to all other things.

Rationality In economics rationality means acting in a way that is logically consistent with one's preferences. So, if you have strong preferences over going on holiday a lot, deciding to work very long hours does not appear to be rational. Rational actions can appear absurd, but that is okay if the person has strange preferences. A rational person can believe in ghosts, or prefer being hated over being loved, as long as these preferences are consistent.[2]

This briefing gave you the theory and outlined some of the key considerations and experimental evidence from the field of behavioural economics. The following case study explains how the findings from behavioural economics are relevant to environmental policy.

As we know, numerous empirical studies since the 1980s have shown rational choice to be a poor guide for economics in general, and for environmental economics in particular. Assuming rational behaviour for environmental policy decisions is an issue because nature's goods and services frequently lack the market-like arbitrage needed to encourage consistent choice.

This 'irrational behaviour' arising in private and public decisions, undercuts the rational reasoning of environmental policy.

So, the question lies in whether we can create more effective incentive mechanisms (through using the findings in behavioural economics), or increase social well-being by designing environmental policy differently.

The key lessons from the briefing are summarised in Table 1 (for more details see the full OECD report).

Defra on 'behaviour change'[3]

Taking account of people's 'bounded rationality' (as well as the other aspects of human behaviour described earlier), can help improve the economic appraisal of policy options, develop innovative policy responses, and provide new insights into policy evaluation.

Background

Improving customer insight is a key focus for policy-making in Defra. Understanding its customers (public, businesses or key 'transactional' customers such as farmers and fishermen) is a pre-requisite for successful government interactions to inform and influence attitudes and behaviours. Treating customers as one 'rational' group is ineffective, so a form of 'targeting' is necessary.

Behavioural theory principles (Figure 1) imply that different people have different underlying attitudes, values, habits, barriers, and motivations and consequently respond to different interventions. A clear understanding of these differences is required to help tailor policies.[4]

Table 1. OECD findings from behavioural economics

- People systematically misjudge the expected impact of low probability, high-severity events (such as catastrophic climate change, biodiversity loss, pest/disease invasion or nuclear disaster).

- Moreover, people systematically avoid making decisions in situations where the consequences of their actions do not have known probabilities.

- People tend to prefer private risk reduction strategies over collective reduction of damages (e.g. adaptation). This contrasts with standard economic models used in policy analysis, which assume preferences should be neutral about the mode of risk reduction.

- Evidence shows that people are concerned with unobservable payoffs such as reputation, fairness, or the well-being of others.

- People are willing to sacrifice personal wealth to punish non-cooperators for the greater good of the collective.

- Economic incentives which reward cooperation can be an efficient means of addressing complex environmental problems (such as biodiversity protection and habitat fragmentation).

- Bargaining and communication play an important role.

- People discount the near term at higher rates than they do the far distant future.

Figure 1. A theory of behaviour
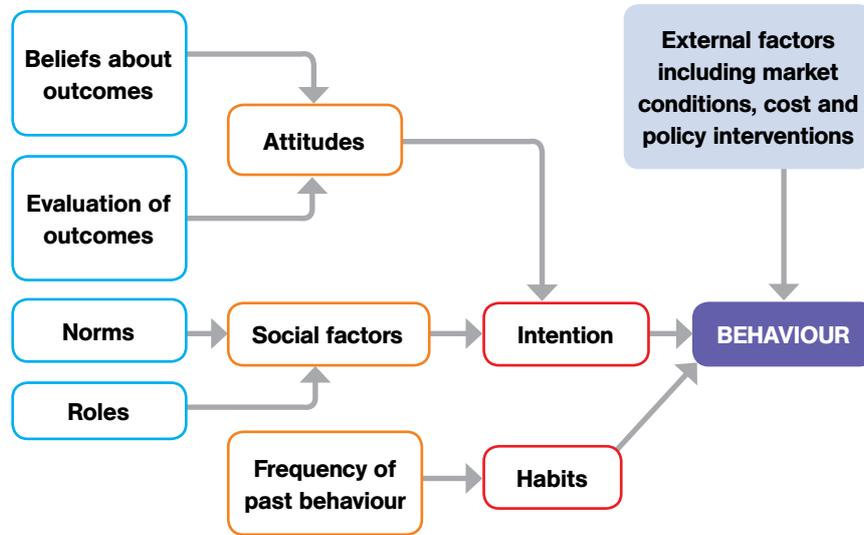
Model adapted from the Theory of Reasoned Action and Theory of Planned Behaviour

Fishing industry segmentation

The Sustainable Access to Fisheries Project (SAIF) project, aimed to deliver a strategy for long-term social, environmental and economic sustainability for the English inshore fishing fleet and a key policy objective was to *communicate and engage more effectively with the fishing community.*

Using the 'segmentation approach' (a key tool in behavioural economics) helped build up a detailed understanding of fishermen, identifying and defining a range of 'types' of fishermen based on their needs, motivations, attitudes, and behaviours. This helped in both policy delivery and in raising the level of understanding within Defra.

The fisheries segmentation project helped:

- Distinguish between 'types' of fishermen.
- Raise awareness of Defra's policy within the industry.
- Recruit trusted intermediaries to conduct face-to-face engagement.
- Develop an accessible (to all segments) newsletter.
- Launch an on-line forum for open debate on fisheries issues.
- Run workshops around the coast about a wide range of issues, including the environment, quotas and licensing, financial circumstances, and views on government.

- Provide a basis for more detailed research on the social impacts of fishing in coastal communities.

Defra's conclusions:

- A strategic approach to development of the evidence base is needed.
- Inter-disciplinary approaches are needed to inform behaviours.
- Inter-disciplinary approaches are needed to influence / change behaviours.
- Multiple interventions are more successful.
- Invest to strengthen capacity and knowledge transfer.
- Embed 'behaviours thinking' as an automatic part of policy-making where the policy target / customer is central.
- Monitor and evaluate what works.

We have seen that standard neoclassical economic analysis assumes that humans are rational and behave in a way to maximise their individual self-interest. While this 'rational man' assumption yields a powerful tool for analysis, it has many shortfalls that can lead to unrealistic economic analysis and policy-making.

The key lessons for policy-makers (Box 1), are described as the 'seven principles', from a **nef** report in 2005.[5] Considering these principles will aid policy-making and

Box 1: The seven principles for policy-makers

1. Other people's behaviour matters: people do many things by observing others and copying; people are encouraged to continue to do things when they feel other people approve of their behaviour.

2. Habits are important: people do many things without consciously thinking about them. These habits are hard to change – even though people might want to change their behaviour, it is not easy for them.

3. People are motivated to 'do the right thing': there are cases where money is de-motivating as it undermines people's intrinsic motivation, for example, you would quickly stop inviting friends to dinner if they insisted on paying you.

4. People's self-expectations influence how they behave: they want their actions to be in line with their values and their commitments.

5. People are loss-averse and hang on to what they consider 'theirs'.

6. People are bad at computation when making decisions: they put undue weight on recent events and too little on far-off ones; they cannot calculate probabilities well and worry too much about unlikely events; and they are strongly influenced by how the problem/information is presented to them.

7. People need to feel involved and effective to make a change: just giving people the incentives and information is not necessarily enough.

provides empirical evidence that the model of *Homo economicus* is inadequate to capture the nuanced, irrational way in which we behave.

Endnotes

1   http://www.neweconomics.org/publications/behavioural-economics

2   Kahneman, D. (2012) *Thinking, fast and slow.* New York: Farrar, Straus and Giroux.

3   Collier, A., Cotterill, A., Everett, T., Muckle, R., Pike, T. and Vanstone, A. (2010). *Understanding and influencing behaviours: a review of social research economics and policy making in Defra.* Retrievable from http://archive.defra.gov.uk/evidence/series/documents/understand-influence-behaviour-discuss.pdf (insights from behavioural economics 2.3); note, this is a Draft paper for discussion : not a statement of policy.

4   Collier, A., Cotterill, A., Everett, T., Muckle, R., Pike, T. and Vanstone, A. (2010). *Understanding and influencing behaviours: a review of social research economics and policy making in Defra.* Retrievable from http://archive.defra.gov.uk/evidence/series/documents/understand-influence-behaviour-discuss.pdf

5   http://dnwssx4l7gl7s.cloudfront.net/nefoundation/default/page/-/files/Behavioural_Economics.pdf

Further reading and resources

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Economics in Policy-making briefings:

1 An overview of economics
   Sagar Shah

2 How economics is used in government decision-making
   Susan Steed

3 Valuing the environment in economic terms
   Olivier Vardakoulias

4 Social CBA and SROI
   Olivier Vardakoulias

5 Discounting and time preferences
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6 Multi-criteria analysis
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7 Beyond GDP: Valuing what matters and measuring natural capital
   Saamah Abdallah

8 Markets, market failure, and regulation
   James Meadway

9a Finance and money: the basics
   Josh Ryan-Collins

9b What's wrong with our financial system?
   Josh Ryan-Collins

10 Property rights and ownership models
   James Meadway

11 Behavioural economics – dispelling the myths
   Susan Steed

Answer from page 3

The vast majority of people respond quickly and confidently, insisting the ball costs ten cents. This answer is both obvious and wrong.

The correct answer is five cents for the ball and a dollar and five cents for the bat.

The **Marine Socio–Economics Project** (MSEP) is a project funded by The Tubney Charitable Trust and coordinated by **nef** in partnership with the WWF, MCS, RSPB and The Wildlife Trusts.

The project aims to build socio-economic capacity and cooperation between NGOs and aid their engagement with all sectors using the marine environment.