

## Behavioural Economics

Behavioural economics is a branch of economics that draws strongly on psychology and other disciplines such as sociology.

Like other economists, behavioural economists build models to give explanatory power to what is happening in different areas of economic activity. The difference is that behavioural economists use observations of real behaviour in their work.

Neo-classical economists use a normative theory about perfect rationality in human behaviour - that is to say, they base their models on the way rational people are expected or *should* behave according to economists' model of rationality. This theory includes, for example, assumptions such as 'people will act in their self interest' and 'consumer preferences are stable and not fickle'. We all, however, know that human beings do not think and act in a purely rational way. We have emotions, prejudices and biases that determine our behaviour in fundamental ways. Neo-classical economists don't believe in perfect human rationality either, any more than they believe that there is perfect competition or perfect information, but, they argue, these assumptions let them derive mathematical models that are helpful approximations of complex aspects of our world.

Behavioural economists, by contrast, use evidence of how humans *actually* behave. They think that the more realistic observations they put into their models (NOT the assumptions of perfect rationality) make for more powerful economic results because their models provide much better approximations of the real world.

This is an over-simplification of the distinction between these two approaches to economics but captures its essence.

### A New Discipline?

Despite many perceptions that behavioural economics is 'new', it has been around for quite some time. One of the

most famous economists of the 20th century, John Maynard Keynes, used behavioural economics (though not in any controlled experimental manner) in predicting that a small rise in nominal wages would stimulate the economy - provided of course that people did not act rationally by discounting their wage rises back into real terms by taking inflation into account. In other words, if people had actually done the calculations, they would have realised that - in real terms - there was actually no wage rise once factors such as inflation were considered. People didn't do those calculations; they just looked at the dollar amount and their spending behaviour helped Britain out of a slump.

Many behavioural economists also argue that Adam Smith - an 18th century philosopher who wrote *The Wealth of Nations*, the crucially influential book giving rise to our free market perspectives - was one of their number. Adam Smith also wrote the equally important and largely ignored book (in most economics at least) *The Theory of Moral Sentiments* which tackles a number of human behaviours at the centre of studies in behavioural economics.

That the discipline isn't new is well supported by the number of Nobel Prizes already received by its adherents (the list includes Daniel Kahneman, Vernon Smith, and George Akerlof, and some would also include the game theorists Robert Aumann and Thomas Schelling). What is new, however, is the emerging understanding of importance of behavioural economics in public policy decision making.

### How does behavioural economics modify classical economics?

What does it really mean to say that behavioural economists do not accept the assumption of perfect rationality? For a simple illustration of the differences between a neo-classical and behavioural economic approach take the issue of choice. In neo-classical terms, more choice is better. In behavioural economic terms, it may not be.

## Too much Jam?

A classic illustration reported by Iyengar & Lepper, is a tasting experiment conducted in an upscale supermarket – where the opportunity was given to taste 6 jams in one situation and to taste 24 jams in the second. Though the 24-jam table attracted many more consumers, of those who did taste, 30% purchased jam in the 6-jam situation, with only 3% purchasing in the 24-jam situation.

This is a typical example of choice overload (also known in behavioural economics as a decisional conflict situation). It occurs in many markets. And while the jam experiment might be a bit trivial in terms of impact on people's lives, very similar results were obtained in researching superannuation choices where people were faced with too many complex options.

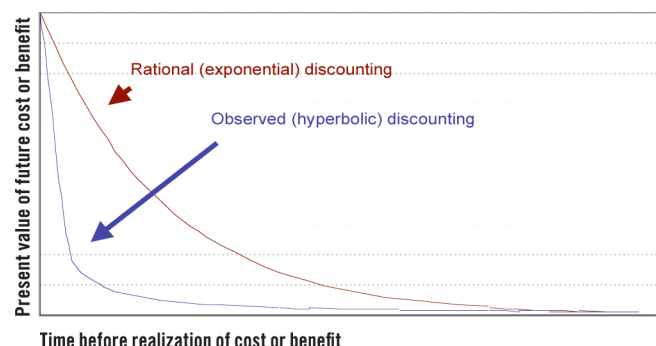
People look for rationales to choose one item over another and where this becomes too complex they may either walk away from the market (this is called deadweight loss in economics) or pick 'whatever' rather than choose wisely.

## A bird in the hand ....

Another important distinction involves the way people value future costs and benefits. To take a typical example, when people put a purchase on their credit card, on that day, they very often intend to pay it off when the payment is due – especially those who are aware how expensive this form of credit is. But despite their good intentions, on the day that the payment is due, their estimation of the 'value' of the money they have in hand at that moment is not the same as the value they placed on that same amount of money when they made the original purchase by credit card. Research shows that we over-value immediate benefits and costs, and undervalue future benefits and costs. This is called 'hyperbolic discounting'. Neo-classical economics assumes an even (exponential) curve for this kind of discounting – behavioural economists know that that's not the way it is; our behaviour shows a quite different pattern of discounting (see figure 1).

In other areas of society, apart from the economy, the public policy implications of failing to understand how people behave can also be costly. People are bad at saving because of hyperbolic discounting, and usually need some clever assistance to overcome their normal behaviour (see the New Zealand scheme below). Think also about behavioural economics as we consider what might be the best

Figure 1: Hyperbolic discounting



interventions to assist in mitigating climate change. Is putting up the price of water a better solution to the water problems in Australia or are blanket water restrictions the most effective instrument when we examine how people respond? Or should the policy framework include both plus other strategies? To get people to save energy, power companies have found that one of the most effective things to do is to 'give away' energy-efficient light bulbs and shower heads – people will generally use them and, in the case of the light bulbs, will tend to continue buying these more efficient bulbs into the future. Furthermore by using less energy to heat household water they also use less water. These are 'painless' behavioural change approaches based on understanding how people are likely to react.

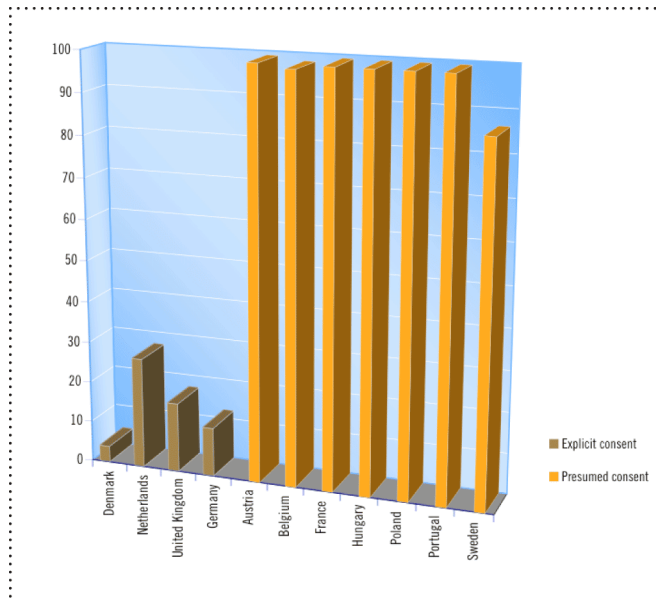
## The power of context

Behavioural economics repeatedly shows, in both its experimental and empirical studies, that the decision-making context matters greatly.

How choices are framed is crucial. If you 'frame' a food choice as '97% fat free', people don't react in the same way as if you say the food 'contains 3% fat' – even though the fat content is identical. Medical practitioners will choose different courses of action depending on whether an option is framed as lives saved or lives lost (when the statistical outcome is identical).

How you frame a choice for citizens in their decision-making about organ donations has immense implications for the outcome. The chart on the next page illustrates the organ donation rates of a set of European countries – the rates on the left average about 15% and on the right about 97%.

## The Power of Defaults (Benign/Libertarian Paternalism)



The low-rate countries frame the decision as ‘tick the box if you want to leave your organs for medical purposes’; the high-rate countries frame the decision as a ‘tick the box if you do not want to leave your organs for medical purposes’. For citizens, this is not the same decision as the results dramatically show.

Firms through their market research know about behavioural economics

Behavioural economists have examined a whole range of human behaviours and have found that we exhibit certain biases.

Many of these behavioural biases in consumer decisions in markets are quite well known by firms, and more specifically by the marketing experts. Credit card profitability is partly based on the consumer behavioural bias of hyperbolic discounting as described above (people don’t pay off the card despite the comparatively high interest rate).

Irrational exuberance is a classic behavioural bias – when the stock market starts to head up and swings past what is reasonable for the profitability levels of firms, people start to believe that the market will never come down. They keep investing against all common sense – and some of course, ‘do their dough’.

Miscalculating probabilities is another familiar behavioural bias – if a coin has come up heads 10 times in a row

(assuming it’s a fair coin), then most people will say “it must be time for tails” when the probabilities have in fact not changed. The bias is very present in decision-making in risk situations such as the buying of insurance where consumers over-estimate the likelihood of many small risks and under-estimate the risks of many disastrous events.

## Behavioural economics in Australia and New Zealand

The main centres of behavioural economic research are in the US and the most notable is probably Harvard University. Much of the behavioural economic work has been carried out in financial markets – especially on perceptions of risk and related decisions. The Boston Federal Reserve Bank is one of the top research institutions in this area. To date, there has been a notable lack of interest in the discipline in Australia and New Zealand in both academia and in government policy-making circles. But things seem to be changing.

New Zealand, with the lowest savings rate in the OECD, launched the KiwiSaver scheme in 2007. It is based on behavioural economic research and is designed to use the power of defaults (see the organ donation example above). The default in this case is that a savings plan is established for an employee and money is paid into that account by your employer unless you tick the box to opt out. The result of this initiative on the national savings rate will be fascinating to observe.

In Australia, the Productivity Commission held an international conference on behavioural economics in 2007 and many universities are just starting to turn their attention to this powerful new set of insights – a few important appointments are being made and ‘old’ economists are learning some of these new tricks. Behavioural economics is attracting a brilliant crop of new PhD students, interested in this revitalised way of approaching the economics discipline.

Just the few examples given above show how crucial getting our assumptions right can ultimately prove in public policy decision making. Many observers are asking the question: ‘If using realistic evidence about human behaviour – rather than heroic assumptions about rationality – gives us a better economic understanding and better public policy strategies, why would we choose otherwise?’

## Further reading

Max Bazerman *Judgement in Managerial Decision Making* (Wiley 1998):  
An introductory text on heuristics and biases.

Louise Sylvan, Victorian Consumer Affairs Lecture  
<http://www.accc.gov.au/content/index.phtml/itemId/727562/fromItemId/8973>  
An examination of behavioural biases and implications for competition and consumers.

Federal Reserve Bank of Boston Center for Behavioral Economics and Decision-Making  
<http://www.bos.frb.org/economic/bedm/index.htm>  
An excellent and well-updated collection of papers.

Colin Camerer, George Lowenstein, Matthew Rabin (eds)  
*Advances in Behavioural Economics* (Sage 2004)  
A collection of essays on new behavioural economics research.

OECD Roundtable on Demand-Side Economics for Consumer Policy 2006  
[http://www.oecd.org/department/0,2688,en\\_2649\\_34267\\_1\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/department/0,2688,en_2649_34267_1_1_1_1_1,00.html)  
The report of an international roundtable exploring developments in economic research, particularly behavioural economics, focusing on the role played by consumers in relation to the efficiency of markets.

## Sources used in the fact sheet

N Ashraf, C F Camerer, G Lowenstein, 'Adam Smith, Behavioural Economist', *Journal of Economic Perspectives*, Vol 19, No 3, Summer 2005.

SS Iyengar and MR Lepper, 'When choice is demotivating: Can one desire too much of a good thing?' *Journal of Personality and Social Psychology*, 79, 995-1006.SS

Iyengar, Wei Jiyang, Gur Huberman, 'How much choice is too much? Contributions to 401k retirement plans' in Mitchell and Utkua, *Pension Design and Structure: New Lessons from Behavioural Finance*, Oxford University Press, 2004.

## Author

Louise Sylvan is a Commissioner of the Productivity Commission. She was formerly Deputy Chair Australian Competition and Consumer Commission and CEO of the Australian Consumers' Association (Choice). The opinions expressed in the fact sheet are the personal views of the author and do not represent those of any organisation with which the author is associated.

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