

How behavioural economics does and can shape public policy

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Andrew Leigh

Member of Parliament, Parliament House, Canberra, Australia

Abstract

Behavioural economics research has pointed to the importance of market inefficiencies, framing, heuristics and hyperbolic discounting. Empirically, behavioural economics has been shown to predict patterns of consumer behaviour, exercise patterns and substance addiction. In this article, I discuss the ways in which our growing understanding of behavioural economics has shaped the development of public policies. I conclude with six pieces of advice for behavioural policymakers.

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Keywords

Behavioural economics, framing, hyperbolic discounting, loss aversion, randomised trials

Introduction

While I was in graduate school, two of my classmates, Stefano DellaVigna and Ulrike Malmendier (2006), carried out a study on gym visits. They obtained data from three Boston gyms and analysed the attendance patterns of members. Dividing annual fees by the number of visits, they found that the typical gym member spent \$17 per visit, even though casual visits cost only \$10. In total, the average member loses \$600 compared with if they had just paid as a casual. The title of the article was ‘Paying not to go to the gym’.

Corresponding author:

Andrew Leigh, Member of Parliament, House of Representatives, Parliament House, PO Box 6022, Canberra, ACT 2600, Australia.

Email: Andrew.Leigh.MP@aph.gov.au

Over recent decades, the field of behavioural economics has taken off. Contrary to the assumptions of perfect rationality, full information and a constant discount rate, economists have shown that we often make decisions that diverge from the standard model. A study of New York taxi drivers found that even though their hourly earnings are higher when it rains, they tend to go off shift earlier because they reach their target earnings (DellaVigna and Malmendier, 2004).

Economists have shown that people are more likely to purchase a convertible if they test-drive it on a sunny day and will pay more for a house with a swimming pool if the sale takes place in summer.¹ Conversely, people are more likely to buy black cars on cloudy days and more likely to enrol in a university if they visit its campus on a cloudy day (cloudiness increases the appeal of academic activities).

Unsurprisingly, firms have become adept at exploiting our biases (DellaVigna and Malmendier, 2004). Vacation time-share exploits the fact that we tend to over-estimate the flexibility we have in timing our holidays. Credit cards have low or zero annual fees, but high interest rates for those who pay late. Mobile phone plans have low upfront costs, but rates rise rapidly for those who exceed their caps. Relative to subscription prices, *People* magazine (a classic impulse purchase) is much more expensive on the news-stand than *Foreign Affairs*. Las Vegas hotels can only afford to under-price their rooms because gambling is addictive.

In Leigh (2014), I discussed some of the tricks that you can use to subvert behavioural biases. If you are prone to over-eating, use a small plate so that it looks full. To avoid impulse purchases, only take cash when shopping. If you want to exercise more often, make a pact with a friend to train together. If you need to stop gambling, many clubs and casinos will allow you to 'self-ban'. To quit smoking, try StickK.com, where you can make a contract with your future self, pledging that if you fail to kick the habit, your cash will go to a political cause you dislike.

In this article, I want to focus instead on the applications of behavioural economics to public policy, drawing on the work of economists Cass Sunstein and Richard Thaler, the British 'Nudge Unit' and academic researchers. As I will show, while the label 'behavioural policymaking' is new, ideas from behavioural economics have been permeating Australian policymaking for some time already.

But first, what is 'behavioural economics'? Isn't all economics supposed to be about behaviour? (Mullainathan and Thaler, 2001)

Defining behavioural economics

It is a bit too cute to call behavioural economics the love-child of economics and psychology, but the definition does have something to recommend it. As well as acknowledging the intellectual lineage (most famously recognised by the award of the 2002 Nobel Prize in Economics to psychologist Daniel Kahneman), it also anticipates that – like psychology – behavioural economics is characterised by multiple *themes* rather than a fully coherent model.

Among these themes are market inefficiencies (such as the mispricing of convertibles that I referred to above), framing (which suggests that the way a choice is presented can affect its uptake) and heuristics (in which people use rules of thumb to make decisions).

A key insight of behavioural economics is that the trade-off between today and tomorrow tends to have a special status. There is nothing irrational about placing a slightly lower value on the future, but what behavioural economists have noted is that the one-day delay between today and tomorrow appears to be treated by most of us in a different way from other one-day delays.

For example, when faced with a choice between \$10 today or \$11 tomorrow, many would opt for the former – losing a dollar in order to get the cash now. But when faced with a choice between \$10 in 7 days' time or \$11 in 8 days' time, almost everyone is willing to wait another day for \$1 more. Another experiment asked people to choose between junk food and fruit, to be collected in a week's time. Although half the participants chose fruit at the outset, two-thirds of them switched to junk food when it came time to pick up the food.² Similar results arise when asked to choose movies – when choosing for tonight, two-thirds opt for a low-brow movie like *Indecent Proposal*; when choosing for 1 week's time, two-thirds opt for a high-brow movie like *Three Colors: Blue* (Read et al., 1999).

What is important to note about this trade-off (known as 'hyperbolic discounting' or 'time inconsistency') is that it suggests that policies which constrain our choices can make us better off over the lifetime. Without behavioural economics, we wouldn't set a compulsory school leaving age, discourage teen pregnancy or have cooling-off periods in major contracts. If you think such measures are a good idea, welcome to the behavioural economics club.

Applying behavioural economics to policy

Perhaps the most important application of behavioural economics to public policy is in the area of retirement savings. The introduction of compulsory superannuation in 1992 was underpinned by the principle that – left alone – we tend to under-save for our retirement. Because of compound returns, setting a small share of our income aside during our working lives can guarantee that we maintain a good standard of living after we stop working. But we have good evidence that, prior to the era of compulsory superannuation, few people did so.

Introduced at 3% in 1992, universal superannuation was planned by the Keating Government to rise over time to 15%, but was paused by the Howard Government at 9%. The Gillard Government then scheduled it to rise from 9% to 12%. This process has begun, and the compulsory rate now sits at 9.5%. But the Abbott Government has delayed the increase and appears likely to push the pause button at 9.5%.

Unfortunately, we have evidence that 9.5% of earnings is insufficient to give most people a decent standard of living in their retirement. Moreover, research by staff from the Reserve Bank of Australia has given the lie to those who argue that each dollar put into superannuation crowds out a dollar of private savings (Connolly and Kohler 2004; Connolly, 2007). The Coalition's decision to delay that increase might have been forgivable with the state of economic thought a generation ago, but not today.

Since the early 1990s, economists have also improved our understanding of how people respond to choice. The original model of superannuation was world-leading in terms of contributions, but carried with it overly ambitious expectations about the degree to

which people would exercise choice. By mandating that people could choose their fund, and requiring funds to offer multiple investment plans, people could theoretically select into the fund and plan that was best for them.

But in practice, defaults prevailed. Most Australians are in the default plans in their default fund. Indeed, even when people switch, there is evidence that they may not be doing it in the most prudent fashion. When the global financial crisis hit, 1 in 20 Australian superannuation investors switched their investment choices, with many switching from shares to cash just as the market bottomed out. As University of Western Australia finance professor Paul Gerrans notes, this 'meant a double hit from the declines experienced until that point, without the compensation of the subsequent market rebound' (Gerrans, 2012).

To address this, the Gillard Government created MySuper – superannuation plans that are low-fee and easy to compare. To be named in a modern award, a superannuation fund will have to offer a MySuper product. This reflects the concern that higher fees often do not reflect better returns and the need to make comparison easier. Others have suggested additional policy ideas for reducing the share of retirement savings that are lost to fees (Minifie, 2014). Improving the quality of default superannuation products is vital for ensuring the system works well into the future.

In the area of financial advice, the Gillard Government's Future of Financial Advice reforms were also based on behavioural economics. In a perfectly rational world, financial advice customers would read every word of the fine print, effortlessly convert trailing commissions into net present value terms and use Bayesian analysis to downplay product advice where the adviser was receiving a commission. In the real world, we know that many consumers are unaware of the true cost of commissions and that the presence of commissions has a tendency to skew recommendations from financial planners. That's why our reforms encouraged more advisers to charge upfront fees, which tend to be cheaper for consumers.

In the United Kingdom, the Behavioural Insights Team (commonly known as the Nudge Unit) has had successes applying behavioural economics to encouraging people to pay their taxes and fines.

In one experiment, 100,000 Britons with overdue tax bills were randomly assigned to one of four letters: the standard letter, a letter which pointed out that taxes funded health care and roads, a letter which noted that 90% of people pay their tax on time or a letter which noted that the recipient was in the minority in not paying on time (*The Economist*, 2014: 64). Relative to the standard letter, the second and third letters raised payments 1%–2%, while the fourth, which reminded the person that non-payers are in the minority, raised payments by 5%. Smarter enforcement letters are saving tens of millions of pounds as a result.

Similar work by the Nudge Unit found that people who were late in paying their car registration fees were three times as likely to pay up when the enforcement notice carried a photo of their vehicle and the caption 'pay your tax or lose your car' (Bell, 2013). Another experiment used personalised text messages to encourage people to pay their fines on time. The trial yielded the government £30 million in savings – not merely from the additional revenue but also from reduced use of bailiffs (Bell, 2013). That is not a bad return on investment, given that the Nudge Unit costs around half a million pounds to run. In New South Wales, a newly established Nudge Unit is leading to the revamp of land tax notices and speeding notices (Hasham, 2014).

Behavioural economics isn't just about payments – the UK Nudge Unit has also had success in health interventions. One experiment found that patients who filled in their own appointment card were nearly one-third less likely to miss their next doctor's appointment (Bell, 2013).

Lessons for behavioural policymakers

How could behavioural economics affect policymaking in future? Let me suggest half a dozen ways:

1. *The power of free.* A classic behavioural economics experiment offered people an expensive Lindt truffle for 15 cents versus a cheap Hershey's Kiss for 1 cent (Shampanier et al., 2007); 73% went with the truffle. Then, the authors dropped both prices by 1 cent, making the truffles 14 cents and the cheap chocolates free. Now, 69% went with the cheap chocolates. This result helps explain why an experiment in Africa found significantly higher take-up for free Malaria-prevention bed nets than those sold for a subsidised low price (Cohen and Dupas, 2010).³ If policymakers want to encourage something, there is a considerable advantage of making it free.
2. *Framing.* When the Global Financial Crisis hit, both the United States (under President Bush) and Australia (under Prime Minister Rudd) provided household payments in an attempt to bolster demand. Subsequent surveys found that the share of Australian recipients who spent their payment was up to twice as high as in the United States. One possible explanation is that the Australian payment was described as a 'bonus', while the US one was described as a 'rebate'.⁴ Similarly, payments to organ donors have been found to be more acceptable if described as 'defraying costs' than as 'compensation' (Tsin Yen, 2012).
3. *Defaults matter.* A laboratory experiment on organ donation randomly assigned people to one of three conditions: required to choose donor or non-donor; default donor; or default non-donor. When made to choose, 79% wanted to be a donor. But changing the default to 'donor' raised this to 82%, while changing it to non-donor dropped it to 42% (cited in Low and Yiling, 2012). Across European countries, those with opt-out donation schemes have higher donation rates than nations with opt-in schemes. Although organ donation is complex for other reasons, these findings point to how much inertia matters. Given that many of us still have our mobile phone ringtone on the factory setting, we probably want to think carefully about defaults when designing policies.
4. *Losses are valued more highly than gains.* One of the simplest economic experiments you can do involves handing out chocolate bars and mugs to alternate students in a classroom and then asking who would like to switch. If losses and gains were equally valued, then half the students should want to switch, but the standard finding is that very few want to exchange their gift for the alternative. In other contexts, the 'endowment effect' is even stronger: a study at Duke University found that students were willing to pay \$170 for basketball tickets on the black market, but if they were given tickets, insisted on \$2400 to part with them

(Ariely, 2008). One literature survey found that the typical person values losses 2.6 times as highly as gains (Horowitz and McConnell, 2002, cited in Knetsch, 2012). This explains why the pain involved in recouping an \$1000 government overpayment tends to be larger than the pleasure that accompanies an extra \$1000 payment. One policy that exploits this asymmetry is ‘Save More Tomorrow’, which allows US workers to commit to putting their next pay rise into savings – thereby gaining higher savings in the future without suffering wage losses today.

5. *Make the information simple.* One of the reasons that the previous government devoted considerable energy to creating the MySchool, MyChild, MyHospitals and MyUniversity websites was to simplify the process of choosing. The creation of these sites didn’t just democratise information that was previously only available to insiders – it also brought together information previously scattered across multiple sources. Behavioural economics recognises that people are time-constrained, so it helps to make choosing as simple as possible.
6. *Randomise.* A key feature of many of the studies discussed in this article is that they are based on randomised policy trials. This involves testing new policy interventions in the same way we require pharmaceuticals to be tested before providing them with a government subsidy (Leigh, 2010). Randomised policy trials are under-utilised in Australia and are a valuable way to test new policy ideas – behavioural or non-behavioural (Harford, 2014).

A common critique of behavioural economics is that it is ‘paternalistic’. But this misses the fact that governments have to set defaults, send out fine notices and choose a form of words to describe their policies. Governments already do plenty of pilots – the difference with a randomised trial is that it includes a credible control group. In many cases, behavioural economics involves tweaking something the government is doing already, without narrowing the choices available to people.

Behavioural economics is not a panacea for all our ills. Indeed, the very notion of behavioural economics is based on an understanding that grand visions often founder when faced with the messy complexity of human behaviour. As Harvard’s Dani Rodrik once put it, ‘The world is better served by syncretic economists and policymakers who can hold multiple ideas in their heads than by “one-handed” economists who promote one big idea regardless of context’ (quoted in Tsin Yen, 2012: 26).

For a good behavioural economics policymaker, these multiple ideas include considering the power of free items and ensuring choices are carefully framed. Such a policymaker thinks hard about the right defaults and takes account of the fact that people weigh losses more highly than gains. The behavioural economics policymaker looks to provide more information as simply as possible and tests policies via randomised trials.

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Notes

1. These examples are drawn from Leigh (2014).
2. Read and Van Leeuwen (1998). The authors do not provide overall averages, so the figures I quote here are based on averaging the subgroup results in their Figure 1.
3. Conversely, the Singaporean government seeks to deter gambling by ensuring that entry into casinos is not free – citizens and permanent residents must pay an entry fee of SGD100 (Low, 2012).
4. The Australian survey found a spending rate of 41%, while US surveys range from a spending rate of 20%–31% (Leigh, 2012). For similar laboratory evidence, see Epley et al. (2006).

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Author biography

Andrew Leigh is the Shadow Assistant Treasurer in the Australian Parliament and a former professor of economics at the Australian National University. He has been a Labor member of the Australian House of Representatives since 2010, representing the seat of Fraser in the Australian Capital Territory. He holds a PhD in public policy from Harvard and has previously worked as a lawyer and as a principal adviser to the Australian Treasury. He is a Fellow of the Australian Academy of Social Sciences, the only parliamentarian to be a fellow of one of the four national academies. In 2011, he received the biennial 'Young Economist Award' from the Economics Society of Australia. His books include *Disconnected* (2010), *Battlers and Billionaires* (2013) and *The Economics of Just About Everything* (2014).