

Behavioural economics and Australian commitments under the Paris Climate Agreement

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Summary: Australia is committed under the Paris Climate Agreement to achieving a 26-28% reduction in emissions relative to 2005 levels by 2030. Standard policies to this end may be complemented by the adoption of behavioural economics. In particular, encouraging major energy providers to migrate their “on-time” discounts to an opt-out system whereby that discount is invested in an emissions abatement fund (with an option to contribute over and above the default) may make a significant contribution to realising Australian obligations.

The problem

The Paris Climate Agreement commits Australia to achieving a 26-28% reduction in emissions of greenhouse gas relative to 2005 levels by 2030. This requires a substantial substitution of energy generation technologies away from emissions-intensive methods toward less intensive methods. The overall level of energy use need not decline particularly to achieve Australian commitments, but substantial investment in developing cost-effective alternatives to emissions-intensive generation technologies will be required to facilitate the necessary substitution of technologies.

Standard economic reasoning suggests an emissions tax or market for emissions permits are more effective ways than mandates to facilitate this substitution *once alternative technologies are available*. This is all well and good, but carbon taxes or carbon prices are paid in the generation and wholesale markets and encourage substitution to alternatives only vicariously. Only if substitution to alternative technologies will produce a competitive advantage in the retail market can we expect a substitution to less emissions-intensive generation technologies to occur by standard reasoning. So, it is vital that cost-effective low-emissions alternative technologies are developed which can endow this competitive advantage in the retail market.

Behavioural economics suggests that we may be able to implement schemes in the retail market which will help to raise substantial capital for emissions abatement funds through voluntary contributions on the part of retail consumers. These may complement more traditional price-based means of facilitating substitution to low-emission alternative energy generation technologies and meeting Australian commitments by funding the development of those technologies as cost-effective alternatives. Such funds might also be used to purchase emissions permits on domestic and international markets and contribute in this way to the meeting of Australian commitments. Indeed, such schemes may reduce the need for emissions taxes or prices in the first instance anyway.

A solution inspired by behavioural economics

Behavioural economics suggests that we may build effectively on already existing schemes in the retail electricity market to raise capital for emissions abatement funds. Specifically, we may make use of the “choice architecture” of on-time payment discounts already in place within the retail

markets whereby retail providers encourage the early payment of electricity bills. AGL for instance, offers up to a 30% pay on-time discount to retail customers as a rule.

We propose that the existing infrastructure surrounding these schemes be migrated from an on-time payment discount to a system whereby the value of that discount will be invested in an emissions abatement fund unless the customer *explicitly* opts out in favour of receiving their discount. We propose that the funds thus raised to be held by the retailer on the proviso that they are used either to invest in cost-effective low-emissions alternative generation technologies or to purchase emissions permits on domestic and international markets. We propose, further still, that customers be permitted and encouraged to *overpay* relative to the invested discount should they so wish. We might even go so far as to allow consumers to participate in the allocation of their funds to investment or buying permits.

This scheme has some desirable features outside of its behavioural economics. It is a *voluntary* scheme insofar as customers are free to contribute or not to the funds according to their preference. It also promises to improve *efficiency* in two ways. Firstly, it improves efficiency insofar as its voluntary nature will allocate contributions to those *most willing to make them*. Secondly, it promises to improve efficiency insofar as these funds may be administered by the companies with better knowledge of generation technologies and their potential as low-emissions alternatives to more emissions-intensive technologies.

Behavioural economic analysis

We have good theory and data in behavioural economics to suggest that our proposed solution will be effective in raising capital for emissions abatement funds which may then be allocated to investments in less emissions-intensive technologies or buying emissions permits.

It is a classic result in behavioural economics (Kahneman, 2003; 2011; Ariely, 2008; Thaler and Sunstein, 2008; Thaler, 2015) that consumers display “status quo” bias, or “default” bias. People are more willing to engage in some behaviour if it is the *default*, than if it is the alternative to the *status quo*. If a policymaker sets some desired behaviour as a default option somehow, and a behaviour to be discouraged as an alternative to the status quo, they are more likely to have that behaviour engaged in.

We have good theory (Heiner, 1983; 1986; Earl, 1986; 1986a; Markey-Towler, 2018; 2018a) to understand why this is the case. Thinking is not free. It is cognitively expensive and something to be economised where possible to save energy for making really important decisions. Were we to ask someone to think about switching *to* some new plan, we are asking them to expend energy on thinking through the various consequences, which makes it less likely they will switch. If we set the plan as the *default*, the *status quo* which will happen without thinking, the switching *away* from the plan becomes the cognitively expensive activity, the consequences of which must be thought through exhaustingly. That makes it all the more unlikely the plan will be opted “out” of.

It is also well known that consumers have “pro-social” preferences (Ariely, Dan, 2008). People are more willing to engage in some behaviour if it has social benefits than if it does not. So if a policymaker does wish some desired behaviour to be engaged in, they will be aided by that behaviour having social benefits.

We have good theory again (Maslow, 1943; Earl, 1986; 1986a; Markey-Towler, 2018; 2018a) to understand why this is the case. Embedded within our motivations are motivations to “self-actualisation” and contributing to the lives of others – which are probably the legacy of evolutionary pressures toward greater social cohesion. Where behaviour can appeal to such motivations, we can expect it to be more desirable to engage in.

We know, finally, that human beings are subject to the effects of cognitive dissonance (Festinger, 1957), which manifests in what has come to be known as “confirmation bias” and “hypothesis filtering” in behavioural economics (Markey-Towler, 2018). People seek to justify beliefs already held to and to avoid ideas and situations which are dissonant with those beliefs. Where those beliefs are concerning a particular behavioural pattern, people will therefore seek to justify those patterns and avoid ideas and situations which are dissonant with those patterns. So, if some behaviour can become a default or status quo, we can expect for that pattern to become increasingly justified and therefore increasingly engrained over time.

Our proposal harnesses all three of these factors in behaviour at once. Making contributions to emissions abatement funds would become a *status quo* subject to “default bias” against opting out, therefore it is more likely that contributions to emissions abatement funds will be voluntarily made. Making contributions to emissions abatement funds is associated with pro-social motives which make it more likely to be voluntarily selected rather than opting out. We may even expect (though to a lesser extent) for contributions to be made over and above the default investment for this reason. As such contributions become the *status quo*, we can expect for cognitive dissonance to cause them to become increasingly engrained over time.

We therefore have good empirical and theoretical reasons to expect that our proposal will generate substantial funds for emissions abatement funds. Were we to radicalise our proposed scheme to allow for the voluntary disclosure of one’s data, these effects would be amplified by the effects of social comparisons about which much has been written in behavioural economics.

Conclusion

Australia is committed under the Paris Climate Agreement to achieving a 26-28% reduction in emissions relative to 2005 levels by 2030. We suggest that encouraging major energy providers to migrate their “on-time” discounts to an opt-out system whereby that discount is invested in an emissions abatement fund (with an option to contribute over and above the default) may make a significant contribution to realising Australian obligations. The combined effects of status quo bias, pro-social preferences and cognitive dissonance suggests we may expect significant contributions to these funds which can then be used for investments in developing cost effective low-emissions alternative generation technologies as well as buying emissions permits. This will facilitate substitution to low-emissions alternative generation technologies required to meet Australian commitments under the Paris Climate Agreement. Standard policies aimed at meeting Australian commitments may therefore be complemented by the adoption of behavioural economics, even to the extent that those policies may need be less severe than otherwise.

References

- Ariely, Dan, (2008) *Predictably Irrational*, HarperPerennial, New York
- Ariely, Dan, Anat Bracha, and Stephan Meier, (2009) "Doing Good or Doing Well? Image Motivation and Monetary Incentives in Behaving Prosocially", *American Economic Review*, 99 (1): 544-55.
- Earl, Peter, (1986) *Lifestyle Economics*, Harvester Wheatsheaf, Brighton
- Earl, Peter, (1986a) "A Behavioural Analysis of Demand Elasticities", *Journal of Economic Studies*, 13(3), pp.20-37
- Festinger, Leon, (1957) *A Theory of Cognitive Dissonance*, Stanford University Press, Stanford
- Heiner, Ronald, (1983) "The Origin of Predictable Behavior", *American Economic Review*, 73(4), pp.560-595
- Heiner, Ronald, (1985) "Origin of Predictable Behavior: Further Modelling and Applications", *American Economic Review*, 75(2), pp.391-396

- Kahneman, Daniel, (2003) "Maps of bounded rationality: Psychology for behavioural economics", *American Economic Review*, 93(5), pp.1449-1457
- Kahneman, Daniel, (2011) *Thinking Fast and Slow*, Penguin, London
- Markey-Towler, Brendan, (2018) *An Architecture of the Mind*, Routledge, London
- Markey-Towler, Brendan, (2018a) "Salience, Chains and Anchoring: Reducing Complexity and Enhancing the Practicality of Behavioural Economics", *Journal of Behavioral Economics for Policy*, 2(1), pp.83-90
- Maslow, Abraham, (1943) "A theory of human motivation". *Psychological Review*, 50(4), pp.370-396
- Thaler, Richard, (2015) *Misbehaving*, Penguin, London
- Thaler, Richard and Sunstein, Cass, (2008) *Nudge*, Penguin, London