

Transparency and policy implementation in the public sector

A paper prepared for the Queensland Information
Commissioner and the Australia and New Zealand School of
Government

July 2012.

Nicholas Gruen



Overview

Introduction to Part Two

The companion report to this one, *The Ecology of Information and the Significance of Reputation* sketched a broad range of considerations to be taken into account in contemplating policy's role in improving information flows in our economy and society. This report applies those ideas to specific policy issues. We explore transparency regimes in specific areas – which Fong *et al* have dubbed targeted transparency – along with a range of other issues. A related subject of study is the significance of behavioural economics in determining appropriate policy particularly where policy makers seek to use specific measures to bolster transparency as policy alternative to more traditional and directive policy approaches such as taxes and charges, subsidies and regulation.

Simple targeted transparency

The information policies that Fung *et al* dub 'targeted transparency' seek to address some specific problem. Of 18 examples of such policy in the US Fung *et al* identify only two clearly successful interventions. The reasons for the relative (or total) failure of the other regimes vary but often involve excess complexity and/or lack of usefulness to consumers. Both of these factors can also undermine political support for some specific regime. Drawing on this policy experience, Fung *et al* propose the following principles:

- Targeted transparency must be *user centred*. Successful policies focus on the needs and interests of users. They should also be focused on the capacities, and inclinations of disclosing organisations. They should seek to embed new information in the decision-making routines of users and to embed user responses into the decision making of disclosers.
- The policies must be *politically sustainable*. Sustainability is a function of the respective powers of users and disclosers, particularly at the time when the policy is introduced (typically at some time of perceived crisis). Powerful, well-organised users help establish transparency regimes just as powerful, well-organised disclosers have the best chance of resisting them. Also, to be sustainable, the policy should generate good information about its own efficacy and it should be updated and improved as it emerges.

A good example of targeted transparency is Australia's 25-year-old regime requiring energy rating stickers on household appliances. Between 1986, when labelling was first introduced in Australia and 1999 when Mandatory Energy Performance Standards were introduced, the annual energy use of the average new family refrigerator fell by 50 per cent; a sharp drop from the immediate preceding period in which little energy efficiency had been observed.¹ Australia's energy rating label is well regarded having been imitated in Thailand, South Korea and India. The energy

¹ Implied by the data shown in figure 1 in Elliset *al.*, 2006.



rating labels are popular, and the labelling program has been greatly extended from refrigerators and freezers that were covered under the initial system. Further, star ratings have been applied to a range of new areas such as water efficiency and housing.

Complex targeted transparency

Fung *et al*'s gospel of simplicity provides excellent advice, but only where simplicity is actually obtainable. There remain major areas of public policy where greater transparency should be able to make a contribution that are poorly amenable to such simplification. Certainly the MySchool experience so far suggests that Fung *et al* are right in stressing the difficulties of conveying complex information. Yet the issues are subtler and more methodologically contestable in areas like the quality of our health and education system and they are far more diverse than for instance reducing the energy intensity of whitegoods.

Governments have not mastered the art of presenting complex data to the community whereas the entrepreneurs of Web 2.0 have built numerous platforms that both engage people and provide very valuable and complex information. For this reason it seems likely that the problems of complex transparency will be best solved in the context of a more open model – in line with the recommendations of the Government 2.0 Taskforce. This would enable those with an interest to present the data in ways they felt were appropriate and to do so in a way that they felt was most useful for users. Moreover governments could assist by:

- Participating in the field of 'retailing' the data on their own websites;
- Opening up their own data as a free 'wholesaler' to let others use, manipulate and present the data in other ways; and
- Funding research, competitions, prizes and other activities to open up the problem to those who can find the best ways of presenting the data and engaging the public in it.

Behavioural Economics and pro-social behaviour

Information can also be useful in promoting pro-social behaviour and in helping to inform political action. In this regard we know that people are naturally inclined to both pro-social and self-regarding behaviour and that where there is a tension between them, context helps 'frame' the way they see and how they make the choice between them. On the one hand the monetary incentives so beloved of economists can undermine people's natural inclination to do the 'right thing' from others' perspective. On the other hand, though people seek to do the right thing, their good intentions can be fragile. At its best the rule of law in society and incentives to prosper in markets work as complements to people's desire to do the right thing. Cooperation and good will proves much more robust if those who are contributing know that non-contributors will be punished in some way. People usually want to cooperate but wish, perhaps even more, to avoid being the sucker who is exploited by self-interested defectors from a social norm that calls for selflessness.



The Queensland Water Commission appear to have understood these principles admirably when they designed the 'Target 140' campaign in 2007 to reduce water consumption to 140 litres per person per day. They understood the:

- Difficulty and sensitivity of the task – namely that water restrictions had successfully reduced outdoor use and that therefore the next most propitious increment of water economy would have to come from the privacy of people's water use in their own homes – something that could not be directly observed to ensure compliance;
- Scope to use complementary measures;
- Potential counter-productiveness of heavy handed extrinsic motivation; and
- Importance of focus, accountability and feedback. The campaign convinced Queenslanders of the seriousness of their situation, and provided them with regular feedback on the state of water capacity and their own progress in rising to the challenge set by the campaign.

In the upshot Queenslanders overshot the target by 11 litres and this embedded habits in their water use which meant that water use stayed much lower than it had been even after, in the presence of flooding, the restrictions were eased.

As has already been seen with the Global Reporting Initiative (GRI), a further important motivation for transparency is that of informing the community, which can empower political accountability. Thus for instance the National Pollutant Inventory (NPI) in Australia collects data in standardised units, which makes emission comparisons possible across companies, across geographical areas or over time. Some have suggested that registers have played a role in reducing emissions (Fung and O'Rourke 2000). However, it is difficult to determine the extent of this result. Further it had been hoped that these registers might be used by the investment community, which would provide a source of discipline on companies. But apart from the very small pool of capital managed by investment managers who market themselves as 'socially responsible' there has been little interest. Further, because they are so driven by newsworthiness and 'hot button' issues even social activists use the information provided in the registers only sporadically.

Conclusion

Fung *et al* provide a useful summary of principles for policy makers embarking on what they call targeted transparency, which is to say the establishment of specific policy regimes for conveying information to consumers to promote some specific policy objective. Firstly, measures should be user centred, focusing on the needs and interests of users embedding new information into the decision-making routines of users and in turn providing incentives for producers to provide products which better meet users needs and in so doing promote specific policy objectives.

Secondly targeted transparency measures must be sustainable. Powerful, well-organised users help establish transparency regimes just as powerful, well-organised disclosers have the best chance of resisting them. To be sustainable, the regime should gain in use, accuracy, and scope over time. Such improvement is important because policies inevitably start as compromises, because markets and public



priorities change, and because policymakers constantly need to fill loopholes discovered by reluctant information disclosers.

Finally behavioural economics shows us that where policy goals are sought, human motivation is complex and information can help promote citizens' pro-social inclinations. Provided it does not appear to be exploitative, and in so doing play those who are prepared to do the right thing for 'suckers', it can be an important tool to improve economic and social outcomes.



Table of contents

Overview	ii
Introduction to Part Two	ii
Simple targeted transparency.....	ii
Complex targeted transparency	iii
Behavioural Economics and pro-social behaviour.....	iii
Conclusion.....	iv
Table of contents	1
1 Introduction.....	2
2 Simple targeted transparency.....	2
3 Complex targeted transparency	7
3.1 MySchool	8
4 Behavioural Economics and pro-social behaviour.....	10
4.1 Behavioural economics	11
4.2 The principles of behavioural economics: as illustrated by the South East Queensland Water Commission’s Millennium Drought Program.....	15
4.3 Transparency for political action	18
5 Conclusion.....	20
Appendix: Behavioural Economics	21
References.....	25



1 Introduction

Many, though not all, of the examples of initiatives discussed in Part One of this report, *The Ecology of Information* seek to empower those needing high quality information to make decisions but they do not seek to address a specific mischief. The case for them rests on the proposition that, providing it can be done cost effectively, improving the quality of information that is generated and disseminated to decision makers can generate large benefits because people will use that information to make choices more suited to themselves, and those choices may drive further adaptation by producers to produce better products which meet needs better.

This can be distinguished from information policy that is inspired by, and seeks to address some specific problem. Fung *et al.* (2009, p. xiii) call such policy action 'targeted transparency'. Fung *et al* argue that targeted transparency should be simple. We agree that, where it is possible to clearly identify some simple and straightforward value towards which policy is driving targeted transparency should likewise be simple. Fung *et al* are within their rights focusing on such exercises, however the fact remains that many information regimes cannot be simple. The information system that enables people to judge health care or educational service providers cannot be simple because these services are highly complex and people want to know many things about them. Accordingly we outline simple targeted transparency in the next section and more complex targeted transparency regimes in the following section.

In these sections of the report the policy problem is the use of transparency to assist people help themselves. Consistent with the terms of our brief, we then explore situations where the policy objective is to encourage pro-social behaviour – that is behaviour in which people seek to 'do the right thing' within their society rather than advantage themselves. We do this by first considering the insights offered by the new sub-discipline of behavioural economics and then explore examples of transparency being deployed to promote pro-social behaviour.

2 Simple targeted transparency

Professors Archon Fung, Mary Graham and David Weil, based at the Ash Centre for Democratic Governance and Innovation at the Harvard Kennedy School are recognised researchers into the effectiveness of transparency and disclosure policies. In their 2009 book, *Full Disclosure: The Perils and Promise of Transparency*, they identify the emergence of what they argue is a new phenomenon in public policy – the use of mandated disclosure and transparency to tackle specific policy issues.

They argue that these policies, which they call 'targeted transparency', have a common *modus operandi*. They:

- mandate public disclosure
- by corporations or other private or public organizations
- of standardized, comparable, and disaggregated information
- regarding specific products or practices



- to promote a defined public purpose. (2009:6)

Fung et al. provide numerous examples of targeted transparency policies. Of 18 examples they identify one highly successful intervention – the policy of requiring Los Angeles restaurants to post an A, B or C on their front windows to rate their hygiene. One other policy requiring labelling of the propensity of SUVs to overturn was also successful in inducing the kind of cascade of changes identified above – with consumers responding to the information that drove car makers to improve the stability of SUVs. But many other targeted transparency regimes were not successful for various reasons. Very often the information was too complex to be useful. This can also undermine political support for the regime and this in turn threatens its political viability. One might have guessed the commonsensical principles that emerge, though it is reassuring to have one's intuition confirmed by the evidence.

- Targeted transparency must be user centred. Successful policies focus on the needs and interests of users. They should also be focused on the capacities, and inclinations of disclosing organisations. They should seek to embed new information in the decision-making routines of users and to embed user responses into the decision making of disclosers.
- The policies must be politically sustainable. Sustainability is a function of the respective political power of users and disclosers, particularly at the time when the regulation is introduced (typically at some time of perceived crisis). Powerful, well-organised users help establish transparency regimes just as powerful, well-organised disclosers have the best chance of resisting them. Also, to be sustainable, the regulation should generate good information about its own efficacy and should be updated and improved as that information emerges (p. 11).²

A good example of targeted transparency is Australia's 25-year-old regime requiring energy rating stickers on household appliances. The regime requires labels that report expected kilowatt-hour(kWh) usage for an estimated typical use of the product from an energy test performed under specific conditions (as specified by the Standards Association of Australia). This value is translated into a 'star rating'. This makes the ratings easy to comprehend and facilitates comparisons.

Energy efficiency labelling in Australia began with a bilateral agreement between Victoria and New South Wales that from late 1986 required all refrigerators and freezers to display energy rating labels. By 1991 all States had energy rating labels for some appliances and in 1992 a national administrative framework was established covering five important categories of appliances. An updated label was introduced in 2000 after the introduction of minimum energy performance standards (MEPS). Energy efficiency labelling has gradually been expanded and now covers 14 product groups and around 31,000 products (Wilkenfeld 2010).

The energy labelling and MEPS programs operate together with MEPS removing the least efficient models from the marketplace and energy labels shifting the range of demand towards more efficient models. Energy standards and labels are very

²See also Nicholas Gruen's review of Fung *et al.* at <http://clubtroppo.com.au/2008/04/07/full-disclosure-the-promise-and-perils-of-transparency-book-review/>



inexpensive policies (Ellis *et al.* 2006). The current cost of administering the energy labelling and MEPS programs is around \$10million per annum (Wilkenfeld 2010). Industry bears most of the costs from efficiency labelling but even that is a relatively small cost. Wilkenfeld (1996) estimated that in \$30billion of appliance purchases over 16 years, industry costs of the labelling scheme would be around \$83million or 0.3 per cent of total costs. The cost of mandatory standards is likely to be higher as this actively interferes with production decisions Wilkenfeld (1999). Sometimes this will be justified by total life-cycle costs, but there is no guarantee that it will be.

Given its low costs, energy labelling seems to have been highly successful. A survey of consumers in 2005 found that 96 per cent of Australians were aware of the energy label program, 88 per cent considered it at some point in their decision making, and 75 per cent stated that the energy label is at least quite important in their decision to purchase (Winton 2006, p.3). Mahlia and Saidur (2010) confirm energy labelling does seem to affect people's purchasing decisions and that it has shifted demand towards more efficient products. Between 1986, when labelling was first introduced in Australia and 1999 when Mandatory Energy Performance Standards were introduced, the annual energy use of the average new family refrigerator fell by 50 per cent; a sharp drop from the immediate preceding period in which little energy efficiency had been observed.³

Australian energy rating labels are estimated to have reduced household demand for electricity by about 13 per cent and to have reduced demand for electricity by around 1,500 GWh per annum (Wilkenfeld 2009). This is consistent with the findings of Waide (2001), who found that the combination of labelling and minimum standards that the EU introduced in 1999 reduced the average electricity consumption of new refrigerators and freezers by around 27 per cent. These first minimum standards are thought to have had a similar sized impact as rating labels.⁴

Australia's energy rating label is well regarded having been imitated in Thailand, South Korea and India. The energy rating labels are popular, and the labelling program has been extended from refrigerators and freezers covered under the initial system. Further, star ratings have been applied to a range of new areas such as water efficiency and housing.

Central to the success of the energy label system were efforts to embed the information in consumer and producer decision-making. Research commissioned by the Equipment Energy Efficiency (E3) committee showed that consumer decision making around household appliances involved two stages. In the first stage, consumers short-list appliances based on factors such as size, design and functional features. In the second stage, consumers select from within that short-list. The research also showed that consumers were much more likely to consider energy labels in the second stage of their decision making, after they had drawn up their shortlist, and this in turn influenced label design (Winton, 2006).

³ Implied by the data shown in figure 1. Ellis *et al.*, 2006.

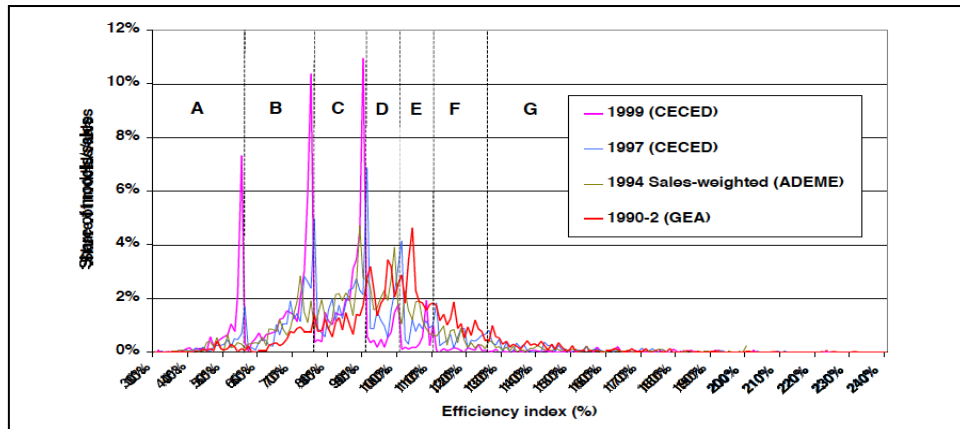
⁴ Note, however, that a UK study that was undertaken when the energy rating labels were first introduced estimated only a 7% reduction in energy use. This may have been in part due to lack of familiarity with the labelling scheme as only 35% of customers said they found the label useful (Boardman *et al.* 1997).



Furthermore, from the outset an important objective of the labelling program was to encourage manufacturers to design more efficient appliances. The E3 committee actively sought to gauge industry response, and Winton (2006) reports that from as early as 1991, as consumer awareness of the program was becoming entrenched, manufacturers were instructing engineers to make sure they achieved a 5-star rating on new products.

One issue that this raises is the extent to which such simplification as a five star rating can distort decision making. There is always an incentive for goods producers to achieve the highest rating at the lowest cost possible. Some may find themselves just short of a particular benchmark and increase their performance to that level at reasonable cost. Others might have been prepared to achieve a more ambitious target, but it is unlikely that regulators will ever have enough information to optimally set the targets. There is certainly evidence of producers targeting specific ratings just as they target specific 'price points' in the retail market (See Figure 1).

Figure 1: distribution of appliances for sale in the EU- by energy efficiency index



Source: Waide, 2012, p. 378.

If we assume that producers prefer a higher rather than a lower one, there remains the question as to how to set the various points to 'stretch' the producers. It is unlikely that regulators know enough about the relative costs of various production possibilities to do this, however presuming that technology continues to improve, one conclusion that arises is that the index should always leave room for improvement at the top. If the system starts with five stars, those stars may need to be recalibrated, or stars may need to be added over time.



Box 1: US 'Roll-over Ratings' for Sports Utility Vehicles (SUVs)

At around the time of the new millennium, public concern was growing at the number of fatalities involving SUVs. Studies showed that SUVs were far more likely to rollover than cars and sedans, and that roll-overs were far more likely to be fatal than other types of road accidents.

Between 1991 and 2001, light truck (including SUVs) roll-over fatalities had increased 43 per cent (Fung *et al.* 2009, p. 194). Caught between growing public concern and entrenched auto-industry opposition to minimum roll-over safety standards, the government finessed the politics of the situation by introducing compulsory roll-over ratings.

Based on government data of roll-over propensity given a side-on or head-on accident, the roll-over ratings used a simple five-star system. A five-star vehicle had a less than 10 per cent chance of rolling over, while a one-star vehicle had a 40 per cent or more chance of rolling over. Evidence suggests that this measure succeeded in sparking a race to the top, as SUV manufacturers sought to improve their own safety standards, and began using favourable ratings in their own marketing. The system is also credited with accelerating the introduction of stabilisation technology, eventually paving the way for the introduction of minimum safety standards.⁵

The failed FuelWatch and GroceryChoice schemes in Australia highlight the challenges associated with getting even relatively simple targeted transparency policy right. These policies, similar in design and intention, fitted the atmospherics of an Opposition campaign, which highlighted costs of living. They were ideally suited to the appearance of 'doing something' and had they been implemented in a reasonably cost effective way may have made some contribution to transparency for shoppers and in so doing imposed some disciplines on retail margins in supermarkets where there is limited competition. But they were never going to make a major impact on the cost of living. Their central political purpose was rather to allow the Government to claim that it had a plan to squeeze supermarket margins. Both programs failed to overcome industry opposition and to build a politically sustainable base. This opposition went on to undermine the usefulness of the information gathered, and ultimately scuttle the programs altogether (see Box 2).

⁵ For a full discussion see: Fung *et al* 2007.



Box 2: *FuelWatch* and *GroceryChoice*

One of the centrepieces of the ALP government's election campaign was bringing the cost of living down, particularly the cost of fuel and food. This was to be done, not through price regulation, but by increasing competition in the industry and empowering consumers with information. The new ALP Government moved to introduce the *FuelWatch* and *GroceryChoice* websites. The websites were to provide consumers with up to date information on fuel and grocery prices. This would enable consumers to find the lowest cost items and in turn increase pressure on petrol stations and supermarkets – two sectors with only a few major competitors – to reduce margins.

In the end both schemes were scrapped. The *GroceryChoice* program was sunk less than a week before the site was due to be launched. Both schemes suffered from three fatal flaws. First of all, there were fundamental problems with program design. In particular, they worked against other competitive forces in the industry. *FuelWatch* forced petrol stations to lock in prices for a 24-hour period. Small and independent retailers argued that changing prices through the day was one of the main ways they were able to compete with the bigger players. Small supermarkets argued that they faced a relatively greater cost of compliance with the *GroceryChoice* scheme, though they may also have had higher prices and been disadvantaged by the initiative's regulatory intent.

Second, they were unable to provide consumers with up-to-date, useable information. In the case of *GroceryChoice*, supermarket prices varied from chain to chain, but also from store to store, depending on suburb level competition. Prices even varied through the day. Retailers claimed that they were only able to supply average prices of goods across regional stores, twice a week. Such untimely information would be of little use to consumers.

Third, both schemes encountered considerable industry resistance. While Aldi and Foodworks supported *GroceryWatch*, Coles and Woolworths actively opposed the measure. Consumer advocate group *Choice*, the body charged with administering the website, argued that check-outs are automatically updated, and there should therefore be little cost to supplying the required information. Coles argued that even providing the twice weekly averages would cost \$8 million a year. This further frustrated attempts to provide consumers with something useful, and ultimately killed the schemes.

Even in the few years that have passed since the sites were scrapped, we know more about how to make such complex ventures work. Had we persevered we may well have been able to bring much of the lightweight architecture of Web 2.0 – including crowdsourcing to the task of providing much of the necessary information.

3 Complex targeted transparency

Many information and policy needs are far from simple. This is particularly true in areas of social service provision such as education and health. Governments have made important attempts to improve information flows in these areas. And to an extent they've done so with similar motives to the motives of simpler targeted



transparency regimes – that is they seek to empower consumers to understand what service offerings are the best for them to enhance consumer welfare and to do what they can to support a ‘race to the top’ from providers seeking to attract customers.

The current Federal Government has established two sites – *MySchool* and *MyHospital* – to provide information on schools and hospitals. Owing to its newness and to resource and space constraints we do not explore the latter site, but we do explore aspects of the MySchool experience below, even though it is also a very recent development.

3.1 MySchool

My School was launched just over two years ago in January 2010. It’s purpose is to enable people to look at performance and other data for schools, such as standardised test scores, gender mix, and generalised information about the socio-economic backgrounds of children at the school.⁶In March 2011 a revised website was launched which addressed some concerns about the first version and included more accurate data, more information about schools, such as completion rates, finances, and vocational training (Bonnor, 2011a).The My School website facilitates comparisons – most notably NAPLAN scores – between what it calls statistically similar schools.⁷

Masterset *al.* (2008) were instrumental in preparing the My School website. They reviewed the existing literature and the US No Child Left Behind (NCLB) program and determined that the My School website would be most effective if:

- There was not undue focus on the measured and reported aspects;
- Data was not simplified into ‘league tables’;
- ‘Adjusted’ measures should not be used, but rather comparisons should be facilitated between statistically similar schools;
- Year on year improvements in student scores is used as a metric of school performance rather than absolute levels of student scores.

It makes it easy to compare schools, but the usefulness of this is debatable given that the choice made by parents about which school to send their children to will typically be geographical. Comparison between local schools is possible but is probably misusing the data as the schools in a local area will often not have comparable student intakes and thus not be statistically similar. The MySchool website along with the standardised testing of NAPLAN, which is the primary variable compared between schools, resembles the methodology of the loner running NCLB program in the US which has increased accountability and transparency in the US through a

⁶ According to the Australian Curriculum, Assessment and Reporting Authority, “greater transparency and accountability for the performance of schools was essential to ensure that every Australian child receives the highest-quality education and opportunities to participate in employment and in society.” (MySchool FAQs www.acara.edu.au/verve/_resources/FAQs.pdf)

⁷ The OECD report ‘Delivering School Transparency in Australia’ was very positive about MySchool building upon international experience, scientific evidence, and wide consultation to provide the public with comparative information on school performance.



program of standardised tests, publication of results and intervention at underperforming schools.

There seems to be some evidence that NCLB does increase school performance, although improvements were found in math scores similar improvements were not found in reading scores and there may be transfer of effort from unmeasured parts of the curriculum (Dee & Jacob 2011). Nevertheless NCLB has been criticised for encouraging 'teaching to the test', ignoring vital education areas such as science and history, and for penalising disadvantaged schools and students. While these complaints have also been raised about MySchool, Masters *et al* proposed using year on year improvements to compare schools.

All this points to the complexity of the issues involved and the degree to which they involve highly contentious judgements, not just between specific interest groups like teachers, administrators, principals, parents and students, but also between philosophies of education and ultimately between values. All these considerations suggest that the resulting transparency regime will be complex and that its introduction will be highly politically contentious. The political process through which it gets introduced is accordingly likely to involve some compromises. Thus

Masters *et al* recommended that the MySchool site should only facilitate comparisons between statistically similar schools. This was to address concerns that the site would encourage 'league tables' that would conflate absolute performance of schools with their 'value added' given the socio-economic and parental background of students. As a result the site goes to considerable lengths to present the data in a manner that it regards as appropriate. Yet this is open to at least two objections. Firstly it is not appropriate for the designers of the site to specify the ways in which its data should and should not be used. There are myriad worthwhile uses of data and indeed many may not have been thought of when particular data is collected and released. It is for this reason that the Government 2.0 Taskforce (2009) recommended, and the Federal Government accepted, the principle that where the government releases data to the public it should generally release it in machine-readable form and licenced to permit anyone to add value to the data in any manner they think fit. Of course this may lead to misleading claims being made about the data but a free society typically puts more faith in something worthwhile emerging from open debate than it does in insisting on one authorised way of using data. In fact the MySchool website has a very restrictive copyright licence.⁸ Not only does this stifle legitimate uses of the data but it also makes it more difficult for alternative sites to use the data in ways that may make it easier or more useful for people to use.

Moreover in fact the MySchool website can easily be used to make invalid comparisons between schools that are not statistically similar. It is actually easier to compare NAPLAN levels than year on year improvements. Further, the 'similar schools' component of the website that compares school results uses the absolute NAPLAN levels which is what Masters *et al* warned against. MySchool might be used to identify successful teaching and management techniques but this is not its objective and has not been designed to make this easy. However, specific NAPLAN data may be more useful for research purposes. In the US, New York City, Texas,

⁸<http://www.myschool.edu.au/Copyright.aspx>



Florida, and North Carolina have made anonymous student-level data available to researchers to help identify successful teaching approaches.

Certainly the MySchool experience so far suggests that Fung *et al* are right in stressing the difficulties of conveying complex information. However to a considerable extent, the provision of information about education is necessarily complex. The issues are subtler and more methodologically contestable and they are far more diverse than for instance reducing the energy intensity of whitegoods or improving the stability of SUVs. Governments have not mastered the art of presenting complex data to the community whereas the entrepreneurs of Web 2.0 have built numerous platforms that both engage people and provide very valuable and complex information. For this reason it seems likely that the problems of complex transparency will be best solved in the context of a more open model – in line with the recommendations of the Government 2.0 Taskforce. This would enable those with an interest to present the data in ways they felt were appropriate and to do so in a way that they thought would be most useful for users. Moreover governments could assist by:

- Participating in the field of ‘retailing’ the data on their own websites;
- Opening up their own data as a free ‘wholesaler’ to let others use, manipulate and present the data in other ways; and
- Funding research, competitions, prizes and other activities to open up the problem to those who can find the best ways of presenting the data and engaging the public in it.

4 Behavioural Economics and pro-social behaviour

In the discussion thus far, where existing information has been better disseminated, or where improvements in the architecture of systems have led to more useable and relevant information emerging, the benefit of the improvements has been that people can use the information to protect or advance their own interests. Those interests may be pecuniary – as in the case of finding a better financial advisor or a cheaper supermarket – or broader interests, as might be advanced by a worker choosing to work in a safer workplace.

Even here elements of public good remain to be considered. Given that reputational information becomes progressively more useful the more observations one is able to aggregate, there is always a social dimension to information. Nevertheless in the remainder of this report we explore situations where the policy objective is to encourage pro-social behaviour, where people behave not primarily or even at all to advantage themselves, but rather to ‘do the right thing’. This is a subject about which economists had little to say until the advent of behavioural economics, and it is to this that we now turn before examining examples of policies to promote pro-social behaviour.



4.1 Behavioural economics

Behavioural economics cannot properly be understood without an appreciation of the field as a reaction to the extreme assumptions of rationality as they have been made within the orthodoxy of neoclassical economics. Here actors in the economy – whether they be firms, consumers or sometimes even politicians within a ‘public choice’ framework – are modelled as being perfectly, indeed omnisciently, rational. That means that they are in possession of all the information about the past and indeed the future and can calculate what is in their own best interests. Most economists using such models are not foolish enough to think that this is how the world actually is. A model is just that – a model, or simplification of reality – and assumptions about perfect knowledge and rationality are part of the apparatus whereby economists take to its logical conclusion Adam Smith’s idea that the order that emerges from agents pursuing their own self interest can often suit the social interest as well as any other kind of order.

This has its uses but has unfortunately led to many phenomena becoming invisible in economists’ models. The shortcomings of this situation have been noted by scholars for many decades. Herbert Simon received the 1978 Nobel Memorial Prize in Economics for his work as early as the 1950s and ’60s on decision making in the presence of limited knowledge and/or cognitive capacity. But the juggernaut of economic orthodoxy rolled on through the 1960s and beyond. Behavioural economics emerged in earnest in the 1990s and received recognition with the award of the 2002 Nobel Memorial Prize in Economics to one of the founding figures in the sub-field, Daniel Kahneman.⁹ It has since burgeoned as a catalogue of the economic implications of human cognitive heuristics with their attendant biases and shortcomings from the perspective of the neoclassical standard of perfect rationality.

The significance of behavioural economics extends far beyond the terms of information policy (see Appendix Two). However, the request for tender seeks an elucidation from behavioural economics of difficulties that can accompany pricing mechanisms. In this regard the canonical article details an experiment done in an Israeli kindergarten (Gneezy and Rustichini 2000). Here, fines were imposed on parents who came late to pick up their children. Perversely this *increased* parental tardiness. In effect the imposition of the fine changed the ‘framing’ of the situation, the ‘ethical world’ from which the parents viewed it. The initial frame was one of mutual social obligation in which, as decent people, the childcare workers looked after the children for the designated period and part of the parents’ side of the (implicit social) bargain was not to keep the workers waiting. Once the fine was imposed the ‘frame’ or ‘ethical world’ informing parents understanding of appropriate behaviour became that of the market where people are expected to suit themselves. Indeed sellers are typically *pleased* to sell more rather than less of their product.

This transition from the initial world of social obligation to one of mercenary reciprocity can be captured in Figure 2 below. It illustrates the transition from

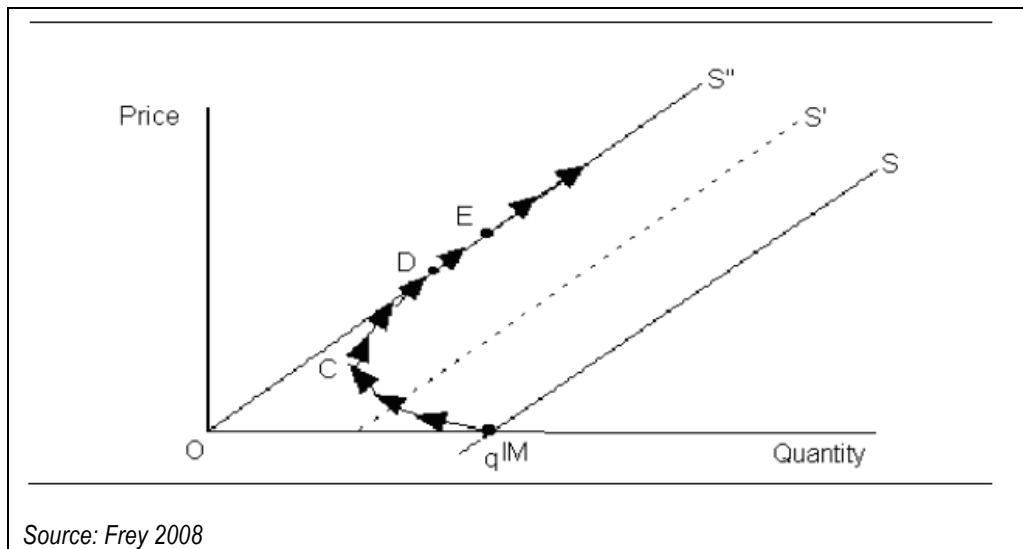
⁹ It is widely considered that, if his long-time collaborator Amos Tversky had still been alive, he would have shared the award.



voluntary to paid activity. Many activities are engaged in for their own sake and provide those that engage in them with intrinsic motivation. If one pays volunteers for the work they do, a well-recognised phenomenon is the way extrinsic motivation can 'crowd out' the intrinsic motivation of the volunteer. As Levitt and Dubner put it colourfully with regard to commercialising blood donation, remuneration turns "a noble act of charity into a painful way to make a few dollars" (2005, p. 24).

In the example illustrated below, the introduction of a small payment leads the supply of labour to fall, which is represented by a leftward shift of the labour supply curve from S to S' . As remuneration rises, intrinsic motivation continues to be crowded out and, in the diagram, the supply curve continues to shift to S'' , which illustrates a supply curve in which intrinsic motivation is extinguished (note the supply at a zero price in this supply curve is zero). After remuneration is increased sufficiently it becomes possible to finally exceed the supply that was provided voluntarily. Here, however, it may be that it is more difficult to maintain intrinsic motivation (which is often crowded out by extrinsic motivation), and this may be relevant to the quality of work done, or to a range of ancillary issues. High intrinsic motivation tends to generate higher preparedness to improvise and innovate in sensible ways, to cooperate with others and to 'do the right thing' (Pink 2009).

Figure 2: Labour supply curves and the intrinsic motivation of volunteers



As Bowles (2008, p. 1606) observes:

Behavioural experiments that model the voluntary provision of public goods and relationships between principals and agents show that substantial fractions of most populations adhere to moral rules, willingly give to others, and punish those who offend standards of appropriate behavior, even at a cost to them selves and with no expectation of material reward.

This reservoir of goodwill is a critical resource in our society and our economy. The economic incentives of markets have also been crucial to the prosperity modern



societies enjoy. But the two are in some tension with each other. For the extrinsic motivation of market incentives can 'crowd out' people's intrinsic motivation to do the right thing for the sake of it. At the same time as Adam Smith argued in his first book *The Theory of Moral Sentiments*, the efficient functioning of a market society actually depends in myriad ways on people doing the right thing – even where there may be no economic incentive to do so. And yet it is also possible to rely too heavily on people's desire to do the right thing. For usually there will be some who do not do the right thing. And if they become numerous or conspicuous enough there is strong evidence that this can undermine people's support of the common ethos, at least in their own behaviour.

**Box 3: Bruno Frey on intrinsic and extrinsic motivation:
Minimising crowding out and maximising crowding in**

The following conditions determine which rewards negatively or positively affect intrinsic motivation:

- External intervention crowds out intrinsic motivation, if the individuals affected perceive the intervening individuals to be controlling. Self-determination, self-esteem and the possibility for expression suffer, and the individuals react by reducing their intrinsic motivation in the activity controlled.
- External intervention crowds in intrinsic motivation if the individuals concerned perceive it as supportive (or informative in a positive way). Self-esteem is fostered, and individuals feel that their self-determination is encouraged which, in turn, raises intrinsic motivation.

Both conditions are formulated in terms of subjective perceptions. Psychologists, however, have gone further, and have identified conditions applying more generally. Thus, the undermining effect is found to be the stronger:

- the more the rewards are expected (unexpected rewards do not crowd out intrinsic motivation, or do so only weakly)
- the more salient the reward
- the more contingent the reward is on the task or on performance
- the more deadlines and threats are used
- the more intensive the surveillance
- the more routine the rewarded work.

Source: Bruno Frey, 2008, p. 41.

The experimental evidence shows that people seem naturally well disposed to building public goods – including by making contributions of their own effort and/or resources – in many settings. In a typical public goods game a number of subjects begin with an amount of money that they can either keep or invest themselves or contribute it to a common pool that generates higher levels of returns but pays them out equally to all subjects regardless of their own contribution. This places every subject in a situation not dissimilar to the situation we are in when deciding whether or not to cheat on our taxes. If others cooperate we'll all be better off, but the



alternative choice is to free ride of others' cooperation and to keep one's own money to oneself. Of course this works in the short run, but as others discover the cheating, they may not be so well disposed to cooperate themselves.

The idea that people act like '*homo economicus*' – and so act exclusively self-regardingly is embedded in much economic modelling is, as Gintis observes, wrong. On the other hand people are far from perfectly other regarding. Marwell and Ames (1979, 1980) found that the subjects often contributed about half of their initial money into the common pool. However, if subjects are involved in a series of public goods games then the mean contribution tends to decline over time (Isaac *et al.* 1984). In other experiments contributions to the common pool have seemed to increase with: non-binding communication, very large group sizes (Isaac *et al.* 1994) and the ability of subjects to punish each other (Fehr and Gächter 2002). Interestingly, the disclosures of identity of either the largest contributors or smallest contributors both also seem to increase the contributions to the common pool (Jacquet *et al.* 2011).

However, in situations without these mitigating factors, the decline in contributions to the common pool from averaging about half to only about 10 or 20 per cent occurs over about 10 repetitions regardless of whether the group is kept the same or is completely new (Andreoni 1988, Croson 1996). So while there is definitely an appetite for pro-social behaviour, it can be fragile in various circumstances. In the experiments documented above it quickly breaks down where people feel that others are not reciprocating their own contributions.

In this regard appealing to pro-social behaviour is no panacea. Particularly in a world of concern about the extent of spin from politicians and perhaps others in authority, often messages to 'do the right thing' are undercut by cynicism. Often it turns out that people's views about collective decisions preserve for themselves particular privileges. Thus the number of people in favour of action on climate change drops precipitately when people think it may involve pain, not just for others but for themselves.¹⁰

Indeed, the issues are well illustrated in the case of action on pollution. Stigmatising polluters will generally be a less efficient means of reducing pollution than regulating including, if it is practical, introducing economic instruments. In this case not only does the price radiate information about the opportunity costs of alternative actions for all involved in the market – creating incentives to reduce emissions, or consumption or production as the case may be, but also incentives to conduct research and development to develop new technologies. And in each case, because of the 'miraculous' properties of the price system outlined by Hayek (1945) at the outset of Part One of this report, every actor can identify the *most* cost-efficient steps they can take. Further if such a world is politically stable, then it is likely to be 'morally stable', which is to say that those who do not contribute to emissions reductions end up making payments to those who do.

¹⁰The 2011 Garnaut Review Update considered a number of studies (for instance Leviston, Z., 2011) that found that, despite broad popular support for tackling climate change, far fewer people – only a third to a half of respondents – were willing to pay more for electricity, fuel, and taxes themselves, or to decrease their standard of living. (<http://www.garnautreview.org.au/update-2011/commissioned-work/australians-view-of-climate-change.htm>)



This prevents the collapse of the social effort to build the public good of a cleaner environment for all. Though he acknowledges the ways in which external incentives can undermine moral sentiments, Bowles (2008, 1609) also insists on the importance of understanding that they can also “work synergistically as complements”.

The rule of law and other institutional designs limit the more extreme forms of antisocial behavior and facilitate mutually beneficial interactions beyond the family. This may enhance the salience of social preferences by assuring people that those who conform to moral norms will not be exploited by their self-interested fellow citizens. This phenomenon may have been at work among the Hokkaido University subjects who cooperated more in a public goods experiment when assured that others who did not cooperate would be punished despite the fact that this had no effect on the subjects' own material incentives. They apparently wanted to be cooperative but wished even more to avoid being the sucker who is exploited by defectors. Similar synergies occur in natural settings: Social norms support observance of traffic regulations, but these may unravel in the absence of state-imposed sanctions on flagrant violations.

4.2 The principles of behavioural economics: as illustrated by the South East Queensland Water Commission's Millennium Drought Program

During the 'millennium drought' in Queensland, the Queensland Water Commission (QWC)¹¹ was successful in orchestrating the pro-social inclinations of Queenslanders to deliver a substantial change in Queensland householders' water use practices. Moreover to a large extent the changes wrought became the 'new normal' for householders whose water consumption was substantially reduced even after water restrictions were lifted. It developed a website to help households find ways to save water and reduce water consumption. The QWC also made the publication of dam levels and daily water usage figures a central part of its campaign. This 'feedback' of public data served to focus the community on the importance of water conservation and their own ability to take action.

Extrinsic motivations had been relied upon with increasingly strict water restrictions. However, water restrictions applied only to use of water outside the house. This in itself showed a sensible regard for maintaining the community's morale in the application of restrictions. Restrictions on water use are broadly subject to surveillance where they are outside the house as neighbours or officials can observe breaches with the regulatory regime and impose penalties. It is important that this prospect is held out because it shows those who are seeking to do the right thing that they are not being exploited by others. For as we have seen, the evidence shows that if they thought they were being exploited by others, their efforts would flag, perhaps very substantially. However, extending restrictions to the inside of the house (for

¹¹ The Queensland Water Commission (QWC) was established in June 2006 and functions as an independent statutory authority. It is mandated to ensure safe, secure and sustainable water supplies for South East Queensland and is answerable to the Queensland State Government (QWC 2008).



instance specifying that showers must not exceed some particular duration) would not be observable. If this were not subjected to immediate public ridicule, it would lead to stories circulating about households not adhering to the restrictions but not being penalised for so doing. This would likely undermine faith in the scheme.

In April 2007, in the grip of the worst drought on record with rainfall less than 10 per cent of its average level (Qld Govt 2007) South East Queensland's water supply was at 19.5 per cent capacity, and was projected to fall to below 6 per cent in the coming year. The Queensland government had recently invested in additional supply, but none of it was set to come on line until the end of 2008 (Watson and Hume 2011).

Existing water saving measures had proved effective, but by 2007, it was clear that they would not go far enough. Schemes to retrofit homes with more water-efficient devices, rebates for water-tanks, and increasing water restrictions had reduced residential water use from over 300 litres per person per day in 2005 to under 180 litres (Watson and Hume 2011). However, QWC calculations indicated that to maintain dam levels at above 10 per cent capacity which they judged necessary to secure supply until additional investment came on stream in late 2008, residential water use needed to fall to 140 litres per person per day.

In May 2007, the QWC launched the 'Target 140' campaign, which focused on bringing residential water consumption under the critical 140-litre level. QWC chose to focus on a tangible accountable target that was easily understood by consumers (Watson and Hume 2011).

Market research by McCann Erickson identified three key beliefs that needed to be tackled (Watson and Hume 2011, p. 218). They were that:

1. The water shortage was not critical
2. Businesses were the major users of water
3. Individuals could not make a difference

An extensive media campaign therefore sought to bring home the seriousness of the current situation, inform people that households were in fact responsible for 70 per cent of overall water use and then sought to personalise the solution by providing households with strategies for reducing their own water usage. Television advertising was a primary means of communicating this message, but the campaign also engaged direct mail, print media, radio, online advertising and outdoor billboards (McCann Erickson 2009).

QWC's strategic priority was reducing the duration of showers. With research showing that showers accounted for around a third of household water consumption, the campaign sought to reduce shower duration from the then average of seven minutes to four minutes. Over a million households were issued with a free four-minute shower timer, along with an information booklet containing a number of water saving tips, backed up by the campaign's website www.target140.com which contained, amongst other things, a 'virtual house' that highlighted water saving tips room by room.

Providing the community with feedback was also an important feature of the campaign. The QWC sought to inform households about how they were performing



against the 140-litre target, and to congratulate or encourage as required. The region's performance relative to the target was synthesised into an easily understood graphical form, while dam water levels, as a per cent of capacity, became a standard feature of television and radio weather reports. Water utility bills also started to include clear measures of water consumption, and consumers could easily compare water usage against previous quarters. The QWC continues to publish aggregate water-consumption data on a weekly basis.

The campaign has been hailed as a resounding success, an archetypal case of managing effective demand through "attitudinal marketing strategies" (Hume 2011). It has won a host of advertising and marketing awards (Watson and Hume 2011). Residential water use fell from 180 litres prior to the campaign, to 129 litres per person per day, representing a saving of approximately 39 billion litres in the 2007/08 financial year (QWC 2008). Importantly, dam levels were successfully preserved, with dam capacity bottoming out at 16.7 per cent. A crisis had been averted.

Even when they are successful in the short term, campaigns appealing to 'doing the right thing' can be subject to two effects, each in tension with the other – habit formation and message fatigue or fragmentation. One of the most robust phenomena in modern psychology, imported into behavioural economics, is salience bias. We tend to be most influenced by what is most salient, and this imposes major constraints on how many things we can pay attention to at any given time. Thus not only is there likely to be a limit on the effectiveness of pro-social programs because of their brittleness when people suspect that others are not pulling their weight, but there also may be a limit to the *number* of appeals that can be effective at any one time. On the other hand temporary focus on particular issues can change habits well beyond the campaign period, perhaps permanently.

Certainly the effect of the campaign has engendered a shift in consumer behaviour that has outlasted the campaign. Even though the residential target was lifted in stages, first to 170 litres, then to its current level of 200 litres, consumption has held around 'Target 140' levels. Four years on, and following several years of regional flooding, current consumption is still only around 150 litres per person per day (QWC 2012). This reflects the enduring impact of the 'Target 140' campaign, as well as the effectiveness of other structural demand management policies implemented by the QWC since its inception.

The total campaign budget was reportedly \$3.6 million (McCann Erickson 2009). As a benchmark, McCann Erickson estimate that the 20,680 million litres of water saved during the eight months of 'Target 140' campaign, at market rates, was worth \$19.2 million. This represents an impressive return on investment. However, this probably underestimates the value of the 'Target 140' campaign. As noted, the campaign has had an enduring effect on water consumption and the amount of water ultimately saved as a result of the campaign is probably much greater. Furthermore, if dam levels had fallen to critical levels, the emergency response required would have surely involved severe economic and social consequences.

Notable aspects of the campaign were its sophisticated understanding of behavioural theory (explained in Watson and Hume 2011) and its extensive pre-campaign research. In particular the designers of the campaign appear to have understood:



- ***the difficulty and sensitivity of the task***

What happens within the home is private both in the sense that it cannot be observed to determine compliance with policies, and in the sense that people regard it as their own business. In this circumstance it would be easy to undermine intrinsic motivation with market incentives or with penalties, which may have focused householders on the injustice of the intrusion and/or on others' non-compliance with water saving.

- ***the scope to use complementary measures***

Thus the campaign 'helped' with assistance with water saving appliances while it 'hassled' with shower timers and constant reminders of the need to save water.

- ***the potential counter-productiveness of heavy handed extrinsic motivation***

The instinct of some public policy specialists would be to price water. Yet the kind of repricing necessary to produce the necessary response would have been huge and would have been resented as the burden of reductions would have fallen on the poor.¹²

- ***the importance of focus, accountability and feedback***

The campaign broke through to people that this was not just another government behaviour change, feel-good or PR program. It convinced people of the truth that without change the community faced serious consequences. It also provided people with a great deal of reinforcement with media reports on the state of water capacity and the progress of the campaign.

4.3 Transparency for political action

As has been seen with the Global Reporting Initiative (GRI), one important motivation for transparency initiatives is that of informing the community. Pollutant Release and Transfer Registers (PRTRs) are publicly available databases of the amounts of polluting chemicals released into the environment (See Box 4). Naturally such registers can be of interest to specific people in specific locations, but they are also a means by which political activists can seek to hold emitters of pollutants to account.

¹² In fact, just as is happening with the introduction of carbon pricing, it would have been possible to recirculate any surcharge paid by households back to all households. But this could not have been done perfectly and would almost certainly have been resented by many. Further it would have recast the whole exercise in a 'market framework' which would have been inviting people to suit themselves. Again this would have weighed against the goodwill that was essential to getting a broad-based response to the campaign.



Box 4: The NPI and Pollutant Release and Transfer Registers

Pollutant Release and Transfer Registers (PRTRs) are publicly available databases of the amounts of polluting chemicals released into the environment. Examples of PRTRs required by regulation include the National Pollutant Inventory (NPI) in Australia; the Toxic Release Inventory (TRI) in the United States; the Pollutant Emission Register in the Netherlands; and the National Pollutant Release Inventory in Canada.

The most influential of these has been the TRI, which launched in 1987. The TRI was developed in response to community concerns about chemical accidents and a community right-to-know about the emissions of toxic chemicals. It requires a range of US facilities to estimate their emissions of a wide range of toxic chemicals and these estimates are then made publicly available.

The TRI collects data in standardised units, which makes emission comparisons possible across companies, across geographical areas or over time. However, the TRI has been criticised for failing to take account of important factors such as the method of chemical disposal, the risk to populations or measures of relative toxicity (Karkkainen 2001).

The Australian NPI is very similar to the TRI but builds upon some of the identified weaknesses by: using a more targeted list of chemicals, including estimates for non-point sources such as transport, agriculture and domestic sources, and estimating emissions from facilities too small to make individual reports.

Noting the reduction in emissions of pollution since their inception, some have suggested that registers have played a role in this (Fung and O'Rourke 2000). However, it is difficult to determine if this is the direct result of the TRI or due to other factors. After all, both the emergence of the TRI and the pressure on firms to reduce emissions are borne of the same emerging community environmental sensibility which it might be argued lay behind both phenomena. Some authors suggest that the TRI may be ineffective at creating public pressure due to the limited ability of lay people to process complex information on hazardous emissions (Bui and Mayer 2003). The principal use of PRTRs remains in helping policy makers manage the aggregated risks of chemical pollution, and helping community groups hold those responsible for pollution in their areas to account.

As with the GRI, it was hoped by many that the financial sector would use the information in such inventories and apply pressure to emitters, either under pressure themselves from activist groups to do so or because the information disclosed reputational risk for the firms involved. But, with the exception of the socially responsible investment community, which represents a very small percentage of all investment funds (Brown 2009, p. 575), the hopes for such inventories in this regard have proven elusive. A further problem is that even social activists use the information provided in the registers only sporadically. Brown *et al.* report (2009, pp. 575-6) as follows regarding the GRI:

The low use of GRI reports by civil society organizations and other NGOs, consumer organizations, organized labor, and the media has been a long standing concern to GRI Secretariat. . . [E]xtensive study by Palenberg *et al.*,



. . . concludes that the use of non-financial reports, including GRI, is insignificant. . . [T]he main problem seems structural, namely that the information in GRI reports is not very useful for their issue-specific activist tactics.

A common complaint is that the information “is not detailed enough”, “does not give an adequate picture of the impacts on local communities and social conditions”, is not “situation-specific”, is “too processes oriented, rather than performance”, or is “disconnected from the realities on the ground”. On the other hand, for the media the information is excessive and unfocused. Noted a journalist: “[they] write these nice reports. What do we do with them? Nothing, just put them on the pile”.

5 Conclusion

Fung *et al* provide a useful summary of principles for policy makers embarking on what they call targeted transparency which is to say the establishment of specific policy regimes for conveying information to consumers to promote some specific policy objective. Firstly, measures should be user centred, focusing on the needs and interests of users embedding new information into the decision-making routines of users and in turn providing incentives for producers to provide products which better meet users needs and in so doing promote specific policy objectives.

Secondly targeted transparency measures must be sustainable. Powerful, well-organised users help establish transparency regimes just as powerful, well-organised disclosers have the best chance of resisting them. To be sustainable, the regime should gain in use, accuracy, and scope over time. Such improvement is important because policies inevitably start as compromises, because markets and public priorities change, and because policymakers constantly need to fill loopholes discovered by reluctant information disclosers.

Finally behavioural economics shows us that where policy goals are sought, human motivation is complex and information can help promote citizens’ pro-social inclinations. Provided it does not appear to be exploitative, and in so doing play those who are prepared to do the right thing for ‘suckers’, it can be an important tool to improve economic and social outcomes.



Appendix: Behavioural Economics

Much economic theory is built upon a very simplistic conception of individual motivations coupled with an heroic conception of that individual's cognitive capacities. It generally assumes that individuals are completely self-interested, have an understanding of what maximises their utility (makes them happy), and are able to process all relevant information necessary to pursuing their own happiness. *Homo economicus* is not intended as a realistic theory of human nature. Rather, it is one of the many abstractions required to build tractable models from the infinite complexities of the world.

However, such a conception of individual capacities and motivations does leave traditional economics at a loss to explain much observed human behaviour. The emerging field of behavioural economics is an attempt to fill this gap. Some of the key contributions behavioural economics has made to our understanding of the individual are outlined below.

Framing

Tversky and Kahneman (1981) found that the presentation of a problem could have a dramatic impact on people's perceptions of it, and so on the preferences they displayed in response to the problem. In one experiment, people were asked to choose between two policy options for preventing disease. In one group, the policy was presented in terms of saving lives, and people chose the policy with the less variable outcome. However, in the other group, the policy was presented in terms of preventing deaths, and people chose the policy with the more variable outcome. Therefore, even though each group was presented with essentially the same policy choice, the 'framing' of the choice had a significant impact on people's preferences.

Vividness

People put too much weight in things that are easy to recall and people tend to recall things that are unusual. Media coverage tends to exacerbate this as unusual events like plane crashes are newsworthy while everyday events like heart disease and not winning the lottery are less so. Sometimes behavioural economists refer to the "availability heuristic" where people put too much confidence in vivid, easily recalled information. An example is that US residents rate their chance of death by homicide as higher than their chance of death by stomach cancer. This is worthy of note for two reasons. Firstly most people ought to know enough to understand how little they know of the relevant statistics. Secondly they guessed wrong. Death by stomach cancer is five times more likely than death by homicide (Lichtenstein et al. 1978).

Anchoring

People have a tendency to be swayed by numbers even if the numbers are not relevant to the task at hand. Tversky and Kahneman (1974) asked people to guess the percentage of African nations that are members of the United Nations but only after the people had been 'primed' with a prior question. In the priming question Tversky and Kahneman spun a wheel numbered from 1–100 in front of the



participants, they were then asked if the percentage of African nations that are members of the United Nations was larger or smaller than the number spun. In the groups where the wheel spun to the number 10, people guessed a much lower proportion of members of the United Nations to be African (25%) than in the groups where the wheel spun 65 (45%).

Hyperbolic Discounting

While it makes sense to discount the future relative to the present in most circumstances the rate of discounting should remain constant. However, people often apply a very high discount rate over the immediate future and a slower discount rate between two future possibilities (Ainslie 1992). This produces the possibility of time inconsistent preferences (Strotz 1955–1956). In their study, people were offered a choice between \$100 in a month's time, or \$110 in two months. Most people chose \$110 in two months. However, after a month the subjects were approached again and asked if they would like to receive \$100 now, rather than wait the additional month for the \$110. Most people chose to take the \$100 then and there.

Risk and Loss Aversion

People are often risk averse, they prefer a less variable option over a more variable option even if they both have the same average value (Tversky and Kahneman 1981). This is tied to the principle of diminishing marginal returns. Because the first use of resources is addressed to our most urgent needs – for instance for food and shelter – gaining access to resources over and above the level necessary to provide these things becomes relatively less important, even though in a 'dollar value' sense they are identical.

However, risk aversion has also been shown to be asymmetric. Kahneman & Tversky (1979) showed that even given identical average values, people preferred a certain gain over a risky gain, but preferred a risky loss over a certain loss. The way the choice is conceived has a significant influence on the choice that is made.

People seem to assign more weight to losses than to gains. For example, Odean (1998) tracked stock market trades by brokerage firms and found that they were far more likely to sell stocks that were up and far less likely to sell stocks that were down, despite opposing tax incentives. Further, the average change in stock value 252 days after the sale was that the stocks that had gained and been sold had outperformed the market, while the stocks that had dropped in value and been held had underperformed the market

The Endowment Effect and the Sunk Cost Bias

Loss aversion is related to the 'endowment effect' and the 'sunk cost bias'. The endowment effect is the tendency for people to place more value on an object that they own relative to an identical object that they do not (Thaler 1980). For example, when people were offered a choice between chocolates or mugs they chose fairly evenly (58% chose mugs). However, when randomly assigned chocolates or mugs and given the opportunity to swap if they preferred the other gift, only 10% of those assigned chocolates chose mugs while 86% of those assigned mugs chose mugs (Kahneman, Knetsch & Thaler 1990).



The sunk cost effect, the sunk cost fallacy, or the Concorde fallacy is the tendency people have of not letting go of irrecoverable costs (Dawkins & Carlisle 1976, Staw 1981). For example, the British and French governments continued to 'throw good money after bad' in the development of the Concorde jets even after the economic case for the aircraft had fallen through. To not allow the past investment 'to have been a waste' is a common justification for further investment in a losing project. However, from a purely rational perspective, sunk costs are irrelevant, and additional investment, like any investment, should be decided on the merits of its expected returns.

Status Quo Bias

A finding similar to the endowment effect is the status quo bias, the arbitrary preference for a continuation of the current situation over change. For example, Samuelson & Zeckhauser (1988) asked people about a range of decisions but used a variety of questions to vary which options were the status quo, and which options involved changes. They consistently found that when an option was phrased as the status quo, this boosted its attractiveness to subjects and when an option was presented as a change, this reduced its attractiveness. The status quo bias may encourage initial resistance to reforms. However once the change is seen as normal then it gains greater acceptance. Thus for instance, rules mandating the wearing of automotive seatbelts and random breath testing were initially resisted but are now widely supported in the community.

Defaults

Similarly, people are strongly influenced by a default option. For example, in the US if people have to opt into their voluntary pension scheme few do, however, if the default is that some money is transferred into a pension scheme few opt out (Madrian & Shea 2001). Cass Sunstein and Richard Thaler present a range of suggestions for utilising this bias to produce pro-social outcomes in public policy (Sunstein & Thaler 2003).

Conformity

People will tend to follow what other people have done and be more confident of their own actions if others have followed them. For example, Asch (1955) asked people to do a trivial task of comparing line lengths, a task that people correctly performed 99% of the time. However, when the question came after a series of actors had deliberately and unanimously given an incorrect answer people became stressed, spoke in a low voice, smiled in an embarrassed way and often (as much as 37% of the time) gave the same answer as the actors despite the correct answer being clear. This is a powerful force for policy makers as it suggests that successful reforms will stick once people have started to change their behaviour. For example, Trotter et al. (2002) argues that restricting smoking in public areas has resulted in less smoking in private as people see fewer people demonstrating the behaviour.



Fairness

People value fairness (Kahneman, Knetsch & Thaler 1986, Fehr & Schmidt 1999). This is demonstrated by results from many experiments including those deploying “the dictator game” where one player, the Proposer, is given an amount of money and asked if they would like to give some of it to another player. The Receiver has no ability to manipulate the game but even in one-off plays, the Proposer often ignores self interest by giving non-zero amounts to the Receiver (Camerer & Thaler 1995, Hoffman, McCabe & Smith 1996). Fairness and a general desire to ‘do the right thing’ can be used by government to encourage pro-social behaviour. For example, people donate blood even when there is no direct benefit to them.

Heuristics

When people are confronted with a complex, confusing or poorly understood question they often rely upon a heuristic or rule of thumb to make a decision. These heuristics are often to go with the most popular, the default, or to choose based on only one aspect. The influential power of ‘star-ratings’ for example can be understood in this context.



References

- Ainslie, G., 1992. *Picoeconomics: the strategic interaction of successive motivational states within the person*, UK, Cambridge University Press.
- Andreoni, J., 1988. "Why Free Ride? Strategies and Learning in Public Goods Experiments", *Journal of Public Economics*, 37(3), pp. 291-304.
- Asch, S. E., 1955. "Opinions and social pressure", *Scientific American*, 193, pp. 31–35.
- Bonnor, C., 2011. "My School 2.0: getting better by degrees?" *Inside Story*, available at <http://inside.org.au/my-school-2-0-getting-better-by-degrees/>
- Bowles, Samuel, et al., 2008. "Policies Designed for Self-Interested Citizens May Undermine 'The Moral Sentiments': Evidence from Economic Experiments", *Science*, 320, pp. 1605-9
- Brown, H. S., de Jong, M. and Levy, D. L., 2009. "Building institutions based on information disclosure: lessons from GRI's sustainability reporting", *Journal of Cleaner Production*, 17, pp. 571–580.
- Bui, L. T. M. and Mayer, C. J., 2003. "Regulation and Capitalization of Environmental Amenities: Evidence from the Toxic Release Inventory in Massachusetts", *The Review of Economics and Statistics*, 85(3), pp. 693-708.
- Camerer, C. and Thaler, R. H., 1995. "Anomalies: ultimatums, dictators and manners", *Journal of Economic Perspectives*, 9 (2), pp. 209–219.
- Croson, R. T. A., 1996. "Partners and strangers revisited", *Economics Letters*, 53(1), pp. 25-32.
- Dawkins, R. and Carlisle, T. R., 1976. "Parental investment, mate desertion and a fallacy", *Nature*, 262, pp. 131–133.
- Dee, Thomas S. and Jacob, Brian, 2011. "The impact of no Child Left Behind on student achievement", *Journal of Policy Analysis and Management*, 30(3), pp. 418-446.
- Ellis, M., du Pont, P. and Lane, K., 2006. "Communities of Practice: A new approach for co-ordinating energy-efficiency standards and labeling programmes".
- Fehr, E. and Gächter, S., 2002. "Altruistic punishment in humans", *Nature*, 415, pp. 137-140.
- Fehr, E. and Schmidt, K. M., 1999. "A theory of fairness, competition, and cooperation", *Quarterly Journal of Economics*, 114 (3), pp. 817–868.
- Frey, B., 2008. "Motivation crowding theory – a new approach to behaviour" in Productivity Commission, 2008, *Behavioural Economics and Public Policy*, Proceedings of a Roundtable in Melbourne 8-9 August 2007, pp. 37-54.
- Fung, A., Graham, M. and Weil, D., 2007. *Full Disclosure: The Perils and Promise of Transparency*, New York: Cambridge University Press.



- Fung, A. and O'Rourke, D., 2000. "Reinventing Environmental Regulation from the Grassroots Up: Explaining and Expanding the Success of the Toxics Release Inventory", *Environmental Management*, 25(2), pp. 115-127.
- Gneezy, U. and Rustichini, A., 2000. "A Fine is a Price", *Journal of Legal Studies*, 29(1), pp. 1-17.
- Government 2.0 Taskforce, 2009. "Engage: Getting on with Government 2.0: Report of the Government 2.0 Taskforce" at <http://www.finance.gov.au/publications/gov20taskforcereport/index.html>
- Hayek, Friedrich A., 1945. "The Use of Knowledge in Society", *American Economic Review*. XXXV, No. 4, pp. 519-30 viewed at <http://www.econlib.org/library/Essays/hykKnw1.html>.
- Hoffman, E., McCabe, K. and Smith, V. L., 1996. "Social distance and other-regarding behavior in dictator games", *American Economic Review*, 86 (3), pp. 653–660.
- Isaac, R. M., Walker, J. M. and Thomas, S. H., 1984. "Divergent Evidence on Free Riding: An Experimental Examination of Possible Explanations", *Public Choice* 43(2), pp. 113-149.
- Isaac, R. M., Walker, J. M. and Williams, A. W., 1994. "Group size and the voluntary provision of public goods", *Journal of Public Economics*, 54(1), pp. 1-36.
- Jacquet, J., Hauert, C., Traulsen, A. and Milinski, M., 2011. "Shame and honour drive cooperation", *Biology Letters*, 7, pp. 899-901.
- Kahneman, D., Knetsch, J. L. and Thaler, R. H., 1986. "Fairness and the assumptions of economics", *Journal of Business*, 59 (4), pp. 285–300.
- Kahneman, D., Knetsch, J. L. and Thaler, R. H., 1990. "Experimental Tests of the Endowment Effect and the Coase Theorem", *Journal of Political Economy*, 98 (6), pp. 1325–1348.
- Kahneman, D. and Tversky, A., 1979. "Prospect Theory: An Analysis of Decision under Risk", *Econometrica*, 47 (2), pp. 263–291.
- Karkkainen, B. C., 2001. "Information As Environmental Regulation: TRI and Performance Benchmarking, Precursor to a New Paradigm?", *89 Georgetown Law Journal*, p. 257.
- Leviston, Z., Leitch, A., Greenhill, M., Leonard, R. and Walker, I., 2011. "Australian's Views of Climate Change", Social & Economic Sciences Program, CSIRO Ecosystem Sciences.
- Levitt, S. and Dubner, S., 2005. *Freakonomics*, New York, HarperCollins.
- Lichtenstein, S., Slovic, P., Fischhoff, B., Layman, M. and Combs, B., 1978. "Judged frequency of lethal events", *Journal of Experimental Psychology: Human Learning and Memory*, 4 (6), pp. 551–578.
- Madrian, B. and Shea, D., 2001. "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior", *Quarterly Journal of Economics*, 116, pp. 1149–1525.



- Mahlia, T.M.I. and Saidur, R., 2010. "A review on test procedure, energy efficiency standards and energy labels for room air conditioners and refrigerator–freezers", *Renewable and Sustainable Energy Reviews*, 14, pp. 1888-1900.
- Marwell, G. and Ames, R. E., 1979. "Experiments on the Provision of Public Goods. I. Resources, Interest, Group Size, and the Free-Rider Problem", *American Journal of Sociology*, 84(6), pp. 1335-1360.
- Marwell, G. and Ames, R. E., 1980. "Experiments on the Provision of Public Goods. II. Provision Points, Stakes, Experience, and the Free-Rider Problem", *American Journal of Sociology*, 85(4), pp. 926-937.
- Masters, Geoff N, Rowley, Glenn, Ainley, John and Khoo, Siek Toon, 2008. "Reporting and comparing school performances", Department of Education, Employment and Workplace Relations: Canberra, Australia.
- McCann Erickson, 2009. *The Australian Effie Awards 2009: Queensland Water Commission Target 140*. McCann Erickson Brisbane, <http://www.effies.com.au/attachments/b6feef08-6239-40df-a691-576aca0c56a6.pdf>, accessed 27 April 2012.
- Odean, T., 1998. "Are Investors Reluctant to Realize Their losses?" , *Journal of Finance*, 53 (5), pp. 1775–1798.
- OECD, 2012. *Delivering School Transparency in Australia: National Reporting through My School*, OECD Publishing.
- Palenberg, M., Reinicke, W. and Witte, JM., 2006. "Trends in non-financial reporting. Paper prepared for the United Nations Environment Programmes", Division of Technology, Industry and Economics (DTIE), November 2006. Berlin, Germany: Global Public Policy Institute, available from www.gppi.net
- Pink, Daniel H., 2009. *Drive: The Surprising Truth About What Motivates Us*, New York, Riverhead Books.
- Qld Govt, 2007. *The South East Queensland Drought to 2007*, Department of Natural Resources and Water, http://www.longpaddock.qld.gov.au/about/publications/pdf/seq_drought_2007.pdf, accessed 27 April 2012.
- QWC, 2007. *Notice of a Commission Water Restriction: Level 5 Water Restriction – residential and non-residential, April 2 2007*. Queensland Water Commission, <http://www.qwc.qld.gov.au/about/pdf/notices/lvl5-restriction.pdf>, accessed 27 April 2012.
- QWC, 2008. *Queensland Water Commission Annual Report 2007–08*, Queensland Water Commission, <http://www.qwc.qld.gov.au/about/pdf/corpdoc/annual-report-0708.pdf>, accessed 27 April 2012.
- QWC, 2012. *Media Release: 'SEQ Water Consumption Steady', 20 April 2012*, <http://www.qwc.qld.gov.au/releases/2012-04-20-daily-water-use.html>, accessed 27 April 2012.
- Samuelson, W. and Zeckhauser, R., 1988. "Status quo bias in decision making", *Journal of Risk and Uncertainty*, 1, pp. 7–59.
- SCRGSP (Steering Committee for the Review of Government Service Provision), 2012. *Report on Government Services 2012*, Productivity Commission, Canberra.



Solomon, D., Webbe, S., McGann, D., 2008. "The Right to Information: Reviewing Queensland's Freedom of Information Act", The State of Queensland, Department of Justice and the Attorney-General: Brisbane.

Staw, B. M., 1981. "The escalation of commitment to a course of action", *Academy of Management Review*, 6 (4), pp. 577–587.

Strotz, R. H., 1955–1956. "Myopia and inconsistency in dynamic utility maximization", *Review of Economic Studies*, 23 (3), pp. 165–180.

Sunstein, C. R. and Thaler, R. H., 2003. "Libertarian Paternalism is not an Oxymoron", *University of Chicago Law Review*, 70 (4), pp. 1159–1202.

Thaler, R., 1980. "Toward a positive theory of consumer choice", *Journal of Economic Behavior and Organization*, 1 (1), pp. 39–60.

Trotter, L., Wakefield, M. and Borland, R., 2002. "Socially cued smoking in bars, nightclubs, and gaming venues: a case for introducing smoke-free policies", *Tobacco Control*, 11 (4), pp. 300–304.

Tversky, A. and Kahneman, D., 1974. "Judgment under Uncertainty: Heuristics and Biases", *Science*, 185 (4157), pp. 1124–1131.

Tversky, A. and Kahneman, D., 1981. "The Framing of Decisions and the Psychology of Choice", *Science*, 211 (4481), pp. 453–458.

Wilkenfeld, G. and associates, 1996. "Electric Appliance Energy Labelling: Estimated Costs and Benefits of Continuation, Abandonment or Enhancement".

Wilkenfeld, G. and associates with assistance from Energy Efficient Strategies, 1999. "Regulatory Impact Statement: Energy Labelling and Minimum Energy Performance Standards for Household Electrical Appliances in Australia", report for the NSW Department of Energy and the Australian Greenhouse Office.

Wilkenfeld, G. and associates, 2010a. "National Regulation of Energy Labelling & Minimum Energy Performance Standards"

Wilkenfeld, G. and associates, 2010b. "Prevention is Cheaper than Cure – Avoiding Carbon Emissions through Energy Efficiency: Projected Impacts of the Equipment Energy Efficiency Program to 2020".

Winton, L., 2006. "Appliance Performance Labelling in Australia and New Zealand - The Findings and Outcomes of the 2005 Quantitative Survey of Consumer Awareness and Use of Appliance Labels", *Artcraft Research*.

