



Analysis

Recycling: Social norms and warm-glow revisited

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ABSTRACT

We examine the role of social norms and warm-glow in a theoretical framework and establish that improving the quality of recycling facilities, for example through kerbside collection, will elicit more recycling effort if warm-glow is present. Drawing on the literature, we model the role of social norms with reference to age profile, ethnicity and geographical location of the reference group. Using English local authority data, we show that a social norm for recycling does exist. We find the expected relationship between the quality of kerbside provision and recycling activity, if the household derives warm-glow from the activity; however, it is insignificant. Amongst the control variables, we find evidence that multifamily dwellings recycle less.

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1. Introduction

Traditionally, the Economics literature on the theory of incentives has focused entirely on the relative price effect of economic instruments (Fehr and Falk, 2002). It is widely accepted that desirable behaviour can be promoted by making monetary rewards/punishments contingent on performance (see e.g. Callan and Thomas, 1997; Jenkins, 1993; Hong, 1999; Hong et al., 1993; Sidique et al., 2010). More recently, there is increasing recognition that individuals are not solely concerned with monetary pay-offs, and non-monetary levers may be used to induce desirable actions (e.g. Frey, 1999; Van den Bergh, 2008). Such interventions appeal to the Psychology literature, which gives prominence to the role of non-pecuniary drivers of pro-environmental behaviour, such as the different norms of behaviour – social, moral, legal, as well as altruism, warm-glow and eco-centrism (Barr et al., 2001; De Young, 1996).¹ Pro-environmental behaviour in general, recycling in particular, has provided a fertile area in which to examine such motives. Recycling can be individually costly, in terms of the opportunity cost of time, and provides

an apparently low pay-off in terms of individual environmental benefit and yet individuals still choose to recycle even in the absence of any monetary incentive. Recent attempts to incorporate psychological determinants of recycling behaviour within an economic framework include Brekke et al. (2003, 2007, 2010), Hage et al. (2009), Halvorsen (2008).² The issues raised in this paper have not been confined only to research traditions within Economics and Psychology. For example, contributions within Sociology have grappled with the notion of norms (Gibbs, 1965) and their evolution over time (Bendor and Swistak, 2001). Within the wider context of waste management, the geographic scale at which industrial recycling should take place (Lyons, 2007) and issues of civic duty and identity and how they relate to recycling behaviour have been addressed within the Geography literature (Riley, 2008).

The move towards considering non-monetary motives and potential interventions that take account of the myriad of reasons why people behave the way they do is also reflected in the policy context. For example, in 2010, the UK government set up the Cabinet Office Behavioural Insights Team whose remit is to 'find innovative ways of encouraging, enabling and supporting people to make better choice for themselves'.³ As

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¹ Barr et al. (2001) do not use the term warm-glow. In their discussion of the intrinsic motive to recycle, it is clear that this is what they are referring to. However, in their empirical analysis the intrinsic motive to recycle captures both enjoyment and belief on the part of the respondent of the efficacy of their action and so does not represent warm-glow alone.

² In the wider context non-monetary motives have been examined in a variety of contexts such as volunteering (Meier and Stutzer, 2008); the labour market (Akerlof, 1982); tax compliance (Graetz and Wilde, 1985), common pool resources (Ostrom, 2000), public goods (Palfrey and Prisbrey, 1997), charitable donations (Andreoni, 1990; Atkinson, 2009).

³ <http://www.cabinetoffice.gov.uk/behavioural-insights-team>, accessed 16/11/12.

well, in its recent review of waste policy, the central government expressed the intention of removing the ability of local government to fine households for presenting their waste incorrectly or on the wrong day (DEFRA, 2011). Current legislation in the UK specifically rules out charging households on a per unit basis for the waste they generate.⁴ However, the current government are very much in favour of rewarding households for recycling, e.g. through vouchers that can be redeemed for goods at local shops.⁵ Other countries are also trying to better understand behaviour with a view to reducing household impact on the environment (OECD, 2008).

We aim to examine further the underlying motives to recycle and contribute to the literature through incorporating social preferences into an economic framework.⁶ Section 2 describes the primary non-monetary motives underlying pro-environmental behaviour such as recycling. Section 3 discusses the potential interaction between motives and government interventions. Section 4 presents the theoretical model and generates a set of testable hypotheses. Section 5 presents the econometric model, the data used for estimation and estimation results, while Section 6 provides concluding remarks.

2. Warm Glow and Social Norms

Our reference points for warm-glow are Deci (1971) in the Psychology literature and Andreoni (1990) from the Economics literature. Accordingly, an individual can derive enjoyment from an activity independent of any consideration of outcome.⁷ Clark et al. (2003) define 'warm-glow' as the personal satisfaction arising from an activity independent of its impact. Although De Young (1996) does not use the term warm-glow, it is akin to the intrinsic satisfaction an individual enjoys from being actively involved in an activity. He states, that although certain forms of behaviour bring personal contentment and may focus on issues outside the self, nevertheless the 'proximate mechanism is self-interest' (De Young, 2000, p. 516). De Young (1996) argues that it is intrinsic rather than extrinsic motivation that is the primary motivator to act in a particular way and that the former has a longer term effect on behaviour.

Social norms are shared perceptions of ideal forms of behaviour to which individuals try to conform (Burke and Young, 2011; Ostrom, 2000). Fishbein and Ajzen (1975) state that awareness and acceptance of a social norm is likely to modify behaviour accordingly. Bicchieri (2006) further refined the notion of social norms, arguing that the two necessary conditions for standards of behaviour to qualify as social norms are that (i) a sufficiently large proportion of the population recognises the particular modes of behaviour and can identify the situations to which they apply, and (ii) individuals are predisposed towards complying with them. Predisposition towards compliance is in turn dependent on the degree of conformity amongst the population and the level of expectation that the individual conforms. These latter two conditions rely on the beliefs that an individual holds about what other people actually do (descriptive norms) and what other people expect him/her to do (injunctive norms). Thørgersen (2008) finds support for the idea that these beliefs are complementary to each other and each has to be present to a sufficient degree for cooperative behaviour to occur. Injunctive norms are assumed to influence behaviour because of others' ability to

exert sanctions in the event of non-compliance (Thørgersen, 2008). However, sanctions are not always required (Bicchieri, 2006; Elster, 1989). Either social norms become internalised so that they do not require an external sanction mechanism or, in the light of the discussion above, the degree of conformity amongst the population and the level of expectation are sufficiently high for compliance without the need for the threat of external sanctions.

The observation that households recycle, even in the absence of monetary incentives to do so, suggests that there are some other motives at work. Kinnaman (2006) suggests that this motive has to do with warm-glow and notes that not only do households recycle, but also they are even willing to pay for the opportunity to recycle.⁸ Berglund (2006) illustrates this desire to recycle by measuring the difference between the opportunity cost of time spent recycling, given by the net hourly wage, and the stated willingness to pay for someone else to carry out the activities involved in recycling. Since individuals appear to derive private benefit from recycling, they are willing to pay less for someone else to do it.

Other contributions from the Economics recycling literature have tended to link social norms and warm-glow together. Halvorsen (2008) assumes that warm-glow is derived from adherence to social and moral norms so that norms and warm-glow are inseparable. Brekke et al. (2003) identify warm-glow with a positive self-image and self-image depends on the degree to which individuals believe their behaviour is socially responsible. The benchmark for socially responsible behaviour is a moral ideal, endogenously determined by the individual as that effort which maximises social welfare if everyone acted like them. In Brekke et al. (2007, 2010) and Bruvold and Nyborg (2004), the benchmark is a social rather than a moral norm and so is determined exogenously and a positive self-image or warm-glow depends on the gap between an individual's level of recycling and the social norm. In Brekke et al. (2007, 2010) the existence and acknowledgement of a social norm can impose a burden on the individual. So, although increasing the level of recycling increases warm-glow along the lines of Andreoni (1990), an increase in perceived responsibility decreases warm-glow. Thus, if this perceived responsibility, as reflected in the social norm, is kept fixed, then 'duty orientation is behaviourally indistinguishable from a warm-glow model' (Brekke et al., 2010, p. 766). Although Hage et al. (2009) adopt the approach of linking self-image to social norms there is no mention of warm-glow in their model.

3. Policy – Crowding Out/Crowding In

The policy relevance of identifying and assessing underlying motives to behave in particular ways derives from potential interactions between external interventions – monetary and non-monetary – and these motives. The interaction between non-monetary motives and external interventions can render certain policies less effective (crowding-out) and others more effective (crowding-in) (Frey and Jegen, 2001). Thus, understanding the interaction between non-monetary motives and external policy instruments – whether they act as substitutes or complements (Bowles and Hwang, 2008) – is critical to successful policy implementation. The literature suggests that excluding consideration of non-monetary motives can lead to unexpected results. In a seminal experiment, Deci (1971) established the existence of intrinsic motivation to perform a task and found that monetary payments contingent on performance reduced the intrinsic motivation to carry out the task. Non-contingent monetary payments left intrinsic

⁴ <http://www.defra.gov.uk/environment/waste/local-authorities/controlled-waste-regs/>, accessed 19/11/12.

⁵ <http://www.bbc.co.uk/news/10251696>, accessed 19/11/12.

⁶ This does not imply that other motives are not potentially important but we concentrate on those we consider to be key in the context of recycling.

⁷ Other contributors that have defined warm-glow in the same way as Andreoni include Palfrey and Prisbrey (1997) who state that, independent of how much it benefits others, the act generating 'warm-glow' increases the individual's utility by a fixed amount.

⁸ In some countries, e.g. the UK there is no charging allowed for recycling or residual waste collections and funding comes from government sources. Consequently, households perceive the marginal cost of all units of waste disposed after the first as zero (Callan and Thomas, 2006). Thus, there is no monetary incentive for households to minimise waste production or to increase its recycling rate.

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