

The divisive effect of a weight based waste fee on motivation and behavior.

Summary

To better understand under what conditions economic incentives may or may not promote environmental friendly behavior, the aim of this study has been to expand our insights concerning the interactions between institutional and individual factors, including the distinction between extrinsic and intrinsic motivation. The analysis is based on a case study from a Norwegian municipality Ulstein that introduced and later terminated a differentiated waste fee. The differentiation was based on the amount of residual waste each household produced. The theoretical framework included consists of two theories; self-determination theory and classical institutional economics. The results confirms the important role of moral norms and indicates that the stronger norms are integrated the less relevant it appears to be to follow other logics presented, in this case to save costs. The analysis also suggests that the key factor that predicts the choice of logic is how autonomous you feel in your choices.

Extended abstract

To formulate policies that facilitate environmentally friendly behavior demands good insights about what motivates choice, including different types of motivation such as extrinsic vs intrinsic motivation. Environmental problems often represent a dilemma for the individual since what is desirable for her – for example to drive a car – may lead to socially undesirable results in the form of reduced quality of environmental goods – like air quality. Environmental policies are hence formulated to resolve this kind of dilemma.

With reference to these types of dilemmas, there is a debate in the literature regarding if, respectively under what conditions economic incentives are effective in promoting prosocial and/or environmentally friendly behavior – e.g.,(Bowles, 2008; Frey and Oberholzer-Gee, 1997; Gneezy et al., 2011; Gneezy and Rustichini, 2000a, b) . This debate extends also to the area of waste sorting – e.g., (Berglund, 2005; Thøgersen, 2003) – where observed results vary quite substantially from success (e.g., Linderhof et al. (2001)) to failure (e.g., Miranda et al. (1994)).

To better understand under what conditions economic incentives work as intended, the aim of this study has been to expand our insights concerning the interactions between institutional and individual factors, including the distinction between extrinsic and intrinsic motivation, that contribute to the effect of introducing an economic incentive to promote environmentally friendly behavior.

The analysis is based on a case study from a Norwegian municipality Ulstein that introduced and later terminated a differentiated waste fee. The differentiation was based on the amount of residual waste each household produced – a so-called weight based waste fee (WBWF). The system was introduced to increase efforts for sorting waste for recycling purposes, but only after two years, the WBWF was terminated and a fixed yearly waste fee (FYWF) was reintroduced. Quantitative data from

two surveys and qualitative data from focus group conversations constitute the basis for the analysis and discussions presented.

The use of such a differentiated waste fee is grounded in conventional economic theory, i.e. the rational choice model that assumes agents to maximize utility. A fixed yearly waste fee gives no economic incentive to sort waste, and hence the sorting degree will stay low¹. Setting a price on the amount of waste that a household do not sort will according to rational choice motivate individuals to sort waste as it offers an economic gain from doing so.

One problem with this understanding is that it cannot explain the rather high levels of sorting observed also under the FYWF regime (Berglund and Matti, 2006; Czajkowski et al., 2014; Thøgersen, 1994). There must be some other motivations involved than external rewards. Several theories exist that try to explain the limitations of external rewards – including attempts to expand the standard rational choice model to include ‘internal rewards/intrinsic motivations’ (e.g., Andreoni (1990); Frey and Oberholzer-Gee (1997)), self-determination theory (e.g., Ryan and Deci (2000b)) and classical institutional economics (e.g., Bromley (2006); Hodgson (2007); Vatn (2005)). We have chosen to combine the latter two theories as they have both a pluralistic view on what motivates human action, and focus explicitly on the dynamics between institutions and actors, while doing so from different angles.

CIE is part of a broader field of institutional theory drawing on insights from e.g., sociology and political science. It emphasizes the interdependency between institutions and individuals when analyzing social phenomena and human action. Institutions are defined as conventions, norms and formally sanctioned rules (Scott, 1995; Vatn, 2005). CIE stresses that individuals are part of communities and that institutions provide expectations and meaning to people. A topical example would be a norm that says that to sort waste is a right thing to do – it is a duty.

While CIT has focused mainly on the role institutions play for perceptions and motivation, SDT starts off from the level of the individual and has focused at developing a classification scheme for types of motivations. SDT comes out of a tradition in humanistic psychology assuming *autonomy*, *competence* and *relatedness* as basic psychological needs to human flourishing and mental health. The emphasis is on how motivation develops ‘in the individual’ – on intrinsic motivation and personality integration – on how external regulations like norms are integrated in the individual (Ryan and Deci, 2000a; Ryan et al., 2011). This creates a bridge between SDT and CIE.

This approach where two theories are combined provided both confirmation and new insights into how an economic incentive affects people's motivation, both intrinsic and extrinsic, and behavior. For example, the results confirmed how the motivation for sorting waste is mainly norm based and lies within the domain of moral; a sense of duty and responsibility. Further, the economic incentive split the sample in two. One half reported that they sorted more household waste due to the introduction of the economic incentive (‘more group’). The other half of the sample reported that they continued as before the economic incentive was introduced (‘same group’). Two aspects separated the two groups. Firstly, the ‘same group reported a higher degree of being environmental concerned and they problematized the mere idea of introducing an economic incentive. The ‘more group’ on the other hand reported lower levels of environmental concern and in general valued the

¹ Actually, it should be zero if there is no individual gain from sorting.

idea of the possibility of saving costs and the idea of deciding on your own how much of the waste you want to sort and pay for the rest.

The framework of SDT and CIE allows for an interpretation of the results that indicates that the stronger the norms are integrated - here represented by environmental concern as basic values in the individual - the less relevant it appears to be to follow other logics presented, in this case represented by the possibility to save costs. The analysis also suggests that the key factor that predicts your choice of logic is how autonomous you feel in your choices. That is, if the institutions in place correspond and confirm your basic values this will give you a sense of being autonomous (or not), which in turn determine your response to the economic incentive.

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