Ecological Economics 132 (2017) 329–342

Contents lists available at ScienceDirect

Ecological Economics

journal homepage: www.elsevier.com/locate/ecolecon

Green nudges: Do they work? Are they ethical?☆

Christian Schubert

Wilhelm Röpke Institute, c/o Erfurt University, P.O. Box 90 02 21, 99105 Erfurt, Germany

ARTICLE INFO

Article history:
Received 10 February 2016
Received in revised form 18 September 2016
Accepted 7 November 2016
Available online 5 December 2016

Keywords:
Nudges
Libertarian paternalism
Behavioral economics
Green defaults
Autonomy

ABSTRACT

Environmental policies are increasingly informed by behavioral economics insights. 'Green nudges' in particular have been suggested as a promising new tool to encourage consumers to act in an environmentally benign way, such as choosing renewable energy sources or saving energy. While there is an emerging literature on the instrumental effectiveness of behavioral policy tools such as these, their ethical assessment has largely been neglected. This paper attempts to fill this gap by, first, providing a structured overview of the most important contributions to the literature on pro-environmental nudges and, second, offering some critical considerations that may help the practitioner come to an ethically informed assessment of nudges.

1. Introduction

Behavioral Economics has established itself as a vibrant new subfield in modern economics (Kahneman, 2011; Thaler, 2015).[1] This gives rise to the question whether – and if so, how – insights from psychologically informed economics may also be used to improve ecological and environmental economics, in the sense of a 'Behavioral Environmental Economics' (Shogren et al., 2010; Shogren, 2012), and what exactly such a new field would imply for public policy-making (Carlsson and Johansson-Stenman, 2012). That latter question concerns us here. It's fair to say that until very recently, most theorizing in environmental economics faithfully conformed to the standard neoclassical model of rational choice (Shogren and Taylor, 2008).[2] Accordingly, environmental policy recommendations used to focus on incentive- and information-based regulatory instruments (Venkatachalam, 2008). Real-world consumers, though, are motivated by more than incentives and information (Michalek et al., 2015).[3]

Departures from the standard model of rational conduct may even be particularly important in the sphere of environmental and resource economics: after all, well-functioning markets are rare in this domain. Moreover, risk, uncertainty and complexity characterize environmental issues, but also give rise to bounded rationality (e.g. Croson and Treich, 2014; Brown and Hagen, 2010; Van den Bergh et al., 2000). At the same time, policymakers increasingly recognize human behavior to be at the core of many complex environmental problems, such as, most prominently, global warming (Van der Linden et al., 2015; Kunreuther and Weber, 2014). Also, traditional incentive-based policies often face methodological issues and problems of political feasibility (Allcott, 2011). As a practical consequence, interest in what we will refer to as *behavioral environmental policies* (henceforth BEPs) has mushroomed: these are innovative policy tools that are designed with a specific focus on behavioral factors alien to the traditional homo economicus model, such as cognitive biases or limited willpower and attention (Beckenbach, 2015).[4]

A key policy instrument advocated in this context, and a subset of BEPs, are 'green nudges', a part of the well-known nudge agenda popularized by Richard Thaler and Cass Sunstein (Thaler and Sunstein, 2003; Sunstein and Thaler, 2003; Thaler and Sunstein, 2008; Sunstein, 2014a) and implemented by governments across the globe.[5] The behavior of

☆ I wish to thank two anonymous reviewers as well as Diana Wessling, Detlef Aufderheide, and participants at the 2016 research seminar at Radein/Italy for very helpful comments on earlier drafts of this paper. All remaining errors are, of course, mine alone.

E-mail address: dr.c.schubert@gmail.com.

[1] Most economist readers can be assumed to be familiar with the key insights of Behavioral Economics; those interested in the details may be referred to the excellent surveys by Camerer and Loewenstein (2004) and Della Vigna (2009). Van den Bergh et al. (2000) give an outline of behavioral economics insights with a focus on their relevance for environmental economics prior to *Nudge See also Stern (1992)*. The contributions by Norton et al. (1998) and Söderbaum (1994) are particularly interesting as precursors of the nudge agenda, as they argue that environmental policies should try to exploit endogenous preference change.

[2] An important exception to that rule was Jack Knetsch, see, e.g. Knetsch and Sinden (1984), Knetsch (1989). See also Kahneman (1986) on contingent valuation and Kahneman et al. (1990) on the Coase Theorem. Winett and Ester (1983) provide an early survey of behaviorally informed energy policy 25 years prior to *Nudge*, and Abrahamse et al. (2005) survey research on interventions aiming at voluntary changes in energy use just before the nudge agenda entered the stage.

[3] This is illustrated, for instance, by the notorious 'energy-efficiency gap' (Allcott and Greenstone, 2012).

[4] To illustrate, the subsidy and tax schemes discussed by Allcott and Taubinsky (2015) in the context of energy efficiency policy qualify as BEP in our sense of the term. BEPs should be understood as a subset of behaviorally informed public policies (e.g. Chetty, 2015).

[5] See in particular (ibid.: ch. 12) on green nudging, and Sunstein (2014a). On the nudge agenda's global impact on practical policymaking see, e.g., Whitehead et al. (2014) and Hansen and Jespersen (2013: 4).

http://dx.doi.org/10.1016/j.ecolecon.2016.11.009
0921-8009/

real-world individuals can be influenced by subtle modifications of their decision context – the surrounding *choice architecture* (henceforth CA) – that would leave rational individuals unaffected. In a nutshell, the CA summarizes the way choices are presented, framed and structured (Münscher et al., 2015). To nudge someone is to deliberately intervene in a given CA, without however changing monetary incentives or the option set itself. Nudges are widely regarded as potential complements to more traditional information- and incentive-focused regulation; the hope is that adding them to the policy mix may be both more effective and more popular among the general public than relying on traditional regulatory tools alone (Thaler and Sunstein, 2008: ch. 12).[6] As Sunstein (2014a: 13) puts it, the general aim is to develop "sensible, low-cost policies with close reference to how human beings actually think and behave." There is an important caveat, though: to the extent that they address or exploit cognitive biases, nudges have been criticized for the partly manipulative way in which they shape human behavior, and for their unclear welfare foundations: when individual preferences are incoherent or incomplete – i.e., when nudges are most effective – it's tricky to identify those very behavioral changes that increase 'welfare'. To be sure, this caveat applies to those nudges that are used paternalistically (e.g. Grüne-Yanoff, 2012).

While the exact definition of nudges is a matter of some controversy (Hansen, 2016; Rebonato, 2012), we can sidestep the philosophical issues and adopt the definition that can be found in Thaler and Sunstein's own contributions (Thaler and Sunstein, 2008, Sunstein, 2014a, 2014b): nudges are purposeful changes of people's CA that steer their behavior in certain directions without significantly changing their monetary incentives or coercing them. An important corollary is that "a nudge is any factor that significantly alters the behavior of Humans, *even though it would be ignored by Econs*" (Thaler and Sunstein, 2008: 8, emphasis added), where 'Econs' refers, basically, to homo economicus.[7] Nudges are only effective in a behavioral world, where individuals exhibit limited mental resources, i.e. limited rationality, attention, and willpower, and where preferences are often not 'given', but rather 'constructed' (Slovic, 1995; Ariely et al., 2006). Hence, nudges are interventions that aim at altering people's behavior by either harnessing their cognitive biases or responding to them, while keeping option sets and monetary incentive structures largely intact. Importantly, they are supposed to do so in a transparent manner (Thaler and Sunstein, 2008: 244). Note that the nudge agenda still lacks a satisfactory notion of 'transparency' (Hansen and Jespersen, 2013: 23–27, Bovens, 2009), an issue to which we will return at the end of this paper.

Our focus, then, is on *green nudges*, i.e., nudges that aim at promoting environmentally benign behavior. Green nudges are increasingly part of the environmental policy debate in many countries.[8] We survey the most important research on green nudges and reflect on their potential in fostering pro-environmental behavior in a way that is both effective and ethical. Many green nudges discussed in the literature target the quantity and quality of people's *energy consumption*, hence aiming at energy conservation. In some instances, nudges of this kind have proved highly effective (relative to potential alternatives, such as incentives, information and education campaigns, or moral suasion): Consider a local utility in Southern Germany's Black Forest that defaults its customers into using energy from renewable sources: unless they explicitly choose to opt out – which can be done at virtually zero cost – customers are provided with this 'green' energy (Pichert and Katsikopoulos, 2008; Sunstein and Reisch, 2013). Or consider *Opower*, a U.S.-based company that sends reports to households informing them, on a regular basis, about how their own energy use relates to their neighbors' use. This program makes them save energy (Allcott, 2011; Allcott and Rogers, 2014). In many other contexts, though, the impact of green nudges appears to be rather limited and highly context-dependent.

This paper offers not only a structured overview of this rapidly growing research area – an overview that is necessarily incomplete, due to the dynamics of the field – but also a (preliminary) framework that allows us to come to an ethical assessment of green nudging.[9] In our view, it's important, when discussing the new fashionable toolbox's effectiveness in promoting green behavior, not to lose sight of its ethical dimension: provided that green nudges *can* be used to encourage eco-friendly behavior, we have to ask whether they *should* be used to do so? A prima facie case for the use of green nudges can be made by pointing to people's stated preferences: when polled, a large majority of citizens (at least in rich, industrialized countries) typically claim to support pro-environmental policies — without, however, always acting on those preferences (Pichert and Katsikopoulos, 2008; Allcott and Greenstone, 2012). On the other hand, there are *normative costs* associated with nudging that need to be taken into account — in particular in terms of well-being (e.g. Qizilbash, 2012), autonomy (e.g. Hausman and Welch, 2010), personal integrity (Schubert, 2015b), and societal self-legislation (Lepenies and Malecka, 2015; Furedi, 2011). After all, psychologically informed 'marketing' tools to influence human behavior have been around for quite some time now, and they are notorious for being used to make people act to the benefit of others (Shaw, 2016). When green nudges are discussed in the literature, normative costs typically only get a brief mention, often in footnotes, if at all.[10] Sometimes, inaccurate claims on the ethical quality of nudges can be found when, for instance, Momsen and Stoerk (2014: 376f.) take nudges to be "uncontroversial" by virtue of being "unavoidable", or when Croson and Treich (2014: 338) opine that nudges "do not seem to raise serious fairness concerns, as they are equally applied to all."

The paper is organized as follows. Section 2 offers a taxonomy of nudges in general and green nudges in particular. Sections 3 through 5 discuss three important subsets of green nudges: those appealing to people's self-image, those appealing to social conformism, and those that involve the modification of defaults, respectively. Section 6 suggests a way to assess the ethical quality of nudges, and Section 7 concludes.

2. Toward a taxonomy of (green) nudges

At the most basic level, nudges can be distinguished with respect to the ends pursued: these can be either paternalistic or non-paternalistic, i.e., they may aim at increasing the individuals' own well-being ("save

[6] See, e.g., Venkatachalam (2008), Brown and Hagen (2010), Croson and Treich (2014).

[7] See the latest definition offered by Sunstein (2015b: 7). It's also controversial whether the mere provision of information (as, e.g., with a GPS device) should qualify as a nudge (Hansen, 2016; Hansen and Jespersen, 2013). It would not if we replace the second half of the corollary mentioned above by "*even though it would be ignored by imperfectly informed Econs*." Note that homo economicus, properly understood, is not necessarily 'perfectly informed' — (s)he merely processes any available information in a perfectly consistent manner.

[8] See, e.g., for the OECD their project on "Behavioral and experimental economics for environmental policy", http://www.oecd.org/environment/tools-evaluation/behavioural-experimental-economics-for-env-policy.htm, and OECD (2012), Lissowska (2011); for the EU the 2012 report of the European Commission's Directorate for Health and Consumers, called 'Green Behavior' (European Commission, 2012), enlisting behavioral economics to outline pro-environmental policy initiatives: http://ec.europa.eu/environment/integration/research/newsalert/pdf/FB4_en.pdf. For the UK, see the famous 'Nudge Unit' and its approach to green nudging ('Behaviour change and energy use'), in Behavioural Insights Team (2011). See also Behavioural Insights Team (2015). An overview on green nudges in the UK context is provided by RAND Europe (2012); see also House of Lords (2011), Dolan et al. (2012), and especially Halpern (2015). For France, see Oullier and Sauneron (2011). And for Germany, see Purnhagen and Reisch (2016). Very useful internet resources about nudging in general can be found at the University of Stirling's Behavioral science blog, http://economicspsychologypolicy.blogspot.com/. See also http://inudgeyou.com/en (based in Denmark), and the Norwegian GreeNudge foundation, at http://www.greenudge.no/. (All websites accessed august 20, 2016.)

[9] See, e.g., Weber (2013), Croson and Treich (2014: 337–342), Ölander and Thøgersen (2014), and Lehner et al. (2016) for useful overviews of positive insights on green nudges (note, though, that some of the alleged 'nudges' those authors discuss are not genuine nudges). Lehner et al. (2016: 14–16) also have a brief, but somewhat unsystematic discussion on the 'legitimacy' of nudging. Sunstein and Reisch comment on the ethical quality of green nudges, albeit very briefly (Sunstein and Reisch, 2016: 24 f.). See also Sunstein (2016: ch. 7), focusing on the green defaults and active choosing.

[10] See, for instance, Michalek et al. (2015: 2).