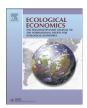


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Analysis

What time to adapt? The role of discretionary time in sustaining the climate change value—action gap



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ABSTRACT

The considerable gap between the individuals level of concern about climate change and the degree to which they act on these concerns is a major impediment to achieving more sustainable consumption patterns. We empirically investigate how the amount of discretionary time that individuals have at their disposal influences both what type of sustainable consumption practices they adopt and the size of this value—action gap. We contend that discretionary time has a twofold effect. Given fixed preferences, time-poor individuals tend to satisfy their preferences by adopting sustainable consumption practices that require relatively less time. Moreover, a lack of discretionary time also inhibits agents from developing preferences that actually reflect their underlying environmental concerns. Our findings support both of these hypotheses and suggest that increasing discretionary time is associated with significant reductions in the value—action gap. This suggest that policies which increase discretionary time, such as measures to improve the work—life balance, may thus help in fostering the emergence of pro-environmental preferences among consumers in the long run.

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1. Introduction

A paradox emerges when one compares public perceptions of climate change and its associated impact on the environment with the literature on consumption sustainability. In the former, survey after survey conducted around the world suggests that most individuals do accept that climate change is real and most express at least some level of concern about it (Brechin and Bhandari, 2011; Krosnick et al., 2000; Leviston and Walker, 2012; Nisbet and Myers, 2007; Uzzell, 2000). Moreover, when questioned, many individuals also appear to be willing to act on these concerns. For example, a recent OECD survey found that more than 60% of 12,000 households would be willing to pay extra for energy from renewable resources (OECD, 2011). Yet there appears to be a yawning gap between these environmental concerns and the propensity to act on these concerns by adopting sustainable consumption practices (Gifford et al., 2011). Indeed, there is a general consensus that contemporary consumption patterns are both highly unsustainable and path dependent in a manner that renders them difficult to change via social information campaigns (Myers and Kent, 2003; Røpke, 1999). This "value-action gap" represents a key barrier to effective behavioral climate change adaptation (Brown and Cameron, 2000; Dietz et al., 2009; Gifford et al., 2011), since the voluntary adoption of sustainable consumption practices has the potential to greatly reduce household carbon emissions (Dietz et al., 2009).

We empirically investigate what role discretionary time plays in influencing this value-action gap. Discretionary time is conventionally defined as the time that is not spent on working production or personal care (Goodin et al., 2005). We contend that discretionary time has a twofold effect on the tendency to adopt sustainable consumption practices. With regard to satisfying the individual's given preferences for sustainable consumption practices, discretionary time acts as a direct constraint on the fulfillment of these preferences in that many of such practices require time that is scarce. Second, we argue that discretionary time also has an important indirect effect on behavior by impacting the process through which preferences are formed. By reducing the amount of time individuals have to reflect on their personal values and concerns about climate change, a lack of discretionary time inhibits the extent to which values and concerns are reflected in consumption preferences. This indirect preference 'adaptation' effect is different from the first effect since it suggests that, regardless of the costs they face, the preferences of time poor agents are less likely to be aligned with their environmental values in the first place. This hypothesis is consistent with the literature in psychology on individual differences in stress adaptation (Lazarus and Folkman, 1984) and time orientation (Zimbardo and Boyd, 1999). Evidence for the adaptation effect will help shed new light on the precise manner in which consumption patterns appear to be locked in by contemporary norms that are widely prevalent in developed economies.

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We use data collected by psychologists in Australia on climate change attitudes and behavioral responses to study the relationship between individuals' concern about climate change and their behavior. As far as we are aware, while much has been written about the value-action gap, this paper develops one of the first empirical measures of this social phenomenon across a wide area of sustainable consumption practices. The use of this metric enables us to conduct multivariate analyses to identify key contributors to the value-action gap across multiple consumption domains. Previous studies of the value-action gap have not engaged in much empirical analysis (Blake, 1999; Kollmuss and Agyeman, 2002) or have only examined the value-action gap with respect to one individual consumption practice, thus neglecting the possibility the consumer may alternate between different sustainable consumption practices (Chung and Leung, 2007; Flynn et al., 2009). We measure the gap as the standardized difference between individuals' overall concern about climate change, on the one hand, and their propensity to engage in a wide range of surveyed sustainable consumption practices, such as engaging in water conservation and using florescent lightbulbs, on the other. Controlling for household income and a range of socioeconomic factors, our results provide evidence that discretionary time both directly constrains the satisfaction of pro-environmental preferences and the size of the value–action

The paper is structured as follows. Section 2 discusses the origins of the value–action gap and the various factors that are thought to inhibit the emergence of more sustainable consumption patterns. Section 3 discusses the theory that underpins the hypotheses pertaining to the twofold impact of discretionary time on the adoption of sustainable consumption practices. Section 4 describes the data and empirical estimation methodology, while Section 5 presents the results. Conclusions are presented in Section 6.

2. Background

The UK's Sustainable Development Commission defines the valueaction gap as "the observed disparity between people's reported concerns about key environmental, social, economic or ethical concerns and the lifestyle or purchasing decisions that they make in practice" (Sustainable Development Commission, 2006:63). In other words, people express concern about the environment, but often display little commitment to change their behavior accordingly (Barr, 2006; Blake, 1999; Flynn et al., 2009). The consistency and pervasiveness of expressed concern about the environment is impressive. To illustrate, in the Australian data analyzed below, we found that 86% of the 3096 residents reported some level of concern about climate change, with 42% believing it is "a serious problem right now". Self-reported motivation was strong, with 64% being prepared to greatly reduce their energy use. Despite this, only a minority was engaging in most of 15 environmentally sustainable behaviors (Reser et al., 2012a). The existence of this gap suggests that there are fundamental barriers inhibiting people from acting on their

This phenomenon is highly relevant to the debate in ecological economics relating to why existing unsustainable consumption patterns appear to be "locked-in" and relatively difficult to change (Røpke, 1999; Shwom and Lorenzen, 2012; Shove, 2010). Several factors are thought to contribute towards this lock-in, including growing affluence (Myers and Kent, 2003), new goods and technologies (Safarzyńska and van den Bergh, 2010), social norms (Røpke, 1999), individual habits (Maréchal and Lazaric, 2010), and "tragedy of the commons" scenarios (Wagner, 2006). Many theories account for lock-in by emphasizing the role of social influences in shaping both individual attitudes and the available information that consumers have to act on their environmental concerns (Hamilton, 2010; Røpke, 1999; Reisch, 2001; Shove, 2010), whereas the role of risk perception is not clear (Bubeck et al., 2012a,b). Through social interactions and media exposure, certain values, such as individualism, become deeply embedded within the

individuals psyche and lifestyle, rendering their consumption patterns relatively hard to change. Apart from values, the social environment also influences what information consumers have to develop strategies and lifestyles that reflect their environmental concerns (Buenstorf and Cordes, 2008; Jager et al., 2000).

Others argue that wider economic and technological constraints are more relevant factors responsible for this lock-in (Beddoe et al., 2009; Safarzyńska and van den Bergh, 2010; Sanne, 2002). In particular, Sanne argues that contemporary consumers may be willing and actively desire to achieve more sustainable consumption patterns, but are prevented from doing so due to structural issues such as employment conditions. Other external constraints identified in the literature include: high levels of investment in fossil fuel technologies (Unruh, 2000) and government infrastructure and public transport planning processes (Spangenberg, 2002). From these perspectives, more needs to be done to modify the institutional settings that form an important part of the consumption context (Safarzyńska and van den Bergh, 2010; Sanne, 2002).

Discretionary time is one particularly interesting variable that has undergone important changes over the past century (Linder, 1970; Schor, 1992). Conventionally defined as the amount of time individuals have at their disposal apart from time dedicated to paid working, unpaid household chores (cleaning), and personal care (e.g. sleeping) (Goodin et al., 2005). Discretionary time has been intensively discussed ever since Lindner observed that although economic growth has delivered prosperity to many individuals, the amount of time they have to enjoy this affluence appears to have declined, resulting in a time-poor class of affluent consumers (Schor, 1992).

The predominant approach to studying the effect of discretionary time on behavior has thus far been to consider how its scarcity constrains the satisfaction of given preferences. To be clear, by preferences we refer to an ordering of alternative consumption choices (either commodities or activities) that reflects the individual's tastes at a given point in time (Deaton and Muellbauer, 1980). In this approach, the discretionary time associated with an activity represents another immediate cost that the agent has to consider, along with the usual monetary costs. One of the first frameworks to consider the role of time is household production theory (Becker, 1965) which models the consumption process as one in which households use market goods and time to produce 'final' consumption goods (Biddle and Hamermesh, 1990). This model delivers an important insight about how income affects consumption: rising household income increases the opportunity cost of consumption — the more time individuals spend on consumption, the more income they are foregoing. Agents wishing to sustain their high incomes will thus prefer consumption activities that take relatively less time.

Within the sustainability literature, this approach has been employed to study the relationship between household carbon emissions and consumption behavior (Baiocchi and Minx, 2010; Jalas, 2002). A key point made here is the existence of a time 'rebound' effect. Whether or not incremental gains in discretionary time by households (via, for example, time saving innovations or reductions in travel time) increase or decrease their carbon footprint depends on what kind of activities consumers undertake in the presence of additional discretionary time (Knight et al., 2013). For example, Druckman et al. (2012) found that leisure activities are generally associated with lower carbon emissions than non-leisure activities. Thus, whether changes in time constraints foster reductions in carbon emissions

 $^{^{1}}$ Some argue that this conventional definition ignores the possibility that some of the time spent on these activities may be more than is necessary and could therefore reflect personal choices (Goodin et al., 2005).

² The existence of time-poor consumers appears to contradict the fact that there has been a historical downward trend in average working hours in most developed countries (Lee et al., 2007): However, this decline in average hours masks a growing inequality in the distribution of working hours across households (Bowles and Park, 2004; Burton and Phipps. 2007).

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