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A cultural model of private provision and the environment

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ABSTRACT

This paper analyses an overlapping generations model of environmental externalities and capital accumulation where private contributions to environmental quality are motivated by a desire to socialize others into environmental attitudes. In this framework, the formation of environmental preferences is the result of a cultural transmission process depending on the extent of private contributions. In the short run, we show that three equilibria may arise: a first one where all green agents contribute to the environment, a second one where nobody contributes to the environment and a third interior one. We show that the capital-accumulation process and the change in preferences that occur in this economy lead the interior equilibrium to be selected, in which some, but not all, green agents contribute to the environment. The model thus provides an economic rationale for the gap between the number of people who care about the environment and the number who adopt pro-environmental behaviours. We also show that the fraction of contributors rises with capital, so that we explain the negative relationship between this gap and country income. Last, we show that this gap is particularly detrimental for welfare, and analyse the impact of a number of public policies.

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Introduction

"We must be the change we wish to see in the world".

– Mahatma Gandhi.

Why do people voluntarily provide environmental quality? This question has been the focus of a variety of research both within economics and beyond. In particular, some work has attempted to answer this question by clarifying what exactly is embodied in "environmental preferences" (see [Kahneman and Knetsch, 1992](#); [Kotchen and Moore, 2007](#), for example). However, empirical research carried out along these lines has raised a second puzzle by revealing a significant gap between environmental attitudes and actual behaviours ([Scott and Willits, 1994](#); [Lane and Potter, 2007](#)). For example, while three-quarters of Europeans perceive climate change to be a very serious issue, a dramatically smaller fraction are actually engaged in pro-environmental behaviours: 17% choose environmentally friendly transport and only 11% purchase a more environmentally friendly car ([European Commission, 2008](#)). The literature has provided a number of explanations for the private provision of public goods, based for instance on the joy of giving ([Andreoni, 1990](#)) or on social norms ([Hollander, 1990](#)). In this paper we introduce an alternative explanation, based on a desire to socialize others into having environmental preferences. We show that this mechanism accounts for the gap between environmental attitudes and environmentally friendly behaviours.

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Table 1
Attitudes toward climate change and behaviour in the European Union.

Countries	% concerned about climate change	% who purchase an environmentally friendly car
Belgium	74	22
Cyprus	96	13
Finland	78	27
France	84	22
Hungary	86	12
Ireland	70	10
Latvia	75	18
Lithuania	71	14
Malta	88	12
Netherlands	62	20
Portugal	75	4
Romania	73	15
Slovakia	83	12
Sweden	77	27
United Kingdom	59	17
Mean in UE 27	77	17

Source: European Commission (2008).

A number of recent surveys have illustrated the gap between environmental attitudes and actions. For example, Table 1 compares the reported concern about climate change, in a number of European countries, to “active” actions taken against climate change in the same countries.¹ It can be seen that the former is significantly larger in each country.

This gap is actually seen to be higher in the 10 lowest-GDP countries as compared to the 10 highest-GDP countries.² The percentage concerned about climate change is high in both groups (74.3% in poorer countries and 72.2% in richer countries). Nevertheless, the percentage buying an environmentally friendly car is 13.6% in poorer countries but 22% in richer countries. Fig. 1 makes this point clearly by depicting environmental concern and environmental donations across countries ranked by income. In every country, the percentage caring about environmental quality is relatively high compared to the fraction giving money to the environment. However, while the share of individuals with environmental concerns is not related to income, the proportion of donors rises with GDP per capita.³

While psychological explanations of this empirical finding have been proposed (Blake, 1999; Kollmuss and Agyeman, 2002), as far as we know, no economic rationale has been suggested. The present paper constructs an economic theory of private contributions which accounts for the persistent and negatively related to income gap between environmentally friendly attitudes and actions.

We develop a model where the motivation to act pro-environmentally comes from the desire to socialize others into environmentally friendly attitudes.⁴ Individuals then engage in pro-environmental actions in order to communicate their environmental views: setting an example by adopting pro-environmental behaviours is a means of showing others that it is important to take care of the environment. This kind of incentive has already been highlighted in the economic theory of leadership, where the “leader” is someone with information on the value of some collective good which they want to communicate to others. Hermalin states that one way of doing so is “leading by example: the leader herself puts in long hours on the activity, thereby convincing followers that she indeed considers it worthwhile”. Hence, “the need to convince the other workers increases the leader’s incentives” (Hermalin, 1998, pp. 1189–1190). Such incentives have also been identified in pro-environmental behaviours. In particular, Turrentine and Kurani (2007) analyse the purchase of hybrid cars, and find that their buyers are mainly motivated by “setting an example, being a pioneer, talking to other people about their car”. As pointed out by Kahn (2007, p. 130) the rationale for this behaviour seems to be that “Environmentalists [...] recognize that their moral authority [...] is enhanced by gaining a reputation for living a low resource intensive lifestyle and hence practising what they preach”. This desire to transfer one’s environmental preferences (or preferences over any public good) may come about for a number of reasons. If the group involved is small in size then this can be ascribed to a desire to increase the amount of the public good. In a large group, however, it likely reflects other motives such as, for example,

¹ We here borrow the terminology used in the European Commission (2008). For instance, recycling waste or reducing energy consumption at home are considered as “passive” actions, either because they have low associated costs (and already take place as part of some well-established procedures) or because they cannot be directly related to environmental concerns as they may result from other (such as financial) motivations.

² It could be argued that this pertains because agents think that this is not their responsibility. However the same data reveal that when we ask Europeans which actors play an important role in the fight against climate change, a large majority answer the citizens themselves. A total of 67% of Europeans think that citizens are not doing enough to fight against climate change. This figure is higher in lower income countries such as Latvia or Hungary (88% and 86% respectively).

³ Some authors explain the differences in environmental quality between high- and low-income countries by assuming that the environment is a luxury good (McConnell, 1997). However, these models fail to explain both voluntary contributions and the considerable reported level of environmental concern in low-income countries.

⁴ In particular, in this model we assume intergenerational transmission and focus on children’s socialization, although this can be extended to other members of society.

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