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## How Can Positional Concerns Prevent the Adoption of Socially Desirable Innovations?

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**Abstract:** We study the role of positional concerns in explaining the (non-)diffusion of profitable and environmentally friendly innovations in situations where there is no conventional prisoner dilemma. Based on anecdotal evidence from farming activities, we introduce the concept of negative positional goods, that is, goods that destroy status in a given reference group, and show how interactions between status concerns and profitability can lead to unexpected outcomes. Several policy implications are drawn.

**Keywords:** behavior, innovation, positional concerns, status, sustainable development

**JEL Classification Codes:** Q0, Q50

*Apart from economic payoffs, social status seems to be the most important incentive and motivating force of social behavior.*

*– John Harsanyi 1976, Nobel laureate*

Social influence constitutes a convincing but frequently underestimated candidate to explain numerous *a priori* irrational human behaviors (Cialdini 2005). Among ways through which individuals are influenced by others in society, status and positional concerns are of a paramount importance. Indeed, in many cases, individuals might engage in activities or purchase a given good not in response to a basic need, but to gain social status. The relevance of positional concerns is now well-established. Since Veblen (1899), an increasing number of scholars have explored the issue of whether people prefer having *more* of a good in absolute terms or *more than others* in society and showed that relative standings matter (e.g., Alpizar, Carlsson and Johannsson-Stenman 2005; Bekir, El Harbi and Grolleau 2011; Brekke, Howarth and Nyborg 2003; Carlsson, Johannsson-Stenman and Martinsson 2007; Carlsson and Qin 2010; Chao and Schor 1998; Duesenberry 1949; Easterlin 1995; Frank 1985a, 1985b; Greene and Nelson 2007; Grolleau and Saïd 2008; Hirsch 1976; Johannsson-Stenman, Carlsson and Daruvala 2002; Neumark and Postlewaite 1993; Solnick and Hemenway 1998, 2005, 2009; Solnick, Hong and Hemenway 2007). Without

purporting to review consistently this sizeable and increasing literature, we would like to emphasize four outstanding points.<sup>1</sup> First, relative position matters and matters differently across domains and reference groups. Status markers are not fixed but evolve over time. Second, many people seek status as an end in itself and expect to give up money just to be better than others. Third, positional issues affect several important aspects of life such as happiness and longevity. In a similar vein, Brekke, Howarth and Nyborg (2003) investigate the Hirsch hypothesis (i.e., an increasing portion of expenditure is allocated to status seeking as average income rises) and show that status seeking can lead to detrimental effects on environmental quality.<sup>2</sup>

The purpose of this note is to examine the role of positional concerns as *drivers or barriers* to the adoption of socially desirable behaviors in situations where there is no conventional prisoner dilemma (i.e., where social and private interests converge). The originality of our manuscript is at least fourfold. First, unlike previous literature that has mainly investigated positional concerns with regards to consumers' decision making, that is, considered the demand side, we focus on the supply side, especially farmers. We present and discuss some applications related to farming activities in developed and less developed countries because they are major actors in the environmental realm. Second, we introduce the concept of negative positional goods, that is, goods destroying status in a given reference group. In spite of possible benefits, displaying these goods generates stigma in some reference groups and can be counter-productive in terms of status seeking. Third, we discuss some recent results concluding to weak positional concerns in poor societies.<sup>3</sup> We contend that not only thresholds matter (reaching a minimum standard before exhibiting positional preferences) but especially researchers may have missed taking into account

the adequate status dimensions. Fourth, we suggest ways to overcome positional bias in order to encourage agents to adopt socially desirable behaviors.

The remainder of this note is organized as follows. The second section characterizes positional concerns, especially in the context of farming activities, and shows how they can prevent the adoption of socially desirable behaviors such as protecting the environment. Examples and micro-case studies emphasize how positional concerns can make people deviate from neoclassical predictions. The third section is devoted to strategies that can be used to overcome the positional bias. The fourth section concludes.

### ***How Positional Concerns Can Prevent the Adoption of a priori Win-Win Strategies?***

Positional concerns rely on the postulate that individuals have interdependent utility functions. They frequently compare themselves to others from a reference group on some dimensions. Comparisons can be upward and downward. In short, people express higher (lower) happiness levels when they are better (lower) ranked than peers. According to Solnick and Hemenway (2009), “the literature on positional goods sometimes suggests that people typically want to be superior to others.” Agents not only take into account their absolute level on a given dimension (e.g., income, office size) but also how they perform in comparison to people from the same reference group (e.g., colleagues, peers). These comparisons can push individuals to adopt behaviors<sup>4</sup> that will improve their relative position, either by using constructive or destructive strategies (Grolleau, Mzoughi and Sutan 2009).

A crucial point is to identify the dimensions on which the social comparison is performed. For example, according to societies, farmers can compare on the revenue, crop yields, farm size, ethnic origin or number of spouses. Some papers empirically supported that positional concerns are weak in poor societies but they may have missed the dimension on which these “poor” people are positional (e.g., yields or farm size rather than income). Using a tailored survey experiment in Northern Ethiopia, Akay, Martinsson and Medhin (2011) found “positional concerns neither in income per se nor in income from aid projects among the farmers” and concluded that “positional concerns are positively correlated with absolute level of income of a country.” Without questioning their result regarding income, we contend that various reference groups can use various status markers. Unlike western societies, local reference groups do not necessarily use income as a major status marker. Consequently, extrapolating positional concerns by considering only income can eclipse other status markers that matter much more in a given reference group. For example, according to Bevan and Pankhurst (2006), in rural Ethiopia, “most power relations between social groups and categories have historically involved well-established hierarchies of status supported by norms and rules favoring superiors which are often violently enforced. Historic status discriminators include age, gender and class and various manifestations of ethnicity, clan, religion, occupation and race.” In the same vein, Carlsson and Qin (2010) indicated that, compared to results in developed countries, “the concern for relative standing seems to be equally strong among rural households in China.” In other words, dimensions on which agents from a given group compare and seek status *are culturally determined* and evolve over time (Bekir, El Harbi and Grolleau 2011). **Figure 1** presents anecdotal evidence regarding the wide use and misuse of status symbols in farming activities in various cultural settings.

Figure 1 ABOUT HERE

*Lesson 1: Before aiming at modifying agents' behavior, it is crucial to identify what dimensions are used as status markers.*

Of course, various reference groups are not isolated and influence each other in different ways. For instance, Bruni and Stanca (2006) argue that television “contributes to shifting up the benchmark for people’s positional concerns: income and consumption levels are compared not only to those of their actual social reference group, but also to those of their virtual reference group, defined and constructed by television programs. As a consequence, television viewing makes people less satisfied with their income and wealth levels. In this perspective, TV can be seen as a powerful factor in speeding up the positional treadmill, through comparison with higher benchmark groups.” Knight, Song and Gunatilaka(2009) found that “most rural people [in China] confine their reference groups to the village: their orbits of comparison are narrow.” Using survey data on several European countries, Clark and Senik (2009) found that colleagues are the most frequently cited reference group. Moreover, there is evidence that low status people are more likely to engage in compensatory behaviors and “over-consume” goods that confer status (Caplowitz 1967; Van Kempen 2007; Veblen 1899). Applied to environmental issues, this overconsumption of status signalling goods can ultimately reinforce the environmental impacts generated by low-status population through status-related strategies (Brekke, Howarth and Nyborg 2003).

Let us now consider agents (*e.g.*, farmers) which face the decision to adopt an environmentally friendly innovation. Rational agents will weigh the benefits against the costs of adoption and adopt

if the expected utility derived from adopting is greater than the status quo (reservation) utility, that is, if the net expected benefits are positive. For the sake of exposition, we assume that agents have a utility function which includes only two components, profit and status. While the former is well-known in the literature, the latter is less considered. Interestingly, one of the leading researchers in innovation diffusion, Everett Rogers (2003), devoted several pages of his seminal book to emphasize that in addition to profitability issues, the relative advantage of an innovation includes the ability to deliver status. In many circumstances, status dimensions interact with sustainable development issues, either in a neutral, positive or negative way. Interestingly, observable features of environmentally friendly behaviors may constitute (positive) negative positional goods, goods that convey social information that stigmatizes (magnifies) the adopter and lowers (increases) his/her social rank. The stigma that arises from negative positional goods may also create negative social attitudes and discrimination against adopters (Orbach 2006).

Table 1 describes the expected behavior of agents regarding the introduction of an innovation. When the innovation impacts status and profits differently, the aggregate effect is determined by the relative weights of these two components at the individual level. Indeed, individuals can differ in the weights they give to these components leading to different outcomes. Moreover, loss aversion can reinforce a no-change option in indeterminate cases because a gain will be less valued than a loss of a similar amount.

Table 1 about here



*Lesson 2: Rather than just verifying whether the proposed changes are economically profitable and environmentally friendly, it is crucial to understand how the proposed modifications interact with relevant status dimensions.*

Moreover, an adequate analysis of relationship between profitability and status can require taking into account different time horizons. Let us consider the example of an environmentally friendly innovation that delivers immediate but negative status output and delayed economic benefits. Later, the same innovation can also deliver status benefits. Innovations addressing climate change are frequently perceived as immediately and individually costly in economic and status terms while promising future collective benefits. For instance, it is well-known that in spite of its environmental benefits organic farming is frequently badly perceived in some farmers communities while its profitability becomes better than traditional farming after some years. Because of hyperbolic discounting bias, farmers can express a real interest in adopting the innovation but perpetually procrastinate (Frederick, Loewenstein and O'Donoghue 2002), leading to a lower diffusion compared to “rational” expectations.

*Lesson 3: Taking into account the timing of costs and gains regarding status and money is crucial to predict whether agents will adopt a given innovation.*

### **Strategies to Channel Positional Concerns**

Given the rooted desire of human beings for status differences, Frey (2008) argues that blocking a dimension that can confer status (e.g., by using taxation) will simply push individuals to seek other ways to differentiate themselves from others. Consequently, rather than preventing people from seeking status, a better solution is to channel relative issues and status seeking in a socially desirable direction. McAdams (1992) argues that relative preferences can be channeled to promote private provision of public goods. For instance, California has passed a bill that allows owners of hybrid cars (e.g., Prius) with a specific sticker to drive in the high-occupancy vehicle lanes with just a single occupant, reinforcing both status benefits and reducing commuting time. This strategy publicizes and increases the visibility of the socially desirable behavior, which results in a higher diffusion of the considered behavior (Griskevicius, Tybur and Van den Bergh 2010). Even at a country level, positional preferences over public goods can be initiated by increasing the visibility of the concerned dimension. Ayres and Nalebuff (2005) report an anecdote regarding how Norway expressed positional preferences based on the publication of the Environmental Sustainability Index: “After Norway came in second, the prime minister asked for a meeting to discuss the results. Rather than crowing about Norway’s superb showing, all he wanted to talk about was what his country could do to overtake Finland and become number one.” In short, increasing the visibility constitutes an excellent candidate to guide people in socially desirable directions.

*Lesson 4: Increasing the visibility of socially desirable innovations can increase their status conveying properties, resulting in higher diffusion, ceteris paribus.*

To align status seeking with socially desirable objectives, innovation promoters must understand what confers status in a given community to tailor the innovations for this community. A clear strategy can be to eliminate the negative positional dimensions of suggested innovations which will mechanically increase the likelihood of adoption, *ceteris paribus*. Related to this point, innovations are sometimes framed in a way that emphasizes the loss on a given status dimension (e.g., by adopting organic farming, the yields are lower), even if there are gains on other dimensions, such as an improved profitability. If some pre-existing status dimensions are harmed by the suggested innovation, a strategy frequently used is to redefine the dimensions on which status can be delivered or the reference group (Clark and Senik 2009; Wilkinson 2006). Indeed, getting status in other reference groups can counterbalance the negative status effects in the initial reference group. For instance, several contests have been created recently to compare entities on socially desirable dimensions, such as the Newsweek environmental ranking of the biggest companies in developed and emerging world markets ([www.thedailybeast.com/](http://www.thedailybeast.com/)) or at a lower level, the French national contest of the most bloomed grassland.

*Lesson 5: Eliminating or at least attenuating negative positional dimensions of socially desirable innovations can increase their diffusion, ceteris paribus.*

### **Conclusion**

Positional concerns matter a lot and form an important part of the motivation system in societies, especially in rural communities. Positional issues can explain behaviors that would otherwise be

labeled as “irrational,” either in developed countries or in developing countries. Consequently, ignoring the interactions between suggested innovations and status considerations in various reference groups can lead to flawed recommendations. Even if some more conventional conditions are fulfilled (from which profitability is the most natural candidate), status effects can prevent the adoption of innovations that are proven to be economically profitable and environmentally friendly. Indeed, some win-win innovations are perceived as negative positional goods, which result in lower rates of adoption. Rather than just asserting this disappointing outcome, we also suggested several strategies by which innovation promoters can reinforce the diffusion of innovations by explicitly taking into account relevant status dimensions. Nevertheless, the propositions advanced are only a first step toward a coherent analysis of how positional issues influence the adoption of innovations. There is ample room for further study of interactions between status-seeking behavior and pro-environmental changes.

### **Notes**

1. An exhaustive review of these works is beyond the scope of our contribution. The interested reader can refer to Grolleau, Mzoughi and Saïd (2012) for a recent review of the literature.
2. More formally, the authors demonstrate that Hirsch’s hypothesis holds true but under particular assumptions regarding the structure of individual preferences.
3. Brekke, Howarth and Nyborg (2003) report anecdotal evidence supporting that “status-seeking behavior is common in societies with comparatively low consumption levels.”
4. Individuals can also have psychological defense mechanisms to maintain their subjective well-being even if they experience a disadvantageous relative position (Frey 2008; Wilkinson 2006). For instance, they can increase the number of dimensions on which individuals compare or the number of reference groups for a given dimension.

5. “It was sort of a good status symbol,” Lucile Cole says of silos. “If you didn’t have a silo, you weren’t quite as good a farmer”( <http://starbeacon.com/currents/x343649743/SILOS/print>).

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