

Environmental capital. A study on how ecological choice influences other relevant behaviors of consumers

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The change in energy sector from centralized to distributed enables people to become *prosumers*. Prosumers generate electricity using microgeneration technologies that are environment-friendly. The number of prosumers is increasing; hence it is worth analyzing what drives a prosumer to produce energy. Although a growth of environmentally friendly behaviors can be observed, there is also an increase of greenhouse gas emissions caused by human activity. Since prosumers affect environmental quality and in result social welfare, it is important to understand prosumers motivations, and the possible results of their choices.

It has been observed in economic research regarding choice theory, that one positive decision can potentially be followed by another, negative one. The phenomenon has been described as *moral licensing*, understood as making a positive decision first, and then permitting a negative or harmful behavior. Therefore, the questions the author would like to answer are following: is it possible, that people who choose environmental-friendly actions, feel free to act selfishly in other relevant situations regarding environment protection? To rephrase it, if people protect the environment, do they permit themselves to harm it in another situation? For example, do prosumers use more water and stop recycling than ordinary electricity consumers? Additionally, it will be analyzed if other relevant decisions of prosumers can be influenced by a *rebound effect*. The rebound effect can be described using an example: when one starts to produce energy, does she think it is now *free*, and therefore one can spend more of it. The effect of these actions will be negative for the environment, since reducing electricity consumption is often followed by increased water use. The third possible result of prosumers' actions, in contrast to moral licensing and rebound effect, is the spillover effect. Spillover effect is positive and it means that if we care about one aspect of the environment protection we should learn how to be more environmentally-friendly. For example, if we produce energy from renewable sources, we could also use public transportation more.

Since it will be analyzed what drives prosumers and what are the possible effects of their choices, the author introduces a concept of “**environmental capital**”. Environmental capital is an asset, that can be affected by choices and acts of an individual. Environmental capital should increase when people actively participate in conservation of the environment (for example if they are renewable energy prosumers, public transportation commuters, people who recycle, etc.) and decrease when instead of protecting the environment, one acts selfishly (for example by consuming cheap conventional energy, driving highly polluting cars, etc.). Using the concept of environmental capital, it will be analyzed if an individual can learn how to be more altruistic by experiencing positive spillover effect, or learn how to be selfish from selfless acts, experiencing moral licensing or rebound effect.

In order to test the three possible effects of environmentally relevant choices, a field experiment aimed at prosumer community from Belgium will be performed. The primary part of the field experiment will compare electricity usage and water consumption in the community. By comparing how production of renewable energy can influence other choices of prosumers (mainly, water usage, recycling and commuting habits) it will be observed how environmental choices affect other important decisions. In order to finish the research, the results of the field experiment will be summarized and the author will propose recommendations for environmental policies. Since it is important to understand what motivates individuals in order to create efficient institutional environment (for example tax regime or subsidies) the research should help to create better solutions for the society.

In conclusion, the research attempts to answer important questions arising from urgent social needs, that is the quality of the environment and welfare. Using modern economical methodology, the author will test how positive choices can affect human behavior. This should not only help in shaping relevant energy policies and increasing the environmental quality, but also offer important insights in other social sciences.