

COMPARATIVE FEEDBACKS UNDER INCOMPLETE INFORMATION

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Overview

Households represent a very significant share of global energy consumption.¹ Achieving significant savings in end-users' energy consumption has thus for long been identified as an important way to decrease global CO₂ emissions.

Curbing end-users' behavior has however proven challenging. Recently, various types of non-monetary incentives, also known as nudges, have been tested and implemented to influence households' behavior. In the context of residential energy consumption, comparative feedbacks — that is personalized messages describing how one's behavior compares to that of relevant others — are among the most widely used nudges. Millions of residential consumers all around the world are receiving such messages from utilities or energy service companies.

A clear understanding of why such feedbacks induce consumers to change their behavior is however lacking. In particular, comparative feedbacks may induce recipients to update their beliefs about both reachable material outcomes and perceived self/social esteem. Both channels are very hard to disentangle in the field, which notably makes welfare analysis a very challenging task.

This paper contributes to the literature by focusing on the role of pure information on material outcomes. This focus is particularly relevant in the context of residential energy consumption, where households very often lack sufficient information and/or time to make fully informed decisions.²

Methods

The paper uses an online experiment whose design allows to focus on the pure informative aspect of peer comparisons.

Results

Despite the absence of any significant normative pressure, comparative feedbacks are found to trigger comparable or even greater changes in behaviors than other kinds of informative and more accurate feedbacks.

Different cognitive costs may explain why comparative feedbacks proved more effective at changing behaviors. In particular, additional results of our experiment suggest that comparative feedbacks more effectively conveyed to participants the idea that it should not be too difficult for them to reach a better outcome.

Conclusions

In environments where information is incomplete, such as residential energy consumption, comparative feedbacks can prove effective at inducing changes in behaviors even in the absence of any peer pressure. One possible explanation is that they convey useful information about the cost/difficulty to achieve a better outcome.

¹ For example the residential sector represented 25.4% of EU final consumption in 2016 (source: Eurostat).

² For example Brounen et al. (2013) found after surveying 1721 Dutch households that about half of participants answered “*I have no idea*” to the question “*How much do you pay for your monthly electricity bill?*”.

References

Dirk Brounen, Nils Kok, and John M Quigley. Energy literacy, awareness, and conservation behavior of residential households. *Energy Economics*, 38:42–50, 2013.