THE CAUSAL EFFECT OF PRIVATE AND ORGANIZATIONAL CLIMATE-RELATED IDENTITY ON CLIMATE PROTECTION ACTIVITIES: EVIDENCE FROM A FRAMED FIELD EXPERIMENT IN JAPAN

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Overview

To limit climate change and its strong negative consequences, it is widely accepted that the reduction of greenhouse gas emissions is necessary. The insight that climate protection is a global public good has led to the Paris Agreement of COP21 in 2015 comprising ambitious long-term emission reduction goals. While a key component of the agreement is that each country sets its own greenhouse gas emission target, most countries fail to meet the pledges due to insufficient climate policy measures (e.g. Victor et al., 2017). However, even if a country is willing to achieve ambitious emission reduction targets, the implementation of the targets is certainly a huge challenge and requires integrated activities at all societal levels. In particular, it is widely accepted that regulations alone are not sufficient, but have to be supplemented by additional voluntary climate protection activities, for example, by companies, but also by individuals. Therefore, it is useful to systematically analyze explanatory factors for individual climate protection activities. Knowledge about these factors are an appropriate basis to design policy approaches that complement common climate policy measures like subsidies, carbon taxes, or emission trading systems (e.g. Falk et al., 2021).

Against this background, this paper empirically examines the determinants of individual climate protection activities in Japan. We consider a wide range of variables that have been shown to be relevant in previous studies. Besides common socio-demographics, we address environmental attitudes and especially economic preferences. i.e. time, risk, and social preferences. Economic preferences are often examined in behavioral economics (e.g. Falk et al., 2018) and play an important role for individual behavior like housing ownership or stock purchases, but also for climate protection activities (e.g. Fischbacher et al., 2021). For employed persons, we additionally examine whether environmental activities in the organization for which employees work (measured by an environmental management system) can lead to spillovers in terms of own individual climate protection activities (e.g. Arimura et al., 2021).

However, we mainly analyze whether climate protection activities can be encouraged and accelerated by specific interventions, which might be used by climate policy. Many experimental interventions in previous studies refer to different types of information such as information on possibilities to reduce individual greenhouse gas emissions (e.g. Bernard et al., 2022) or information on the prevalence of social norms and thus on climate protection activities of other people (e.g. Falk et al., 2021). In our experimental approach, we follow an alternative approach. We adopt a method from social psychology, called priming, which is increasingly used in economics (for an overview on priming studies in economics see e.g. Cohn and Maréchal, 2016). Specifically, we prime the climate-related identity of individuals, whereby we differentiate between private and organizational contexts.

Methods

Our empirical analysis is based on data from a large-scale computer-assisted survey among overall 2452 citizens in Japan. The sample was stratified according to age groups, gender, and prefectures so that it is representative in terms of these characteristics. The survey consisted of three parts. The first part referred to several attitudes and preferences. In the second part, the respondents participated in a framed field experiment and answered questions on environmental issues and their working live. The last part comprised some socio-economic characteristics. The framed field experiment referred to interpersonally comparable revealed climate protection activities, which are measured with an incentivized donation scheme. This is in line with, for example, Falk et al. (2021), Ziegler (2021), or Fornwagner and Hauser (2022), but in contrast to other previous studies considering less reliable survey-based stated climate protection activities (e.g. Arimura et al., 2021, Lange et al., 2017, Fischbacher et al., 2021, Bernard et al., 2022).

Specifically, the participants of the survey were asked to divide 10,000 Yen between the own account and a donation for climate protection in the J-Credit Scheme, which is a Japanese government program to promote reductions of greenhouse gas emissions. In a common probabilistic incentive approach, the respondents were informed that about 1% of them would be randomly selected and could receive the amount of 10,000 Yen. In our econometric analysis with linear regression and Tobit nodels, the individually donated amount for the J-Credit Scheme is used as indicator for climate protection activities. In the corresponding interventions, the respondents were asked to describe own climate protection activities and/or climate protection activities of the company, institution, or organization for which

they work (or have previously worked) or of the university at which they study. The respondents were therefore reminded of previous climate protection activities so that the salience of climate-related identity is increased. This approach thus allows to examine the causal effect of climate-related identity on climate protection activities.

Results

In line with previous studies, the econometric analysis reveals that environmental attitudes, i.e. environmental awareness and ecological policy identification, are strongly positively correlated with climate protection activities. With respect to economic preferences, trust and positive reciprocity are significantly positively and negative reciprocity is significantly negatively correlated with the donations for climate protection. However, in spite of the aforementioned significant correlations for environmental attitudes, we cannot confirm causal effects of climate-related attitudes since priming the identity of respondents with own climate protection activities in the private context has no significant effect. This insignificant effect is very robust and reliable since the priming manipulation was extremely successful as shown in a word-completion task directly after the treatments.

On this basis, our econometric analysis shows that the organizational climate-related treatment (i.e. priming the identity of employees with climate protection activities in the organization for which they work) has a significantly positive effect on donations for climate protection. The empirical analysis also finds that the estimated treatment effect is particularly strong in the relatively small subgroup of executive officers, managers of firms, and self-employed persons. Interestingly, the combined private and organizational climate-related treatment has no significant effect on donations for climate protection, which suggests that the ineffective private context is dominating in the corresponding priming task.

Conclusions

Our estimation results suggest that climate protection in companies, institutions, or other organizations has the potential to increase private climate protection, at least if individuals are reminded of corresponding organizational activities. This result is even more remarkable in the discussion of the relevance of so-called non-state actors like companies since persons who work for a company, an institution, or another organization with an environmental management systems (EMS) do not donate significantly more for climate protection than the comparison group in companies, institutions, or organizations without an EMS. The estimation result for executive officers, managers of firms, and self-employed persons suggests that a higher individual responsibility and decision-making authority also in terms of climate-related decisions leads to stronger causal effects of organizational climate-related priming.

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