

# Ecological Footprint and Willingness to Pay for Green Goods: Evidence from the Netherlands

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Human consumption of scarce ecological resources is at the heart of the climate change crisis, with current levels of consumption exceeding the Earth's capacity to replenish these resources. Hence, mitigating climate change requires changes in consumer behavior. Further, to respond effectively, policymakers need to understand the drivers behind individuals' behavior towards the environment.

Our objectives are to examine how socio-demographic characteristics such as income, age, gender, household composition, and personality traits influence an individual's environmental impact. Using field survey data from the Netherlands, we estimate an individual's ecological footprint (EF), a broad measure of an individual's environmental impact based on her/his actual consumption patterns, a novelty of our study. The survey also uses a 50-item personality scale developed by Goldberg (1992) to construct five personality traits. We also analyze an individual's willingness to pay (WTP) a price premium for more environmentally friendly goods and services that are associated with high emissions (e.g., meat, household energy, fuel, and aviation travel).

The survey was administered and conducted by the CentERdata at Tilburg University. The Dutch National Bank, (DNB) Household Survey is the largest project based on the CentERdata. The survey collects household-level data as well as information on economic and psychological concepts from a cross-section of the Dutch population to determine household and individual decision-making behavior. Further, the CentERpanel and the Tilburg Sustainability Center (TSC) released the first Tilburg Sustainability Monitor (TSM) survey in 2010, focusing heavily on climate action and resource efficiency. We use these TSM surveys in this project to examine our objectives.

Our results indicate that individuals with higher personal income, less than a high school education, males, the employed, and people living in rural areas are associated with a higher EF. We also see that personality traits do not significantly affect EF. Our WTP exercise finds evidence of a standard decline in the demand for meat and household energy, but there is no significant evidence that car and air travel are responsive to changes in price. These findings can have important implications for policymakers as interventions to reduce individual environmental impact can be more effective if they are tailored to suit different segments of the population.

We contribute to the existing literature in the following ways. Specifically, the growing literature on the environmental impact of individuals and households represents an important research area in several disciplines. Environmental attitudes (concern, awareness, and values) and pro-environment behaviors of individuals and households have attracted the interest of an increasing number of academics. However, an objective measure of behavior is lacking in the research on individuals'

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and households' actual environmental impact. Our paper makes three main contributions. First, we contribute to the literature by shedding greater light on the influence (or lack of influence) of socio-demographic and personality characteristics on the actual environmental impact—in the form of the EF—from an individual's perspective. Second, we contribute to the emerging literature on EF as a measure of this impact at the individual level with actual consumption patterns. Finally, we contribute to the growing economic literature on consumers' WTP for 'green' products and the ensuing discussion on using market-based solutions to tackle climate change.