

# Essays on Environmental and Behavioral Economics

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## **AKADEMISK AVHANDLING**

**som med vederbörligt tillstånd för vinnande av  
economie doktorsexamen vid  
Handelshögskolans fakultet, Göteborgs universitet,  
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## Abstracts

### **Chapter 1: Time Preference and Charitable Giving: Evidence from Ethiopia**

We conduct an experiment to investigate the effect of varying the timing of payments and donation commitments on charitable giving. Using a between-subject design, we randomly assigned 437 participants to three groups: donate today, commit immediately and donate later, and pledge immediately but donate later. Asking donors for a binding commitment to donate later increases donations by 37% compared with asking donors to donate immediately. The effect found in our study is almost twice larger than the effect size found in previous studies. When donors are asked to make a non-binding pledge immediately and donate later, donations are not statistically significantly different from asking donors to donate immediately. The difference in donations across the three groups is not correlated with time-inconsistent behavior of individuals. Our findings suggest that instead of asking for donations immediately, charity organizations in developing countries can increase donations by requesting binding commitments to make future donations.

### **Chapter 2: Measuring Trust in Institutions**

In empirical studies, survey questions are typically used to measure trust; trust games are also used to measure interpersonal trust. In this paper, we measure trust in different institutions by using both trust games and survey questions. We find that generalized trust is only weakly correlated with trust in specific institutions, when elicited both by using a trust game and by using survey questions. However, the correlation between trust in a specific institution elicited through a trust game and stated trust for the same institution is stronger and statistically significant. Thus, our findings suggest that generalized trust is not an appropriate measure of institutional trust and that more specific institutional trust measures should be used.

### **Chapter 3: The Persistence of Energy Poverty: A Dynamic Probit Analysis**

This paper contributes to the growing literature on energy poverty in developing countries. We use a dynamic probit estimator on three rounds of panel data from urban Ethiopia to estimate a model of the probability of being energy poor and to investigate the persistence of energy poverty. We also study the impact of energy price inflation, which Ethiopia experienced 2007–2009, on energy use and energy poverty. We find strong evidence of state dependence in energy poverty. A household that is energy poor in one round is up to 16% more likely to be energy poor in the subsequent round. Dynamic probit regression results also suggest that an increase in the price of kerosene – the most important fuel for the urban poor – drives households into energy poverty. A fractional response estimator for panel data, which estimates the impact of energy prices on the proportion of energy obtained from clean sources, also supports the finding on the adverse impact of energy price inflation. Households responded to the significant rise in the price of kerosene by consuming a large amount of charcoal, which has been documented to have serious environmental, climate, and health consequences. Our results have significant implications for policies developed to reduce energy poverty, conserve biomass resources, and promote energy transition.

### **Chapter 4: Cost of Power Outages for Manufacturing Firms in Ethiopia: A Stated Preference Study**

Having a reliable supply of electricity is essential for the operation of any firm. In most developing countries, however, electricity supply is highly unreliable. In this study, we estimate the cost of power outages for micro-, small-, and medium-sized enterprises in Addis Ababa, Ethiopia, using a stated preference survey. We find that the willingness to pay, and thus the cost of power outages, is substantial. The estimated willingness to pay for a reduction of one power outage corresponds to a tariff increase of 16 percent. The willingness to pay for reducing the average length of a power outage by one hour corresponds to a 33 percent increase. The compensating variation for a zero-outage situation corresponds to about three times the current electricity cost. There is, however, considerable heterogeneity in costs across sectors, firm sizes, and levels of electricity consumption. Policy makers could consider this observed heterogeneity when it comes to aspects such as where to invest to improve reliability and different types of electricity contracts.

**JEL Classification:** C91, D64, D91, L31, C90, D01, D02, O43, Q40, Q42, Q48, D22, Q41

**Key words:** Time preference, charitable giving, intertemporal choice, Ethiopia, Experiment, institutional trust, generalized trust, power outages, willingness to pay, choice experiment, Energy Poverty, Kerosene Price, Dynamic Probit, Urban Ethiopia.

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