

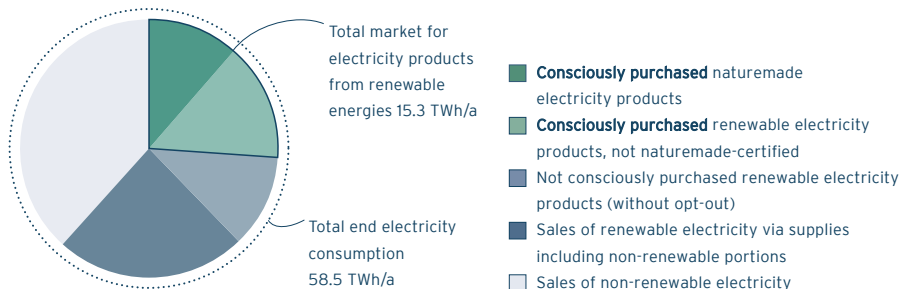
Social Norms and the Residential Electricity Mix

Joëlle Velvart

University of Basel

IAEE European Conference, 27.08.2019

Electricity products by energy source



Source: BFE, 2018: Electricity products from renewable energies - the market in 2016

How can this demand be fostered?

Social norms can influence pro-environmental behavior

- ⚡ Effect is sometimes ambiguous
- ⚡ Boomerang effects (e.g. Richter et al. 2018)

Aim of this work

Getting a better understanding of these issues

- More efficient design of social norms as instrument to foster demand for green electricity

Research questions

- What is the relation between social norms and household demand for green electricity?
- Do social norms have to be differentiated by reference group in order to foster this demand?

Social norms and pro-environmental behavior:

- Descriptive and injunctive norms (*Cialdini et al. 1991*)
- Littering, Electricity usage (*Kallgren et al. 2000, Schultz et al. 2007, Nolan et al. 2008*)
- Overview of evidence (*Farrow et al. 2017*)

Social norms and green electricity:

- Social Norms (*Ek and Söderholm 2008*)
- Theory of planned behavior (*Litvine and Wüstenhagen 2011*)
- Nudges (*Momsen and Stoerk 2017*)

Research gap

- Existing social norms not taken into account enough
- Norm distinction by reference group

Detailed analysis in this project using:

- Rich survey data
- Unique data set with aggregate data on municipality level

Swiss Household Energy Demand Survey

- Dependent variable: Active change to a "greener" electricity mix compared to the default option
- Perceived injunctive norms in reference to acquaintances and to national society
- Estimation of Probit models with socio-demographic and other HH energy demand related control variables

Survey data: Social norms

	Totally disagree 1	2	3	4	Totally agree 5
Injunctive Most of my acquaintances expect that I behave in an environmentally friendly manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
National In the Swiss society, it is usually expected that one behaves in an environmentally friendly manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure: Measurement of perceived social norms

Survey data - Descriptive statistics

	Mean	Standard deviation	Min	Max
Elec mix change	0.19	0.39	0	1
Injunctive norm	3.22	1.05	1	5
National norm	3.56	0.93	1	5
Norm difference	-0.35	1.09	-4	4
Norm difference dummy	0.57	0.49	0	1
Number of observations	4'293			

Findings

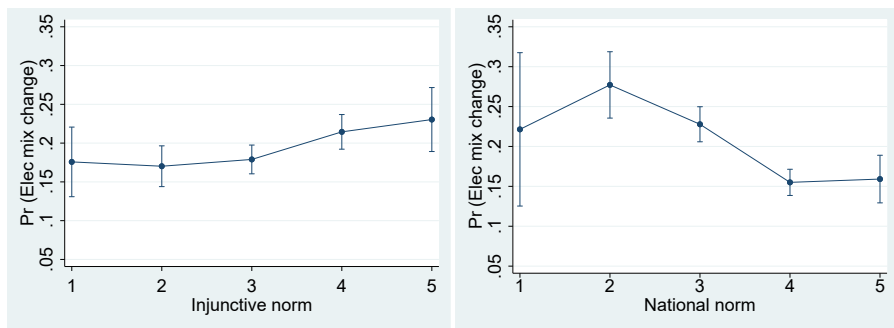


Figure: Predictive margins for social norms with 95 % CI

Difference between norms matters

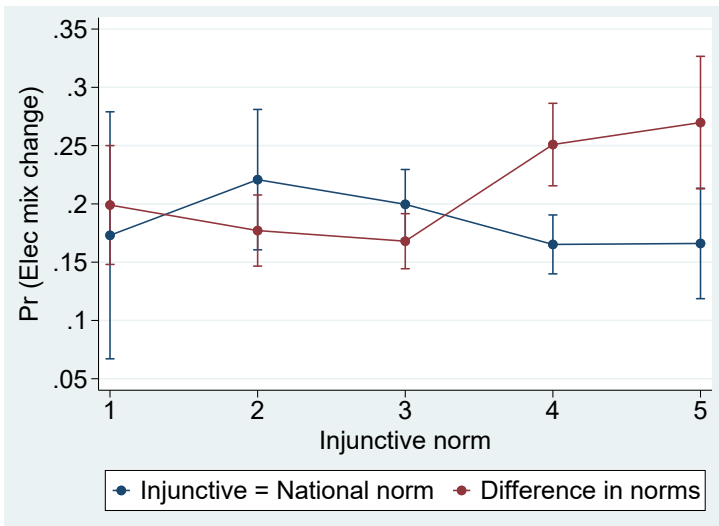


Figure: Predictive margins for injunctive norms with 95 % CI

Conclusion

- Statistically significant relation between perception of social norms and the choice of a green electricity mix.
- Distinction of social norms by reference group and difference between norms do matter.

Outlook:

- Analysis of aggregate data on municipality level
- Social norms distinction by geographical reference group
- Potential future research: (Field) experiment taking existing social norms into account