

Using Revenue to Reduce Resistance to Carbon Pricing: Evidence from Europe

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Background

- Economists like carbon pricing. The public does not.
- In Europe: National carbon taxes are under pressure... and EU ETS2 is coming
- We want to understand **how revenue use affects acceptance of EU-wide carbon pricing.**

Method: Main Experiment

Split-sample survey experiment conducted in five EU countries (DE, FR, IT, PL, RO) with approximately 20,000 representative respondents.

- "Consider an EU 'carbon pricing' policy that raises fuel prices by 11 cents/liter for diesel and heating oil, 10 cents/liter for petrol, and 9 cents/m³ for natural gas ($\approx 1\text{ cent}/\text{kWh}$). [Revenue-use descriptions randomly inserted here.]"
- ($\sim 45 \text{ EUR/tCO}_2$.)

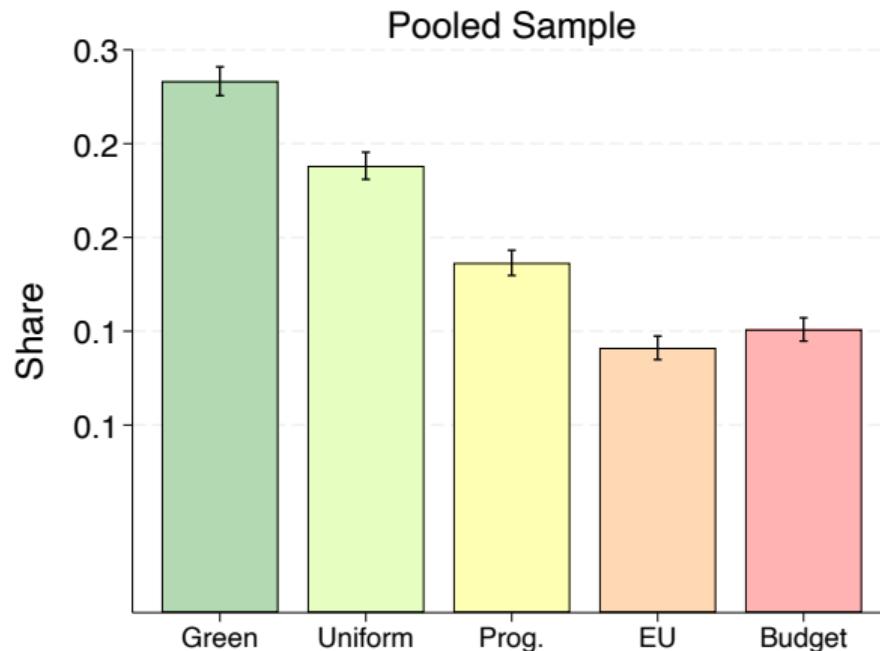
Each respondent was **randomly assigned** to one of five revenue-use treatments:

- **Green investments** ("Green")
- **Uniform refunding** to all citizens ("Uniform")
- **Progressive refunding** within each country ("Progressive")
- **EU-wide progressive refunding** ("EU progressive")
- **No earmarking** – revenue to the general state budget ("Budget")

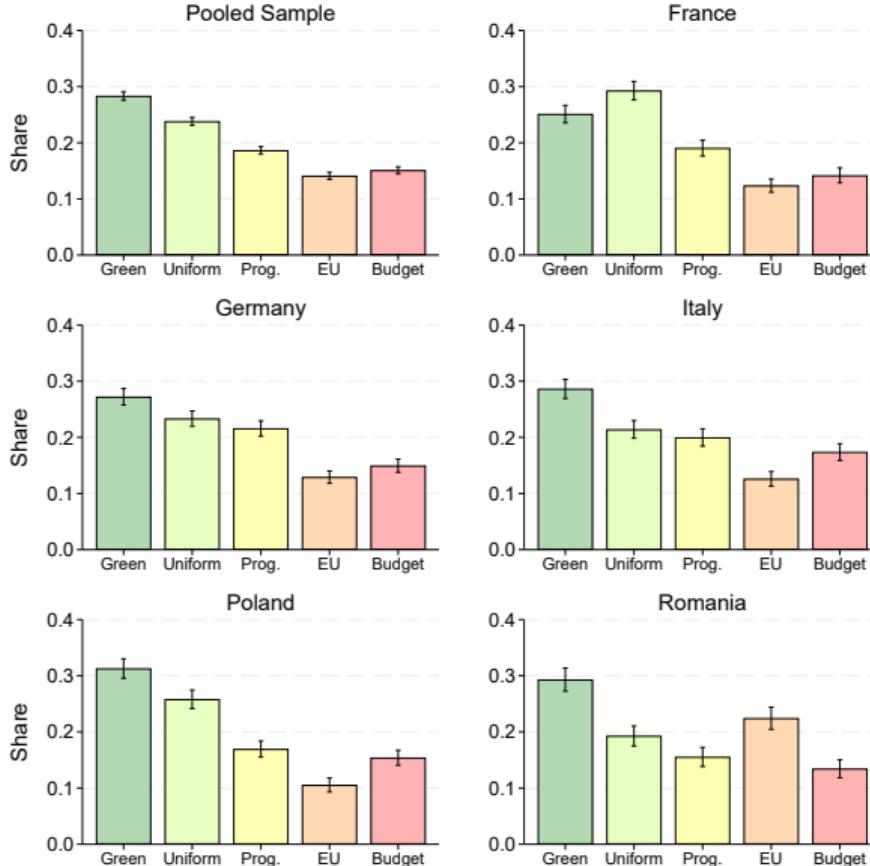
Method: Additional Components

- We analyze heterogeneous treatment effects across political attitudes, trust, climate concern, etc.
- We replicate the experiment for aviation carbon pricing
- We examine acceptance of the current EU ETS revenue use and the role of EU funds
- We also include a standard preferred revenue use question

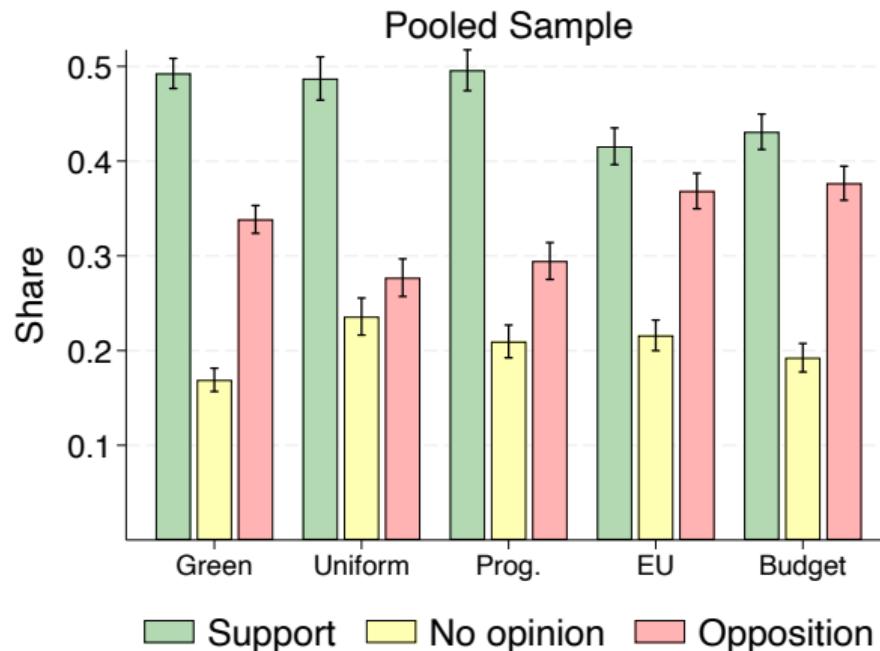
Results – Preferred Revenue Use



Results – Preferred Revenue Use



Results – Treatment Effects



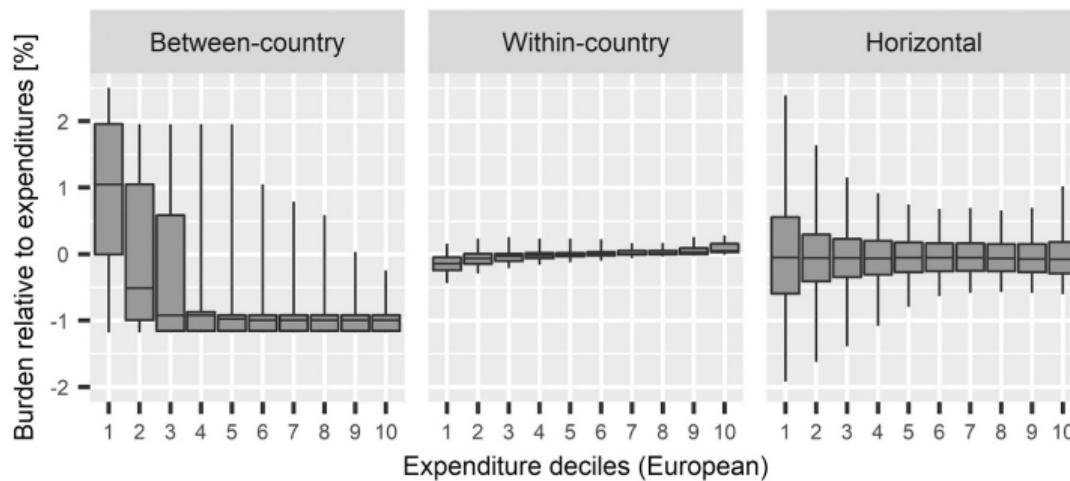
Results – Treatment Effects

S. Feindt *et al.*

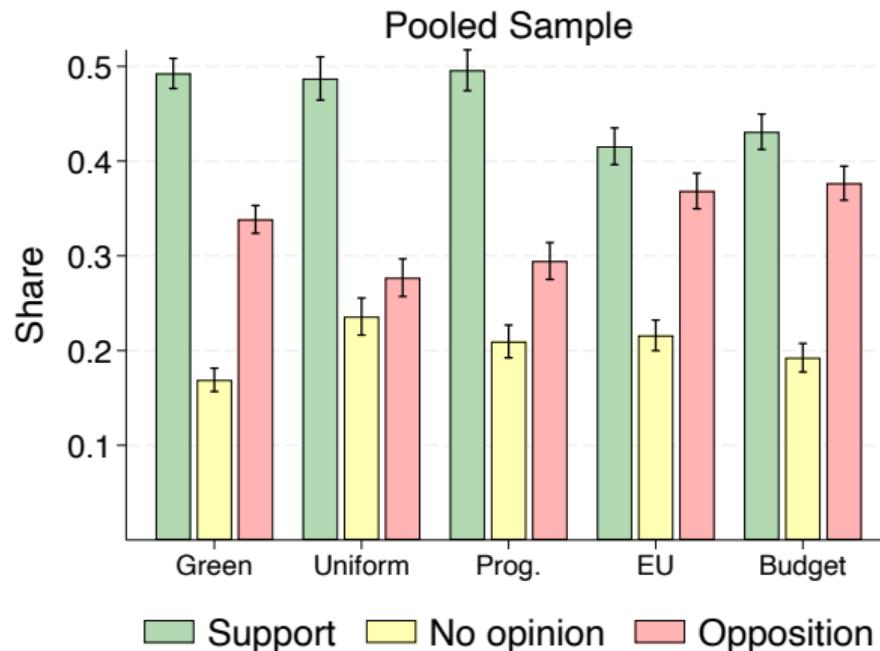
Energy Economics 103 (2021) 105550

Decomposition of effects

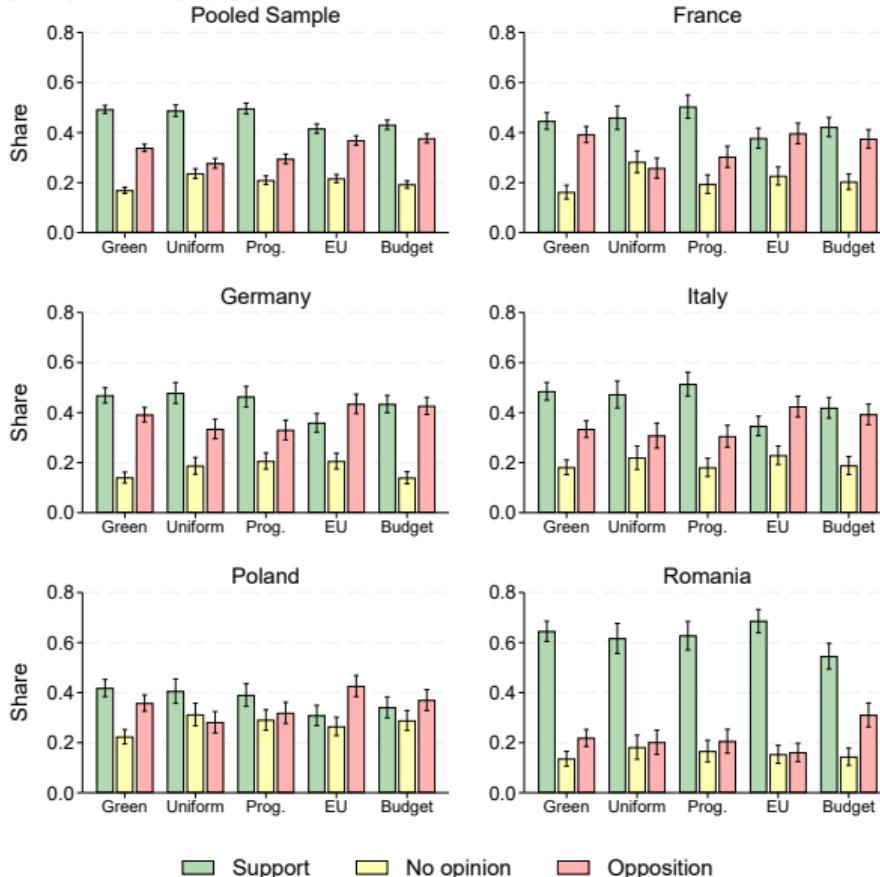
Carbon tax = 25EUR/tCO₂



Results – Treatment Effects



Results – Treatment Effects



Regression Results

Table: Support for Carbon Pricing

	OLS				Probit AME
	(1)	(2)	(3)	(4)	(5)
<i>Revenue treatment</i>					
Green spending	0.070*** (0.013)	0.067** (0.015)	0.081*** (0.011)	0.087*** (0.010)	0.086*** (0.010)
Uniform	0.070*** (0.015)	0.067*** (0.008)	0.080*** (0.007)	0.079*** (0.005)	0.080*** (0.004)
Domestic progressive	0.075*** (0.015)	0.077*** (0.012)	0.085*** (0.013)	0.082*** (0.012)	0.084*** (0.009)
EU progressive	-0.011 (0.014)	-0.014 (0.040)	-0.006 (0.037)	-0.005 (0.033)	-0.006 (0.032)
Country fixed effects		✓	✓	✓	✓
Controls			✓	✓	✓
R ²	0.006	0.037	0.073	0.202	
N	19,709	19,709	19,709	19,709	19,709

Notes: Robust standard errors clustered by country in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

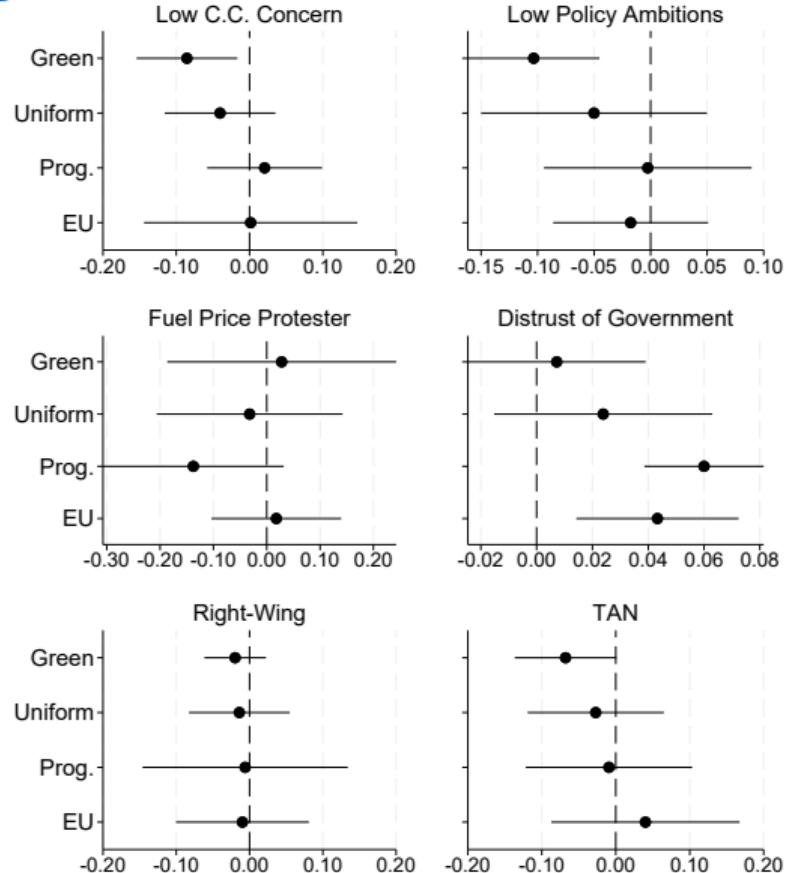
Regression Results

Table: Opposition to Carbon Pricing

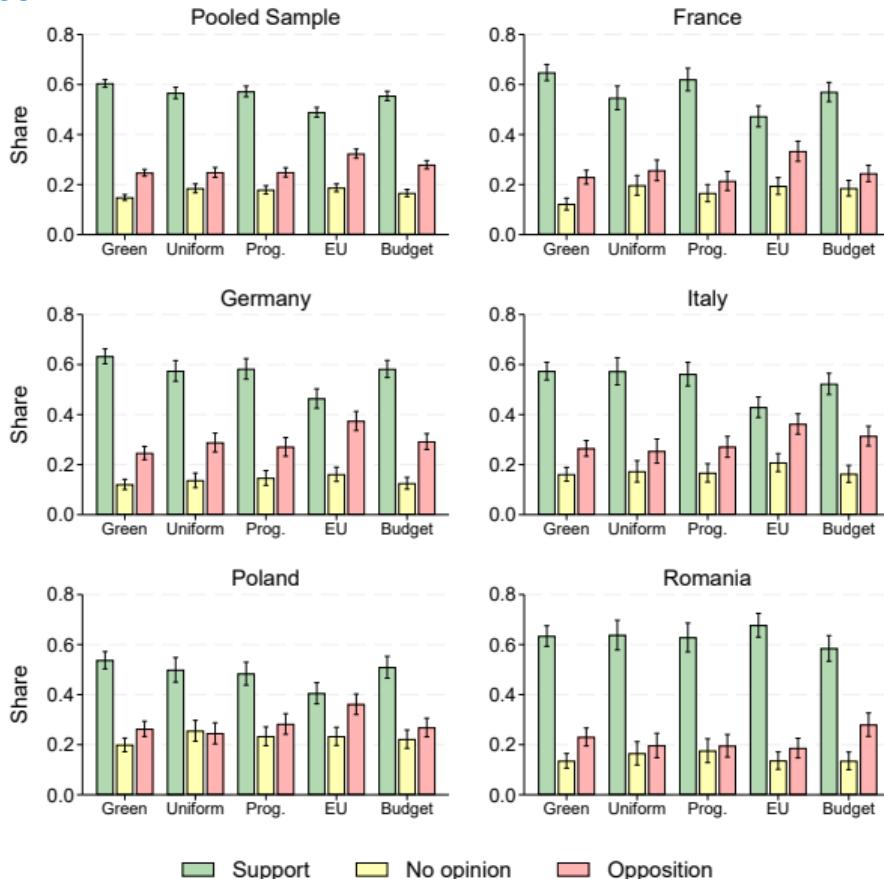
	OLS				Probit AME
	(1)	(2)	(3)	(4)	(5)
<i>Revenue treatment</i>					
Green spending	-0.042*** (0.012)	-0.040 (0.019)	-0.048* (0.019)	-0.055** (0.015)	-0.055*** (0.016)
Uniform	-0.111*** (0.014)	-0.108*** (0.006)	-0.118*** (0.010)	-0.117*** (0.011)	-0.114*** (0.011)
Domestic progressive	-0.090*** (0.014)	-0.089*** (0.009)	-0.094*** (0.010)	-0.089*** (0.010)	-0.088*** (0.011)
EU progressive	-0.011 (0.014)	-0.007 (0.037)	-0.014 (0.038)	-0.018 (0.030)	-0.018 (0.032)
Country fixed effects		✓	✓	✓	✓
Controls			✓	✓	✓
<i>R</i> ²	0.007	0.024	0.038	0.190	
<i>N</i>	19,709	19,709	19,709	19,709	19,709

Notes: Robust standard errors clustered by country in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

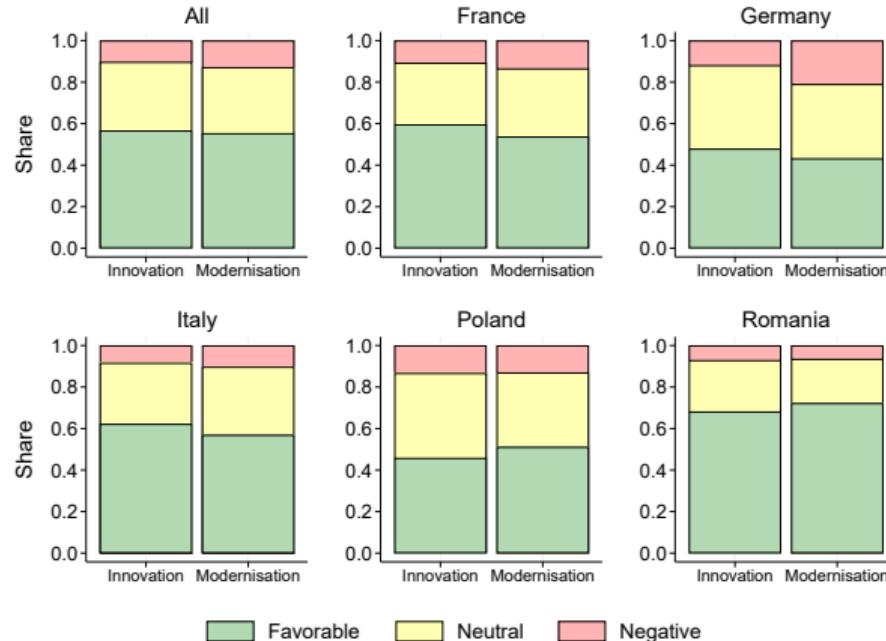
Results – Heterogeneous Effects



Results – Aviation



Results – EU Funds



Conclusions

- We find large effects!
- Green spending and revenue recycling similarly boost support, but green spending has a smaller impact on reducing opposition.
- No effect from recycling at the EU level.

Thanks for listening!

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References I