

# Energy cost concerns as driver of carbon pricing opposition

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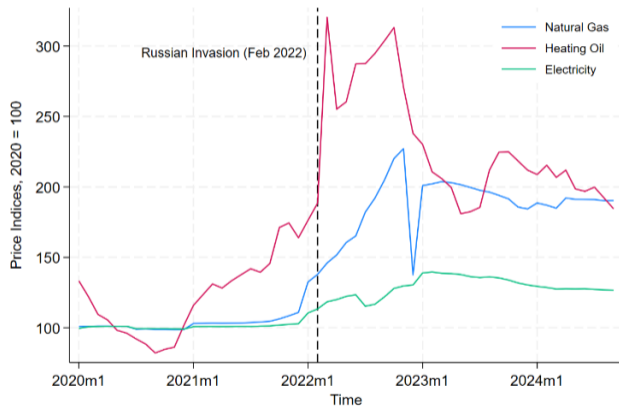
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## Russian invasion of Ukraine triggered energy crisis in Germany



Source: Own illustration with data from the Federal Statistical Office (2024)

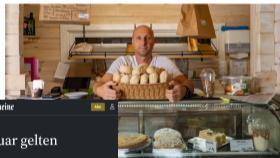
## Population fears grew while government introduced relief measures

- Widespread news coverage during winter 2022/23.
- Germany introduced gas & electricity price cap for 2023:
  - applying to the basic consumption of 80%
  - heating: gas max 12 cents & district heating 9.8 cents per kWh.
  - electricity: 40 cents per kWh.
  - regular market prices apply for any additional electricity or gas consumption beyond quota



Teuer-Krise sorgt für Rekord  
**Gas kostet bis zu 319 Prozent mehr als im Vorjahr!**

Bäcker zahlt jetzt 3300 Euro statt 2000 für Strom!  
**Wir kriegen die Energie-Krise**  
Und die Butter- und Mehlpreise haben sich sogar verdreifacht!



## Research Motivation

- (Perceived) energy cost burden may affect support for climate policies (Groh & Ziegler (2018); Fanghella et al. (2023))
- Limited evidence on how *individual-level* economic shocks affect public support for climate policies (Kahn & Kotchen (2011))
- Relief measures can conflict with climate goals encouraging carbon-intensive consumption
- **But:** Relief measures may be a **second-best option** by stabilizing public support for costly climate policies

### Research aim:

Understand the impact of financial and psychological distress—both objective and perceived—for **public support of carbon pricing** and the role of relief measures.

## The survey

- Follow-up survey concerning German carbon price support in summer 2023
- ~ 4,300 respondents aged 18 and above from forsa.omninet panel
- **Survey Design:**
  - Elicit policy support for the installed **carbon price** (€30) and the **gas & electricity price cap** (crisis relief measures)
  - Elicit self-reported financial and psychological distress due to increased heating cost → **may be biased due to salience or recall bias** (Broberg & Kažukauskas (2021); Singhal (2024); Kahneman & Tversky (1974); Chetty et al. (2009))
  - Use a randomized stated-response experiment to **instrument for distress**
  - Extensive Controls: **heating source, material deprivation, energy poverty, dwelling characteristics**, socio-demographics, political orientation, environmental attitude, trust, fairness preferences, etc.

## Survey Structure & Experimental Design

### Outcome

**Policy support to:** • carbon price of €30 • gas price cap • electricity price cap  
*5 Item Likert response scale: (1) strongly disagree, (5) strongly agree*

### Instrument

**Heating costs** for the past year/average month.

*(Random assigned hypothetical cost increase: 10%, 25%, 50%, 100%, or 200%)*

**Hardship Indicator:** How easy or difficult would it be for you to bear this additional financial burden?

*6 Item Likert response scale: (1) very easy to (6) impossible*

### Endogenous Variable

**Distress measure:** • financial • psychological  
*5 Item Liker response scale: (1) Not at all to (5) Highly distressed*

## Instrumental Variable Approach using 2SLS framework

### First Stage:

**Instrument:** interaction of experimental variation in heating cost increase  $\mathbf{T}_i$  (set of dummies) with stated inability to cope (hardship)  $\mathbf{H}_i$ .

$$Z_i = \alpha_1 + T_i H_i' \alpha_2 + X_i' \alpha_3 + \varepsilon_i, \quad (1)$$

- $\mathbf{Z}_i$  is the financial or psychological distress indicator (binary) for individual  $i$ .
- $\mathbf{X}_i$  is a set of controls (socio-demographic, heating, dwelling, political & attitudinal characteristics).

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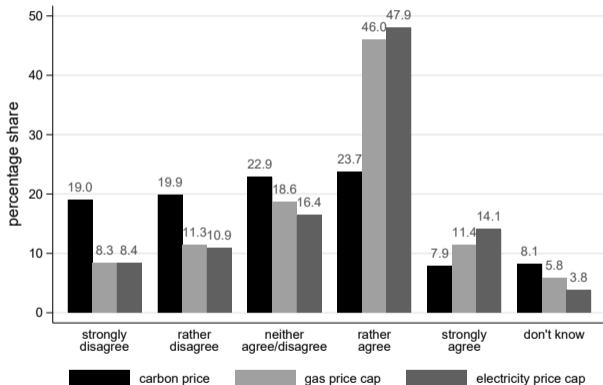
- $\mathbf{Z}_i$  is the financial or psychological distress indicator (binary) for individual  $i$ .
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### Second Stage:

$$Y_i = \beta_1 + \hat{\mathbf{Z}}_i' \beta_2 + \mathbf{X}_i' \beta_3 + \eta_i, \quad (2)$$

- $\mathbf{Y}_i$  is policy support for carbon price/price caps.
- $\hat{\mathbf{Z}}_i$  is the predicted value of distress from the first stage.

## Summary Statistics: Policy Support in 2023



Sample: 4,295

- N=4,295
- Support **carbon price** of €30: **31%** (27% in 2021).
- Support **crisis relief measures**: gas price cap **57%** & electricity price cap **61%**

## Results: Carbon Price Support

	Financial distress		Psychological distress	
	OLS	IV	OLS	IV
	Coeff./Std. Err.	Coeff./Std. Err.	Coeff./Std. Err.	Coeff./Std. Err.
financial distress	-0.044** (0.015)	-0.108** (0.038)	– –	– –
psychological distress	– –	– –	-0.042** (0.014)	-0.172** (0.060)
Constant	0.133 (0.083)	0.141 (0.083)	0.131 (0.083)	0.140 (0.084)
Sanderson-Windmeijer $F$ (weak identification) p-value		81.144 0.000		33.185 0.000
Hansen $J \chi^2$ (overidentification) p-value		2.945 0.938		2.739 0.950
Kleibergen-Paap rk LM $\chi^2$ (underidentification) p-value		569.791 0.000		263.875 0.000
Controls	✓	✓	✓	✓
$R^2$	0.241	0.237	0.241	0.228
Number of observations	4295	4295	4295	4295

Note: Robust standard errors are in parentheses. \*\*\*, \*\* and \* denote statistical significance at the 0.1 %, 1 % and 5 % level, respectively.

## Results: Gas Price Cap Support

	OLS	IV	OLS	IV
	Coeff./Std. Err.	Coeff./Std. Err.	Coeff./Std. Err.	Coeff./Std. Err.
financial distress	-0.023 (0.017)	0.096* (0.042)	– –	– –
psychological distress	– –	– –	-0.012 (0.017)	0.143* (0.067)
Constant	0.300** (0.093)	0.287** (0.093)	0.298** (0.093)	0.291** (0.093)
Sanderson-Windmeijer $F$ (weak identification) p-value		81.398 0.000		33.319 0.000
Hansen $J \chi^2$ (overidentification) p-value		5.340 0.721		5.852 0.664
Kleibergen-Paap rk LM $\chi^2$ (underidentification) p-value		571.584 0.000		264.561 0.000
Controls	✓	✓	✓	✓
$R^2$	0.134	0.125	0.134	0.118
Number of observations	4295	4295	4295	4295

Note: Robust standard errors are in parentheses. \*\*\*, \*\* and \* denote statistical significance at the 0.1 %, 1 % and 5 % level, respectively.

▸ 1st stage

▸ El. price cap

## IV Heterogeneity: Price Cap Awareness

- Only approx. **50%** of respondents report feeling informed about price caps

	carbon price		gas price cap		electricity price cap	
	Coeff./Std. Err.	Coeff./Std. Err.	Coeff./Std. Err.	Coeff./Std. Err.	Coeff./Std. Err.	Coeff./Std. Err.
financial distress	-0.099* (0.041)	–	0.080+ (0.048)	–	0.077 (0.048)	–
informed cap × fin. distr.	-0.098+ (0.050)	–	0.141** (0.053)	–	0.127* (0.052)	–
psychological distress	–	-0.160* (0.064)	–	0.120 (0.074)	–	0.119 (0.075)
informed cap × psych. distr.	–	-0.157* (0.076)	–	0.194* (0.081)	–	0.183* (0.080)
informed about price cap	0.061** (0.023)	0.059* (0.026)	0.102*** (0.025)	0.102*** (0.029)	0.083*** (0.025)	0.083** (0.028)
Constant	0.127 (0.083)	0.126 (0.083)	0.262** (0.092)	0.264** (0.093)	0.410*** (0.090)	0.412*** (0.091)
$b_1 = b_2 \chi^2$	0.000	0.000	1.150	0.850	0.800	0.660
(p-value)	0.991	0.972	0.284	0.356	0.373	0.415
Controls	✓	✓	✓	✓	✓	✓
R <sup>2</sup>	0.242	0.234	0.136	0.130	0.121	0.113
Number of observations	4295	4295	4295	4295	4295	4295

Note: Robust standard errors are in parentheses. \*\*\*, \*\*, \* and + denote statistical significance at the 0.1 %, 1 %, 5 % and 10 % level, respectively.

## Conclusion & Policy Implications

- Evidence of negative effect of distress caused by crisis on support for carbon pricing
- **Perceived distress** underestimates the impact by up to **13pp**
- Findings suggest that also **psychological** distress strong driver of carbon price opposition
- **Objective distress** significantly increases support for relief measures (+8 to +14pp), while perceived distress has no significant effect
- **Awareness of relief measures** mitigates the negative effect of financial distress on carbon price support among informed → **policy salience gap**

## Conclusion & Policy Implications

- Evidence of negative effect of distress caused by crisis on support for carbon pricing
- **Perceived distress** underestimates the impact by up to **13pp**
- Findings suggest that also **psychological** distress strong driver of carbon price opposition
- **Objective distress** significantly increases support for relief measures (+8 to +14pp), while perceived distress has no significant effect
- **Awareness of relief measures** mitigates the negative effect of financial distress on carbon price support among informed → **policy salience gap**
  
- Relief policies should address both **financial vulnerability** and **psychological stress** to preserve long-term climate policy stability.
- ETS2: **Social Climate Fund (SCF)** potential to act as stabilizer during extreme price spikes → **automatic relief triggers**

Thank you! Any questions?

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## First Stage: Carbon Price

Table: First Stage Carbon Price Acceptance

	financial distress		psychological distress	
	Coeff.	Std. Err.	Coeff.	Std. Err.
no hardship × T cost increase 25%	-0.058**	(0.018)	-0.069***	(0.020)
no hardship × T cost increase 50%	-0.022	(0.020)	-0.048*	(0.021)
no hardship × T cost increase 100%	-0.061***	(0.017)	-0.076***	(0.021)
no hardship × T cost increase 200%	-0.025	(0.021)	-0.081***	(0.022)
hardship × T cost increase 10%	0.390***	(0.034)	0.228***	(0.036)
hardship × T cost increase 25%	0.372***	(0.029)	0.215***	(0.030)
hardship × T cost increase 50%	0.376***	(0.027)	0.192***	(0.028)
hardship × T cost increase 100%	0.313***	(0.025)	0.166***	(0.026)
hardship × T cost increase 200%	0.300***	(0.023)	0.157***	(0.024)
Constant	0.007	(0.072)	0.034	(0.076)
Controls		✓		✓
F-Stat		105.049		52.228
R <sup>2</sup>		0.402		0.282
Number of observations		4295		4295

▶ back

## Electricity Price Cap Support

	OLS	IV	OLS	IV
	Coeff./Std. Err.	Coeff./Std. Err.	Coeff./Std. Err.	Coeff./Std. Err.
financial distress	-0.034+ (0.017)	0.084* (0.042)	– –	– –
psychological distress	– –	– –	-0.027 (0.017)	0.125+ (0.066)
Constant	0.444*** (0.091)	0.431*** (0.090)	0.442*** (0.091)	0.434*** (0.091)
Sanderson-Windmeijer $F$ (weak identification) p-value		81.398 0.000		33.319 0.000
Hansen $J \chi^2$ (overidentification) p-value		9.643 0.291		9.997 0.265
Kleibergen-Paap rk LM $\chi^2$ (underidentification) p-value		571.584 0.000		264.561 0.000
Controls	✓	✓	✓	✓
$R^2$	0.124	0.114	0.124	0.107
Number of observations	4295	4295	4295	4295

Note: Robust standard errors are in parentheses. \*\*\*, \*\*, \* and + denote statistical significance at the 0.1 %, 1 %, 5 % and 10 % level, respectively.

▶ 1st stage

▶ Back

## First Stage: Price Caps

Table: First Stage Gas &amp; Electricity Price Cap Acceptance

	financial distress		psychological distress	
	Coeff.	Std. Err.	Coeff.	Std. Err.
no hardship × T cost increase 25%	-0.057**	(0.018)	-0.070***	(0.020)
no hardship × T cost increase 50%	-0.022	(0.020)	-0.049*	(0.021)
no hardship × T cost increase 100%	-0.061***	(0.017)	-0.075***	(0.021)
no hardship × T cost increase 200%	-0.025	(0.021)	-0.082***	(0.022)
hardship × T cost increase 10%	0.390***	(0.034)	0.229***	(0.036)
hardship × T cost increase 25%	0.374***	(0.029)	0.214***	(0.030)
hardship × T cost increase 50%	0.376***	(0.027)	0.193***	(0.028)
hardship × T cost increase 100%	0.313***	(0.025)	0.167***	(0.026)
hardship × T cost increase 200%	0.300***	(0.023)	0.157***	(0.024)
Constant	0.009	(0.072)	0.023	(0.075)
Controls		✓		✓
F-Stat		107.280		53.104
R <sup>2</sup>		0.402		0.281
Number of observations		4295		4295

▶ back

## Robustness: Exclusion of Uncertain Acceptance Responses

Table E.1: Robustness to Exclusion of Uncertain Acceptance Responses

	carbon price		gas price cap		electricity price cap	
financial distress	-0.094*		0.097*		0.095*	
	(0.040)		(0.043)		(0.043)	
psychological distress	-0.157*		0.145*		0.141*	
	(0.066)		(0.070)		(0.069)	
Constant	0.162 <sup>+</sup>	0.160 <sup>+</sup>	0.351***	0.354***	0.499***	0.501***
	(0.089)	(0.089)	(0.095)	(0.096)	(0.092)	(0.093)
Controls	+	+	+	+	+	+
Sanderson-Windmeijer $F$	76.450	29.349	77.215	29.742	77.622	30.622
(weak identification) $p$ - value	0.000	0.000	0.000	0.000	0.000	0.000
Hansen $J$ $\chi^2$	5.414	5.212	5.878	6.592	9.287	9.867
(overidentification) $p$ - value	0.713	0.735	0.661	0.581	0.319	0.274
Kleibergen-Paap rk LM $\chi^2$	534.184	234.031	538.535	237.309	540.947	243.946
(underidentification) $p$ - value	0.000	0.000	0.000	0.000	0.000	0.000
$R^2$	0.251	0.242	0.109	0.101	0.099	0.090
Observations	3964	3964	4061	4061	4146	4146

Note: Robust standard errors in parentheses. +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

▶ back

## Robustness: Exclusion of Missing Heating Costs

Table E.2: Robustness to Exclusion of Missing Heating Costs

	carbon price		gas price cap		electricity price cap	
financial distress	-0.083 <sup>+</sup> (0.045)		0.092 <sup>+</sup> (0.049)		0.081 <sup>+</sup> (0.049)	
psychological distress	-0.123 <sup>+</sup> (0.068)		0.133 <sup>+</sup> (0.075)		0.121 (0.075)	
Constant	0.046 (0.110)	0.061 (0.111)	0.298* (0.126)	0.282* (0.127)	0.398** (0.122)	0.383** (0.124)
Controls	+	+	+	+	+	+
Sanderson-Windmeijer $F$ (weak identification) $p$ -value	58.430 0.000	25.466 0.000	58.762 0.000	25.549 0.000	58.762 0.000	25.549 0.000
Hansen $J \chi^2$ (overidentification) $p$ -value	3.781 0.876	3.967 0.860	8.285 0.406	8.559 0.381	11.530 0.173	11.591 0.170
Kleibergen-Paap rk LM $\chi^2$ (underidentification) $p$ -value	401.145 0.000	198.473 0.000	402.440 0.000	198.286 0.000	402.440 0.000	198.286 0.000
$R^2$	0.251	0.248	0.137	0.130	0.122	0.114
Observations	2962	2962	2962	2962	2962	2962

Note: Robust standard errors in parentheses. +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

▶ back

## Robustness: Simpler Instrument Definition

Instrument: objective cost increase dropping the interaction with hardship

Table E.3: Robustness to Simpler Instrument Definition

	carbon price		gas price cap		electricity price cap	
financial distress	-0.105**		0.107*		0.095*	
	(0.039)		(0.043)		(0.042)	
psychological distress	-0.169**		0.173*		0.153*	
	(0.063)		(0.069)		(0.069)	
Constant	0.140+	0.139+	0.286**	0.289**	0.430***	0.433***
	(0.083)	(0.084)	(0.093)	(0.093)	(0.091)	(0.091)
Controls	+	+	+	+	+	+
Sanderson-Windmeijer $F$	657.306	251.786	659.368	252.803	659.368	252.803
(weak identification) $p$ -value	0.000	0.000	0.000	0.000	0.000	0.000
Hansen $J \chi^2$	0.000	0.000	0.000	0.000	0.000	0.000
(overidentification) $p$ -value						
Kleibergen-Paap rk LM $\chi^2$	545.821	232.311	547.228	232.958	547.228	232.958
(underidentification) $p$ -value	0.000	0.000	0.000	0.000	0.000	0.000
$R^2$	0.238	0.228	0.123	0.111	0.112	0.101
Observations	4295	4295	4295	4295	4295	4295

Note: Robust standard errors in parentheses. +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$



## Heterogeneity: Trust in Government

Table C.1: Heterogeneity by Trust in Government

	carbon price		gas price cap		electricity price cap	
no trust government	-0.077*		0.071		0.044	
× financial distress	(0.036)		(0.045)		(0.045)	
trust government	-0.153*		0.163**		0.183**	
× financial distress	(0.066)		(0.062)		(0.058)	
no trust government	-0.127*		0.112		0.068	
× psychological distress	(0.057)		(0.070)		(0.071)	
trust government	-0.248*		0.254**		0.286**	
× psychological distress	(0.102)		(0.096)		(0.090)	
trust government	0.080**	0.089**	0.092**	0.083*	0.075*	0.059+
	(0.029)	(0.033)	(0.031)	(0.035)	(0.030)	(0.034)
Constant	0.129	0.120	0.299**	0.312***	0.450***	0.468***
	(0.083)	(0.084)	(0.093)	(0.094)	(0.091)	(0.092)
Controls	+	+	+	+	+	+
$b1 = b2 \chi^2$	1.400	1.680	2.040	2.310	5.150	5.910
(p-value)	0.237	0.194	0.153	0.129	0.023	0.015

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## Heterogeneity: Trust in Energy Policies

Table C.2: Heterogeneity by Trust in Energy Policies

	carbon price		gas price cap		electricity price cap	
no trust energy pol.	-0.088*		0.071		0.052	
× financial distress	(0.037)		(0.045)		(0.045)	
trust energy pol.	-0.132 <sup>+</sup>		0.188**		0.218***	
× financial distress	(0.070)		(0.065)		(0.059)	
no trust energy pol.	-0.147*		0.125 <sup>+</sup>		0.089	
× psychological distress	(0.057)		(0.070)		(0.070)	
trust energy pol.	-0.238*		0.318**		0.351***	
× psychological distress	(0.109)		(0.102)		(0.095)	
trust gov. energy pol.	0.082*	0.084*	0.040	0.034	0.042	0.033
	(0.035)	(0.037)	(0.034)	(0.036)	(0.033)	(0.036)
Constant	0.136	0.134	0.296**	0.300**	0.443***	0.447***
	(0.083)	(0.083)	(0.093)	(0.094)	(0.091)	(0.091)
Controls	+	+	+	+	+	+
$b1 = b2 \chi^2$	0.430	0.800	3.090	3.880	7.120	7.970
(p-value)	0.513	0.372	0.079	0.049	0.008	0.005

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## Heterogeneity: Equality Fairness Principle

Table C.3: Heterogeneity by Equality Fairness Preferences

	carbon price		gas price cap		electricity price cap	
low pref. equality × financial distress	-0.110** (0.042)		0.069 (0.047)		0.057 (0.047)	
high pref. equality × financial distress	-0.099* (0.050)		0.165** (0.056)		0.158** (0.054)	
low pref. equality × psychological distress	-0.175** (0.063)		0.112 (0.072)		0.090 (0.072)	
high pref. equality × psychological distress	-0.173* (0.081)		0.267** (0.089)		0.249** (0.087)	
high equality fairness (2021)	0.005 (0.024)	0.006 (0.027)	0.007 (0.025)	-0.003 (0.029)	0.015 (0.025)	0.005 (0.029)
Constant	0.142+ (0.084)	0.140+ (0.084)	0.301** (0.093)	0.303** (0.094)	0.446*** (0.091)	0.447*** (0.092)
Controls	+	+	+	+	+	+
$b1 = b2 \chi^2$ (p-value)	0.050 0.823	0.000 0.983	2.820 0.093	3.560 0.059	3.250 0.072	3.960 0.047

▶ back



## Heterogeneity: Concerns Insufficient Energy Savings

Table C.5: Heterogeneity by Concerns about Insufficient Energy Savings

	carbon price		gas price cap		electricity price cap	
low concern energy savings × financial distress	-0.119**		0.050		0.043	
	(0.041)		(0.046)		(0.045)	
high concern energy savings × financial distress	-0.068		0.150**		0.139*	
	(0.050)		(0.054)		(0.055)	
low concern energy savings × psychological distress	-0.178**		0.082		0.067	
	(0.064)		(0.071)		(0.069)	
high concern energy savings × psychological distress	-0.113		0.219**		0.197*	
	(0.076)		(0.084)		(0.085)	
concern energy savings incentive	0.018	0.017	-0.221***	-0.229***	-0.216***	-0.223***
	(0.024)	(0.027)	(0.024)	(0.028)	(0.024)	(0.028)
Constant	0.136	0.138	0.349***	0.358***	0.491***	0.500***
	(0.083)	(0.084)	(0.091)	(0.092)	(0.089)	(0.090)
Controls	+	+	+	+	+	+
$b1 = b2 \chi^2$ (p-value)	1.060	0.870	3.210	3.040	2.930	2.690
	0.304	0.351	0.073	0.081	0.087	0.101

▶ back

## Heterogeneity: Concerns Insufficient Compensation

Table C.6: Heterogeneity by Concerns about Insufficient Compensation

	carbon price		gas price cap		electricity price cap	
low concern insufficient comp. × financial distress	-0.122** (0.047)		0.168*** (0.049)		0.167*** (0.048)	
high concern insufficient comp. × financial distress	-0.061 (0.045)		0.099 (0.060)		0.061 (0.061)	
low concern insufficient comp. × psychological distress		-0.199** (0.076)		0.278*** (0.081)		0.273*** (0.080)
high concern insufficient comp. × psychological distress		-0.095 (0.069)		0.162+ (0.092)		0.098 (0.094)
concern insufficient compensation	-0.074* (0.029)	-0.081* (0.034)	-0.111** (0.036)	-0.107* (0.043)	-0.087* (0.037)	-0.075+ (0.044)
Constant	0.155+ (0.083)	0.163+ (0.084)	0.301** (0.093)	0.297** (0.095)	0.441*** (0.090)	0.430*** (0.092)
Controls	+	+	+	+	+	+
$b1 = b2 \chi^2$ (p-value)	1.340 0.247	1.820 0.177	1.090 0.297	1.480 0.224	2.580 0.108	3.340 0.068

▶ back

## Heterogeneity: Concerns Excessive Fiscal Expenditure

Table C.7: Heterogeneity by Concerns about Excessive Fiscal Expenditure

	carbon price		gas price cap		electricity price cap	
low concern fiscal exp. × financial distress	-0.107*	(0.052)	0.167**	(0.055)	0.143**	(0.053)
high concern fiscal exp. × financial distress	-0.104**	(0.040)	0.095*	(0.047)	0.093*	(0.047)
low concern fiscal exp. × psychological distress	-0.187*	(0.081)	0.251**	(0.086)	0.208*	(0.084)
high concern fiscal exp. × psychological distress	-0.175**	(0.063)	0.142 <sup>+</sup>	(0.073)	0.133 <sup>+</sup>	(0.074)
concern fiscal expenditure	0.009	(0.023)	0.012	(0.026)	-0.109***	(0.024)
			-0.106***	(0.028)	-0.107***	(0.024)
			-0.106***	(0.028)	-0.106***	(0.028)
Constant	0.137	(0.084)	0.136	(0.085)	0.318***	(0.093)
			0.322***	(0.094)	0.462***	(0.091)
			0.467***	(0.091)	0.467***	(0.091)
Controls	+	+	+	+	+	+
$b1 = b2 \chi^2$ (p-value)	0.000	0.959	0.030	0.866	1.600	0.206
			1.790	0.181	0.800	0.371
			0.900	0.344	0.900	0.344

▶ back



## Heterogeneity: Fairness Carbon Price

Table C.9: Heterogeneity by Concerns about Fairness of Carbon Price

	carbon price		gas price cap		electricity price cap	
low fairness concern × financial distress	-0.144**		0.191***		0.212***	
	(0.055)		(0.058)		(0.057)	
high fairness concern × financial distress	-0.087*		0.041		0.009	
	(0.039)		(0.048)		(0.048)	
low fairness concern × psychological distress	-0.204*		0.290**		0.312***	
	(0.083)		(0.089)		(0.088)	
high fairness concern × psychological distress	-0.132*		0.078		0.024	
	(0.061)		(0.073)		(0.073)	
concerned fairness carbon price (2021)	-0.048*	-0.051 <sup>+</sup>	-0.000	0.012	0.028	0.046
	(0.024)	(0.028)	(0.026)	(0.030)	(0.026)	(0.029)
Constant	0.151 <sup>+</sup>	0.149 <sup>+</sup>	0.258**	0.259**	0.392***	0.392***
	(0.084)	(0.084)	(0.094)	(0.094)	(0.091)	(0.092)
Controls	+	+	+	+	+	+
$b1 = b2 \chi^2$	1.040	0.860	5.860	5.820	10.990	11.130
(p-value)	0.308	0.354	0.015	0.016	0.001	0.001

▶ back

## Heterogeneity: Political Orientation

Table C.10: Heterogeneity by Political Orientation

	carbon price		gas price cap		electricity price cap	
middle	-0.147***		0.047		0.042	
× financial distress	(0.040)		(0.046)		(0.045)	
right wing	0.037		0.075		0.101	
× financial distress	(0.051)		(0.081)		(0.083)	
left wing	-0.050		0.248***		0.225**	
× financial distress	(0.068)		(0.073)		(0.072)	
middle	-0.233***		0.070		0.063	
× psychological distress	(0.064)		(0.073)		(0.072)	
right wing	0.035		0.126		0.154	
× psychological distress	(0.077)		(0.122)		(0.125)	
left wing	-0.088		0.319**		0.295**	
× psychological distress	(0.091)		(0.099)		(0.098)	
right wing	-0.131***	-0.155***	-0.017	-0.024	-0.035	-0.042
	(0.037)	(0.043)	(0.051)	(0.059)	(0.052)	(0.060)
left wing	-0.023	-0.035	-0.068*	-0.069*	-0.058*	-0.059*
	(0.026)	(0.028)	(0.027)	(0.029)	(0.027)	(0.029)
Constant	0.142+	0.144+	0.335***	0.336***	0.475***	0.476***
	(0.083)	(0.083)	(0.093)	(0.093)	(0.091)	(0.091)
Controls	+	+	+	+	+	+
$b1 = b2 = b3 \chi^2$	11.580	12.170	8.110	7.170	6.940	6.350
(p-value)	0.003	0.002	0.017	0.028	0.031	0.042
$b1 = b2 \chi^2$	10.920	11.210	0.110	0.200	0.470	0.520
(p-value)	0.001	0.001	0.741	0.652	0.492	0.472
$b1 = b3 \chi^2$	2.260	3.010	8.070	7.170	6.890	6.280
(p-value)	0.133	0.083	0.004	0.007	0.009	0.012

