

Sophisticated voters reward pro-climate parties and candidates in the wake of extreme weather events

EPSA 2022

[soerendamsbo.github.io/
misc-slides/epsa2022.html](https://soerendamsbo.github.io/misc-slides/epsa2022.html)

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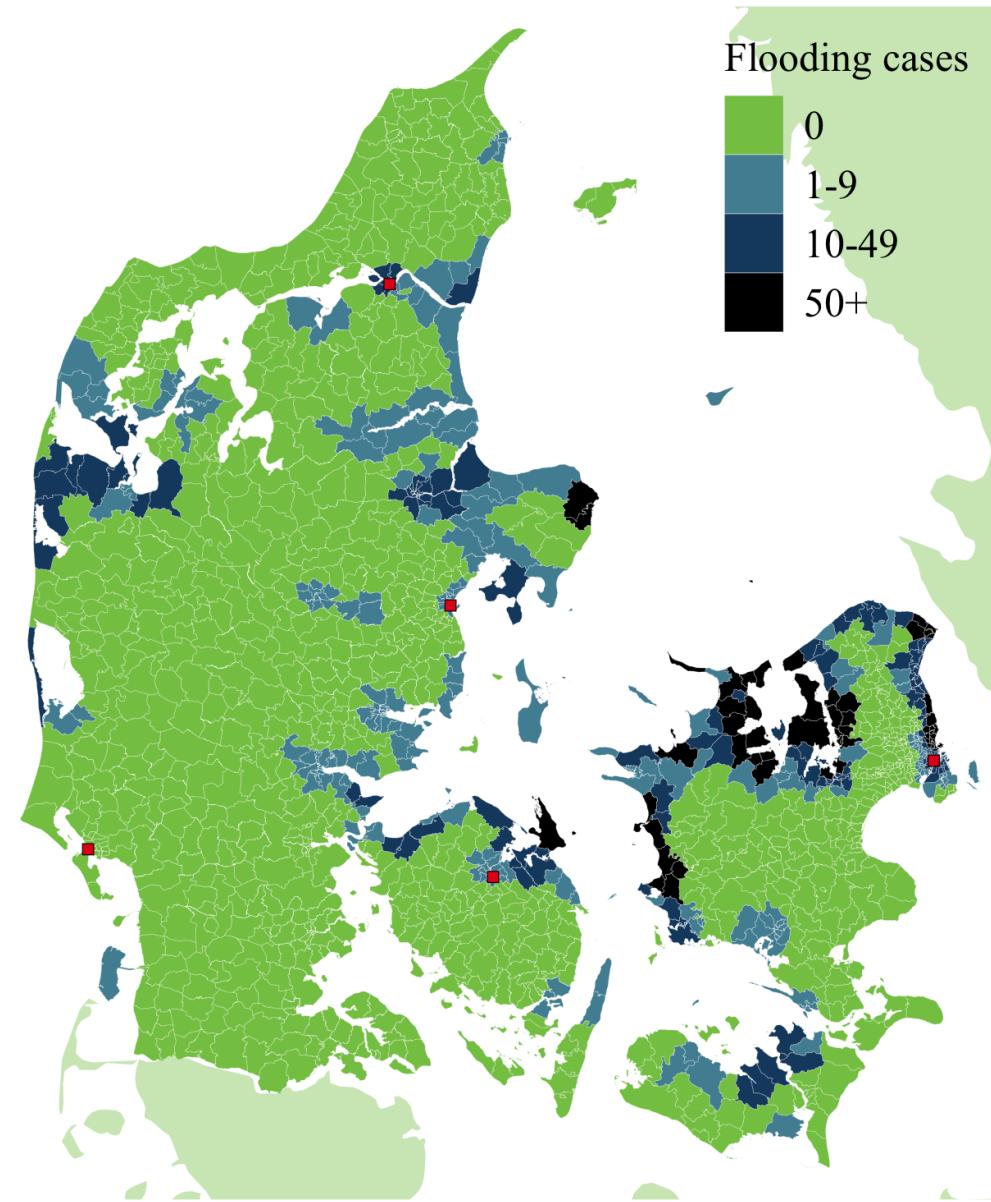
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June 2022

Image by Jeanne and John Bollerup-Jensen





A rarely harmful extreme weather event in Denmark

- 2013 **storm surge** after the winter storm 'Bodil'
- Flooding measured with detailed, case-level **storm surge insurance data** (Danish Storm Council)
- Aggregated at level of **1,386 polling districts**
- 3 treatment definitions (dummies):
 1. **Rehousing:** 1+ cases of rehoused residents
 2. **Damage:** storm surge damage (DKK) above average
 3. **Flooding:** 1+ storm surge cases
- Flooding matched with **main outcome:** *district vote share for pro-climate parties* (DK, 1994-2019)
 - ... and, later, the **secondary outcome:** *election chances for pro-climate candidates*
- Difference-in-differences (DID) design

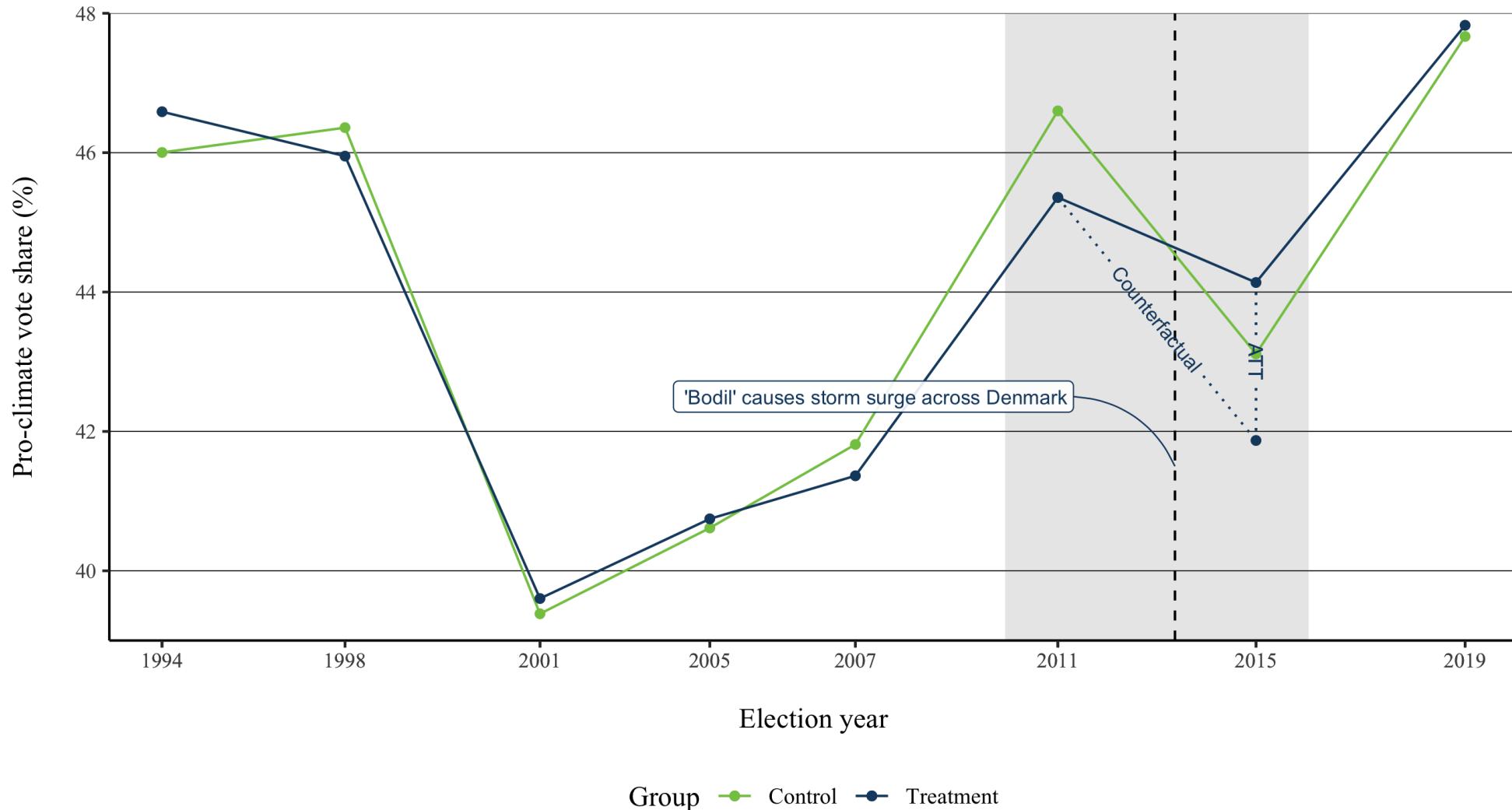
| RQ: How does an extremely costly flood event affect voting for pro-climate parties and candidates?

Theory

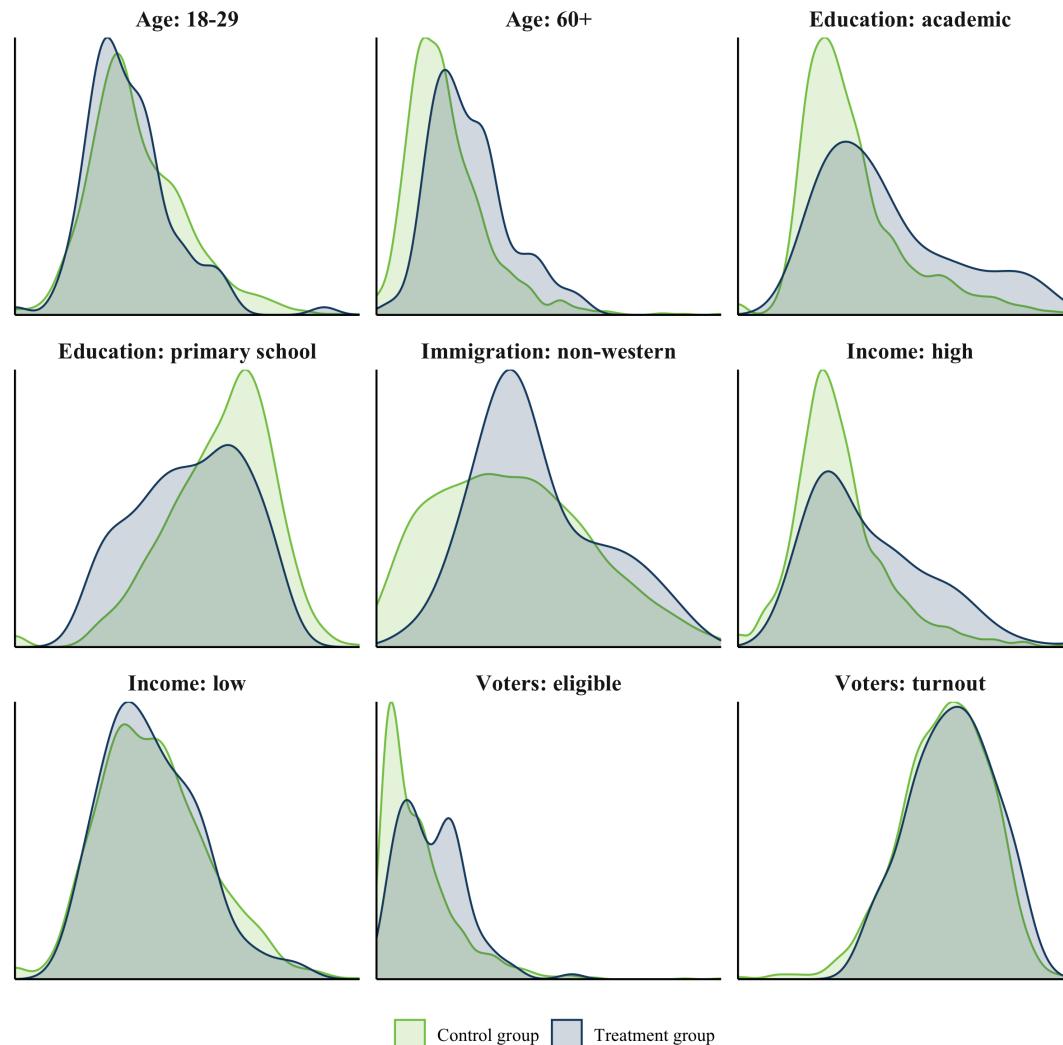
- Ample evidence that **extreme weather experiences can affect climate change perceptions and attitudes**
- But limited evidence that weather experiences affect **actual behavior** – environmental or political
- Several studies exist, but they are framed quite differently:
 - **natural disasters → retrospective voting**
 - i.e., rewarding or punishing incumbents based on how they handled the disaster (or blindly)
 - **still mixed results:** sometimes punishment, sometimes reward
- How about **policy?**
 - more sophisticated voter behavior: updated **voter preferences** on climate adaptation and mitigation
 - and/or policy or strategy shifts among parties and candidates
 - e.g., "a sizeable effect for pro-climate voting after experiencing a flood" (Baccini & Leemann, 2021)

Part I: support for pro-climate parties in parliamentary elections

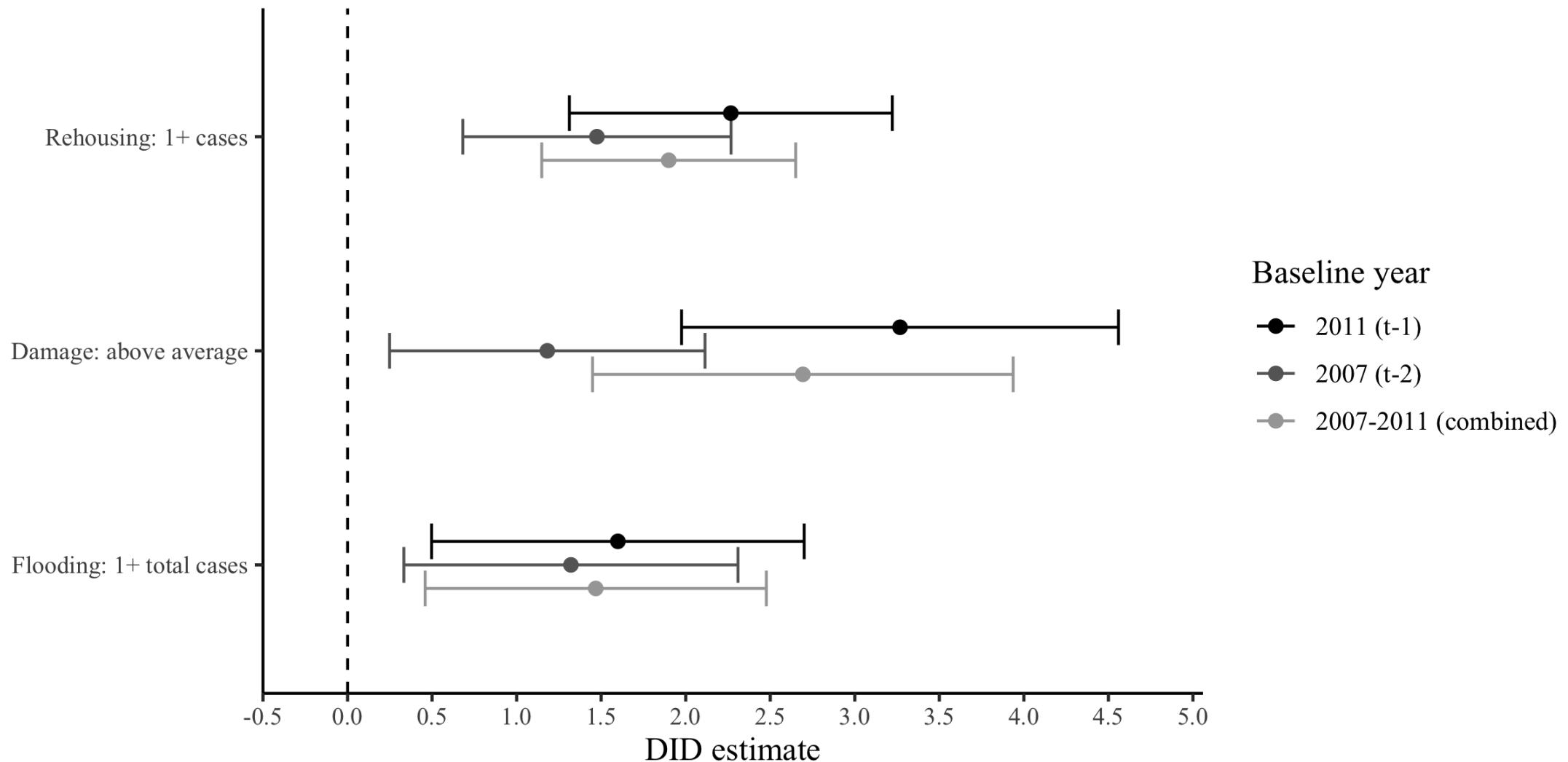
Parallel trends: outcome evolution



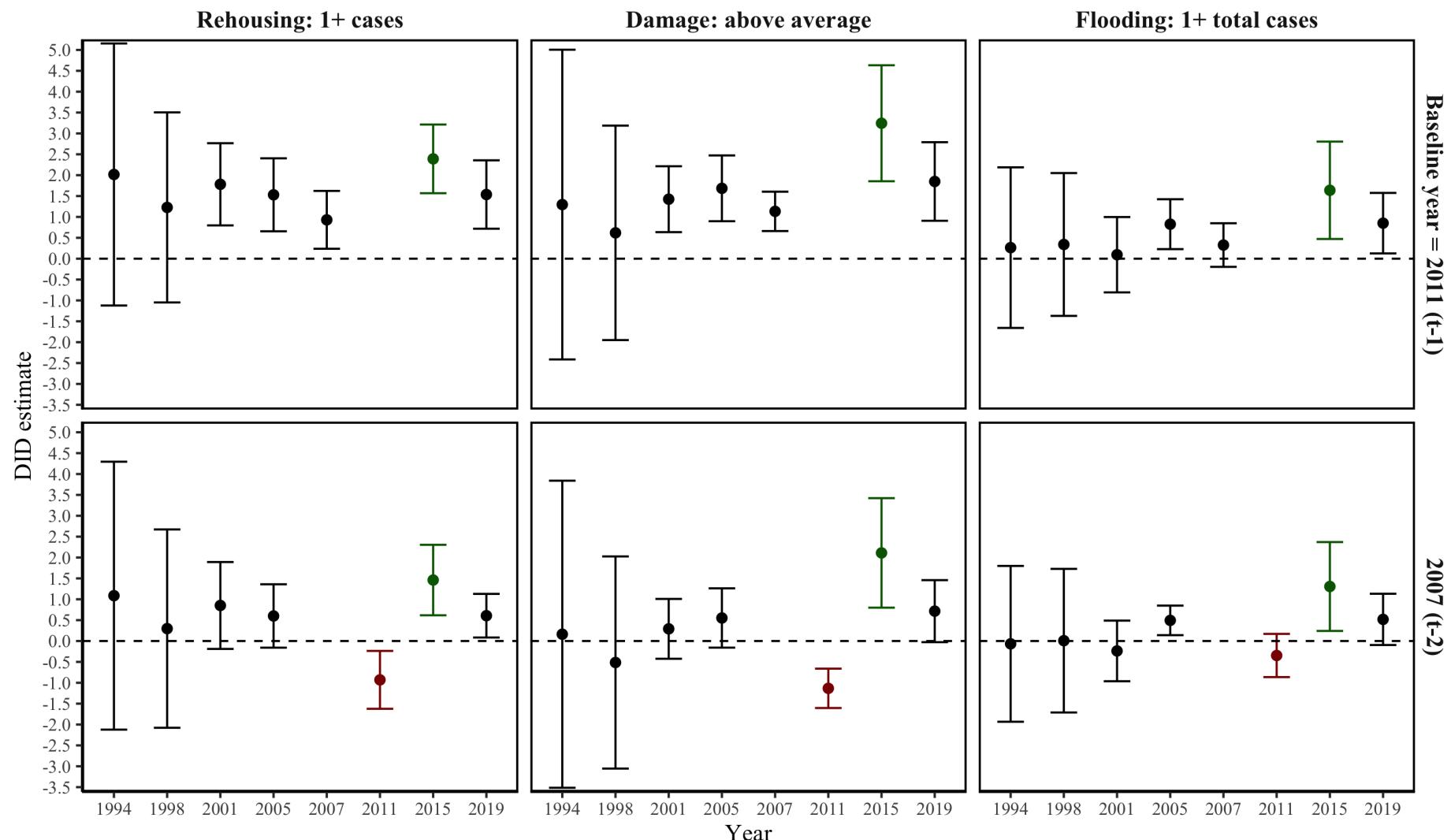
Parallel trends: pre-treatment balance



Results: DID estimates



Results: event study plots (placebo)



Part II: support for pro-climate candidates in local elections

Part II: support for pro-climate candidates

Data: comprehensive **candidate survey** of 2017 local election candidates (N=9,554)

- w/ policy responses from 73% of candidates

Key variables:

- (1) *Outcome*: being elected (binary) in 2017, 2013 (and 2009)
- (2) Running in a **treated municipality (binary)** w/ 10+ rehousing cases
- (3) Running on a **pro-climate platform (binary)** w/ climate as key issue or high climate score (~32%)

| RQ: Are pro-climate candidates rewarded more (punished less) by flooding in affected areas?

Triple differences (DIDID):

→ we should expect a positive difference in DID estimates for pro-climate vs. non-climate candidates

Results: DIDID estimate

Table 1: Difference in election chances for pro-climate versus other candidates (triple differences). 2017 (post) and 2013 (pre) local elections.

	Probability of election
Post	0.064*** (0.009)
Treatment group	-0.015*** (0.002)
Climate candidate	0.084*** (0.007)
Treatment group x Post	-0.048*** (0.012)
Climate candidate x Post	-0.008 (0.012)
Treatment group x Climate candidate	0.017 (0.027)
Treatment group x Post x Climate candidate	0.061*** (0.001)
Fixed effects: Party	X
Observations	28 662
R ²	0.082
Standard errors	Conley (30km)

Note: Conley standard errors in parentheses.

Results: DIDID estimate

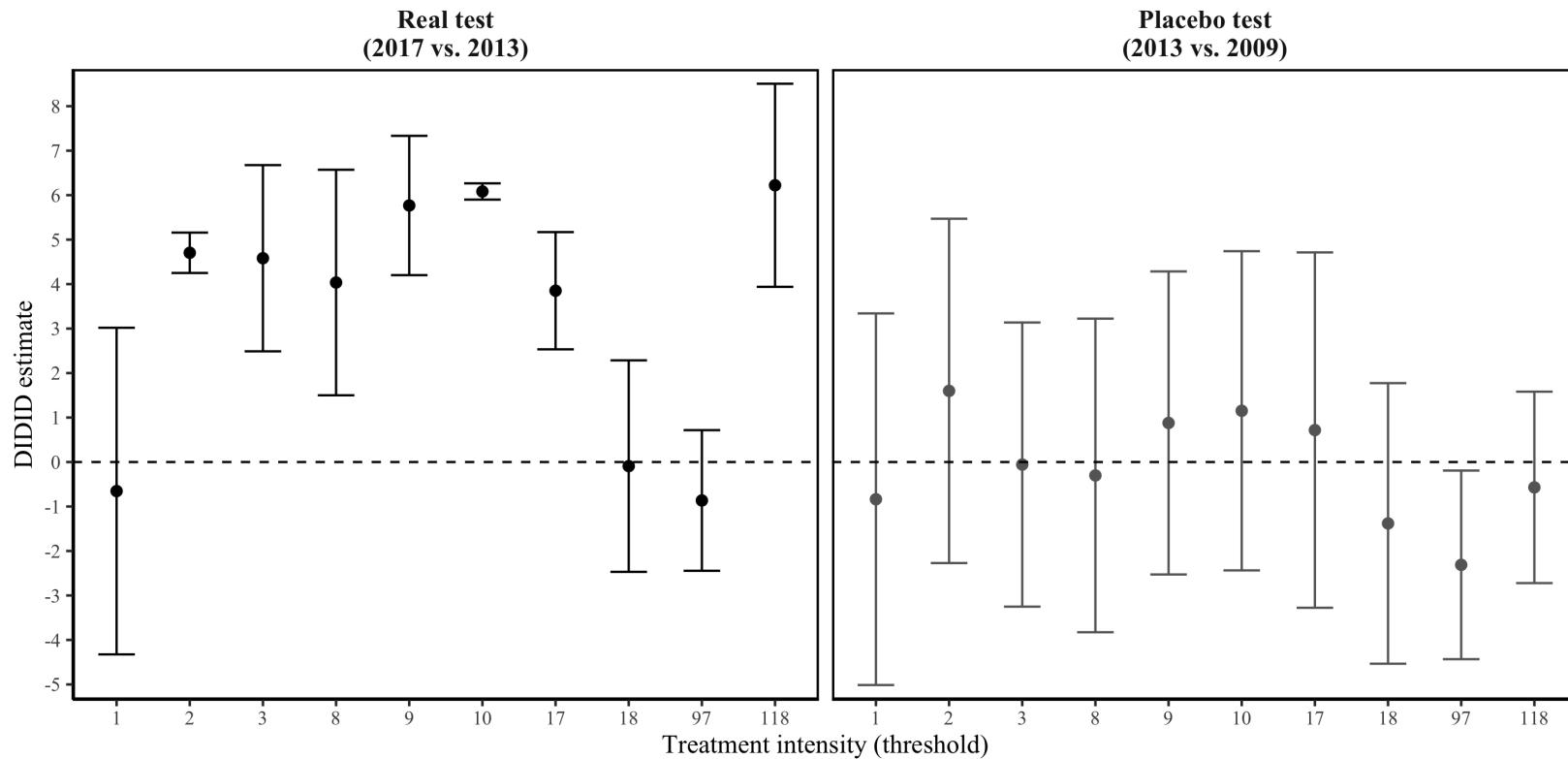
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- → approx. 6 percentage points difference (DIDID)
- pro-climate candidates are rewarded in post-flooding elections (long after the event)
- not clear if voters change preferences or candidates (parties) change policy or strategy

Results: DIDID placebo



- also no effect (DIDID) for other candidate features, e.g., **inc incumbency** and **pro-welfare platform**

Conclusion

| RQ: How does an extremely costly flood event affect voting for pro-climate parties and candidates?

- Case: 2013 storm surge and surrounding Danish elections
- Data: Detailed insurance data, comprehensive candidate survey, administrative party vote shares
- DID design
- Results:
 - Pro-climate **parties** (left-green) gain at least 1.5 pp
 - Pro-climate **candidates** see their election chances increase by 6 pp vs. non-climate candidates
- Importance of **policy** and the **long-lasting effects** suggest quite **sophisticated voting behavior** (*not only* retrospective voting)

Still plenty of black boxes, analysis and interpretation to do...

Thank you!

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Banksy (image by Zak Hussein
/ PA Images via Getty Images)