



The political price of phasing out coal: An analysis of US Presidential Elections

Strommarkttreffen, GIZ, Berlin, 2. Aug 2019

Joint with Nicolas Schmid and Tobias S. Schmidt

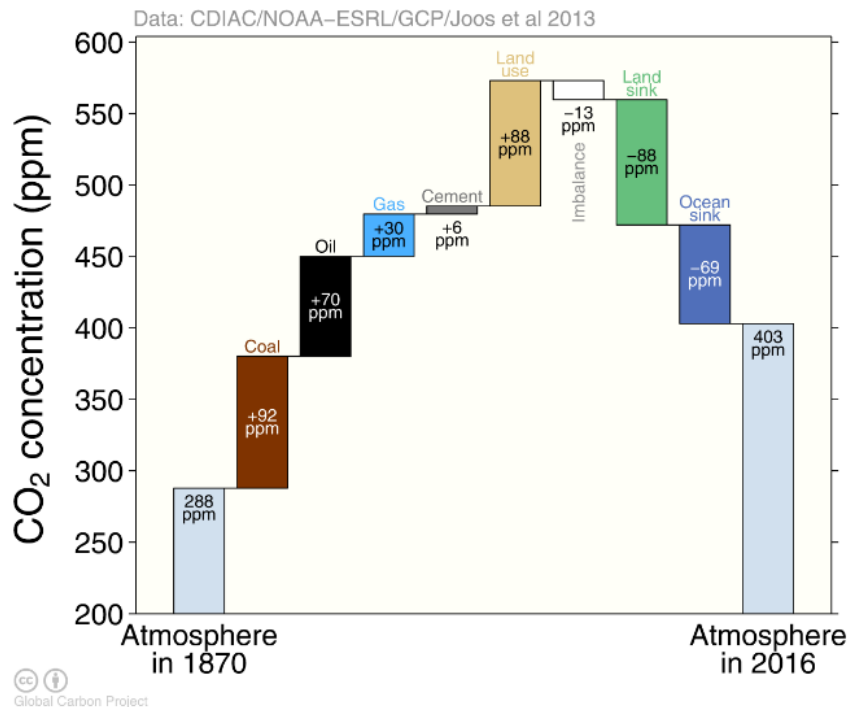
Agenda

PRELIMINARY

- 1 Introduction
- 2 Research design & data
- 3 Results
- 4 Implications

Climate change and coal phase-out

Global emissions and coal



How to phase out..

Strong inertia and lock-in effects in the energy sector (Unruh 2000; Fouquet 2016)

Need for supportive policies to phase-out coal and phase-in low-carbon energy technologies (Schmidt and Sewerin 2018; Trancik 2014; Edenhofer et al. 2018)

Such policies/treaties are increasingly put into place

- Paris Agreement, 2015
- Clean Power Plan in the US, 2015
- Carbon Price Floor in the UK, 2013
- Coal commission in Germany, 2018

Ongoing political fight over coal phase-out

Germany



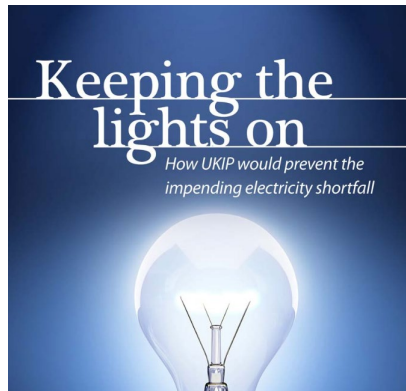
AfD mounting pressure against coal phase-out in East Germany

Australia



PM Scott Morrison re-elected in “2019 climate election” followed by go-ahead for Adani mine.

United Kingdom



Independence Party’s energy policy agenda based on exclusionary “coal nationalism”

United States



Trump campaign on ending Obama-era “war on coal” (e.g. Clean Power Plan)

Research question

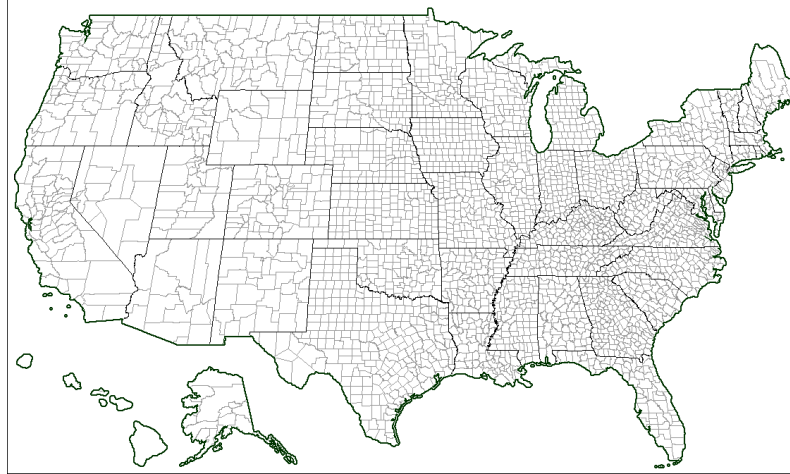
- Existing political science research focuses on the politics of **phasing in** energy technologies
(Cooper et al. 2018; Dasgupta 2018; Aklin 2018; Stokes 2016; Bayer and Urpelainen 2016)
- Lack of research on how **phasing out** energy technologies **feeds back** into political processes, esp. voting!
(David 2017; Schmidt and Sewerin 2017; Rogge and Johnstone 2017; Roberts et al. 2018; Lockwood et al. 2018)
- Only few – mostly qualitative – studies on the politics of **coal phase-out**.
(Carley et al. 2018; Leipprand and Flachsland 2018; Rosenbloom 2018; Turnheim and Geels 2013)

No **quantitative evidence** of influence of coal decline on electoral outcomes

What are feedback effects of coal phase-out on electoral outcomes?

Research design

CASE



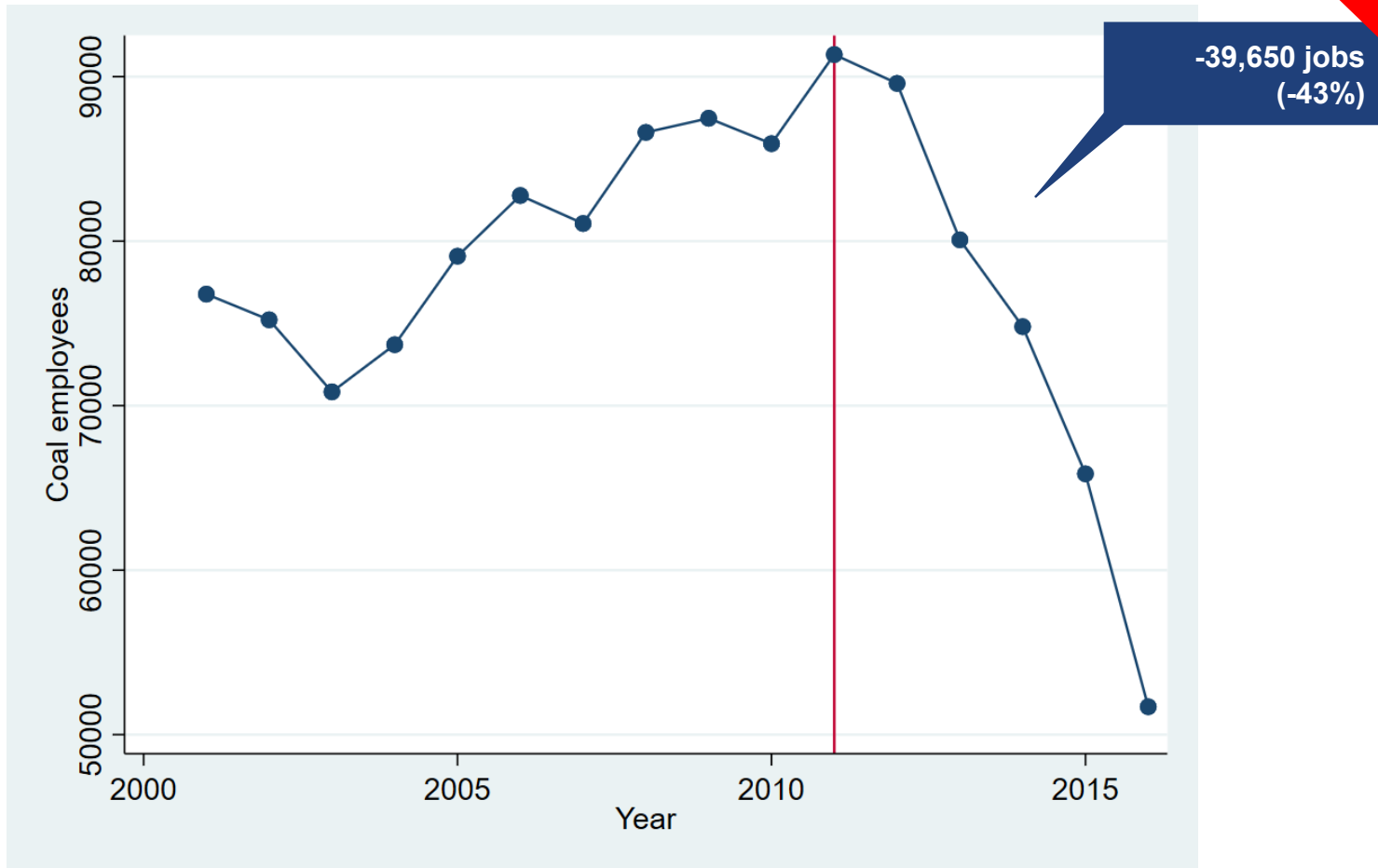
DATA

- County-level data (3142 obs per year)
- Coal production and labor data (2000-2016)
 - US Presidential elections (1992-2016)
 - Socio-economic control variables (2000-2016)

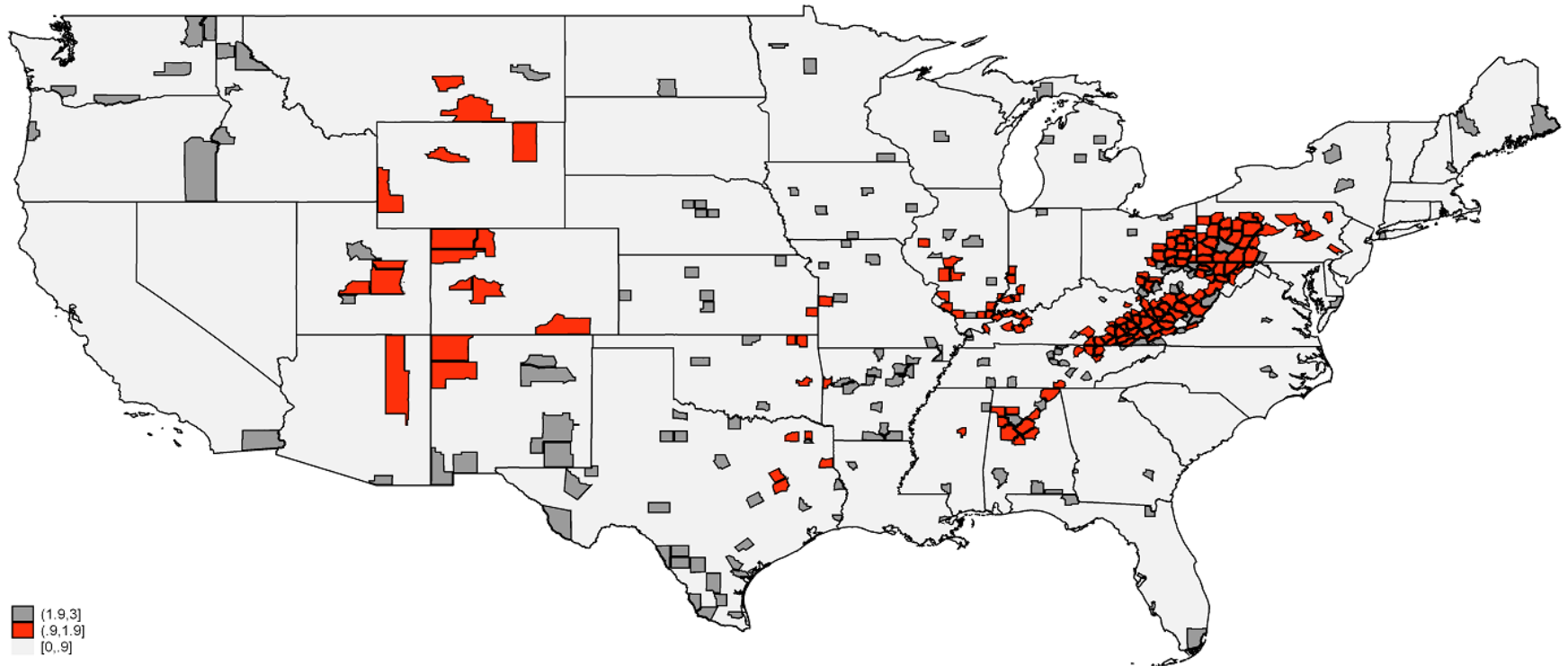
METHOD

- Difference-in-difference with matching
- Assumptions: 1) exogenous treatment 2) parallel pre-treatment trends
 - Matched to most similar control counties in 2000 and 2008

Our treatment

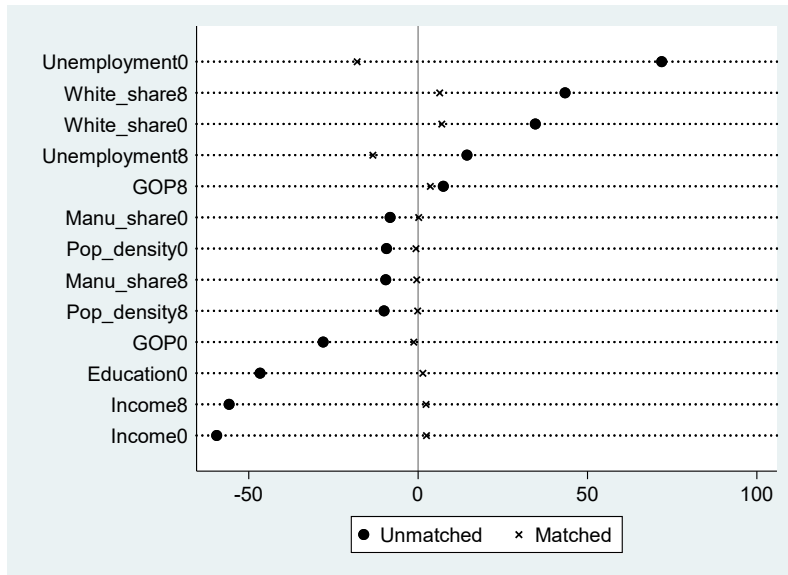
PRELIMINARY

Location of treated and matched counties

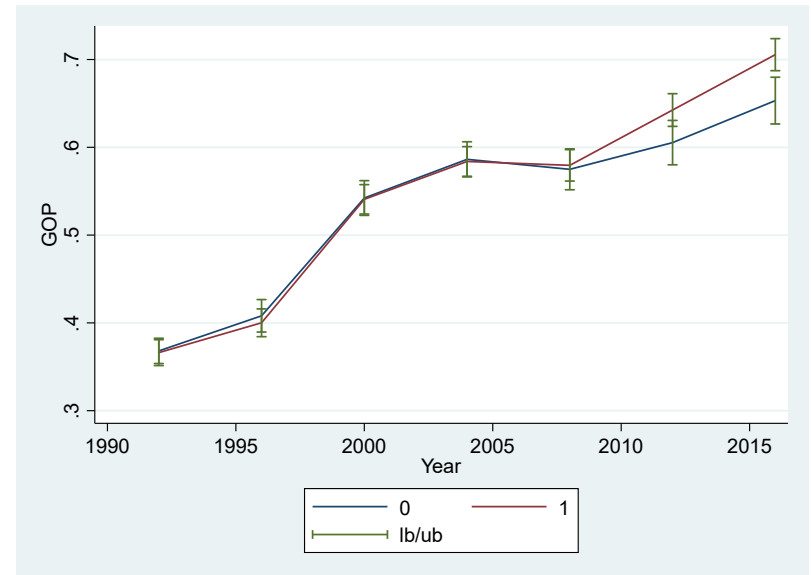


Validity of comparison

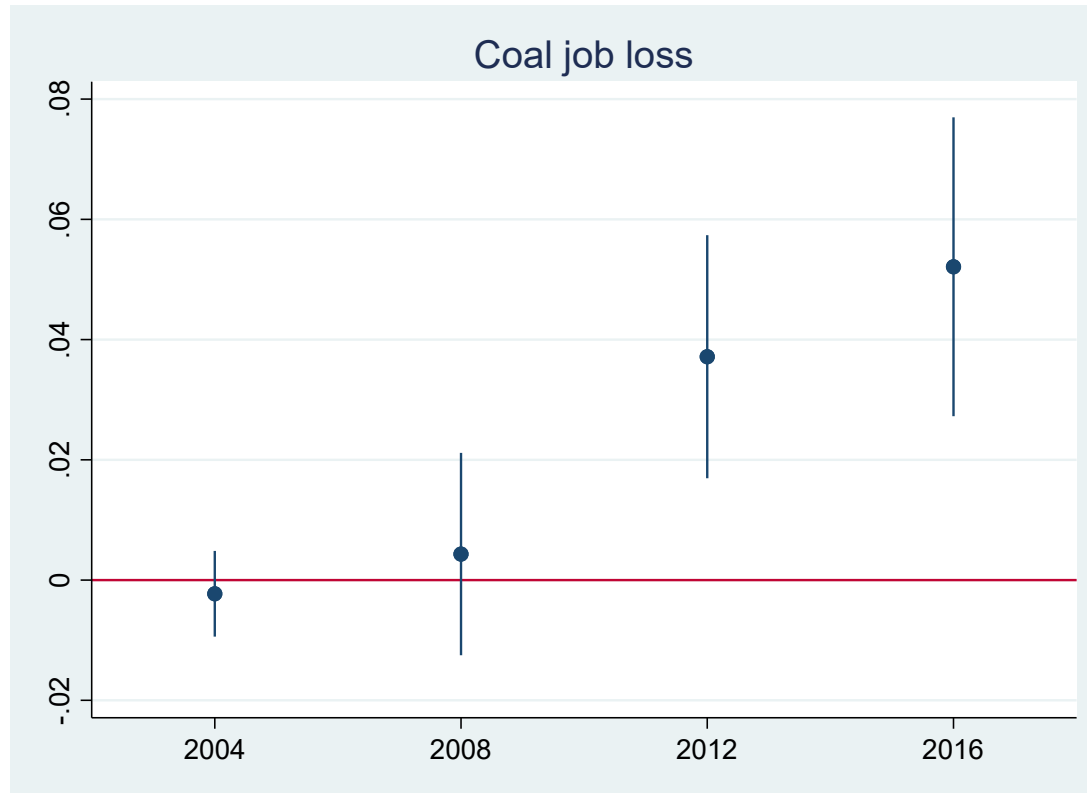
Matching balance



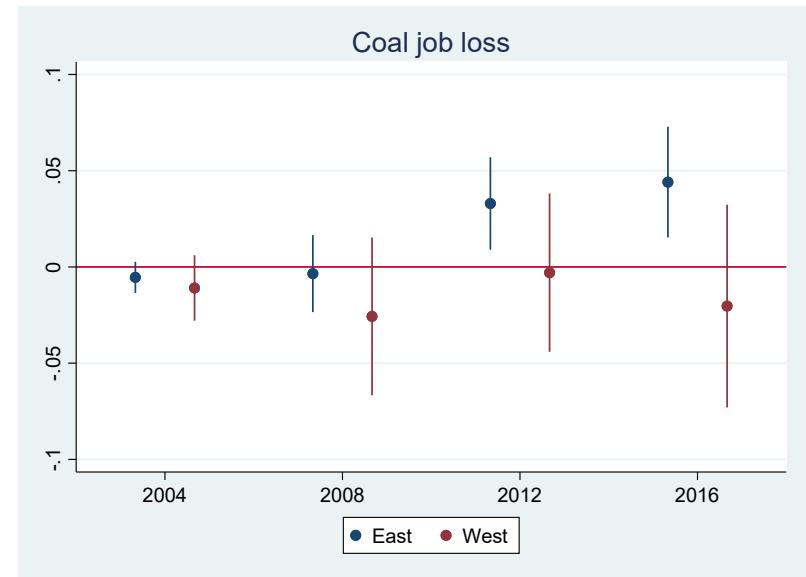
Parallel pre-treatment trends



Main result

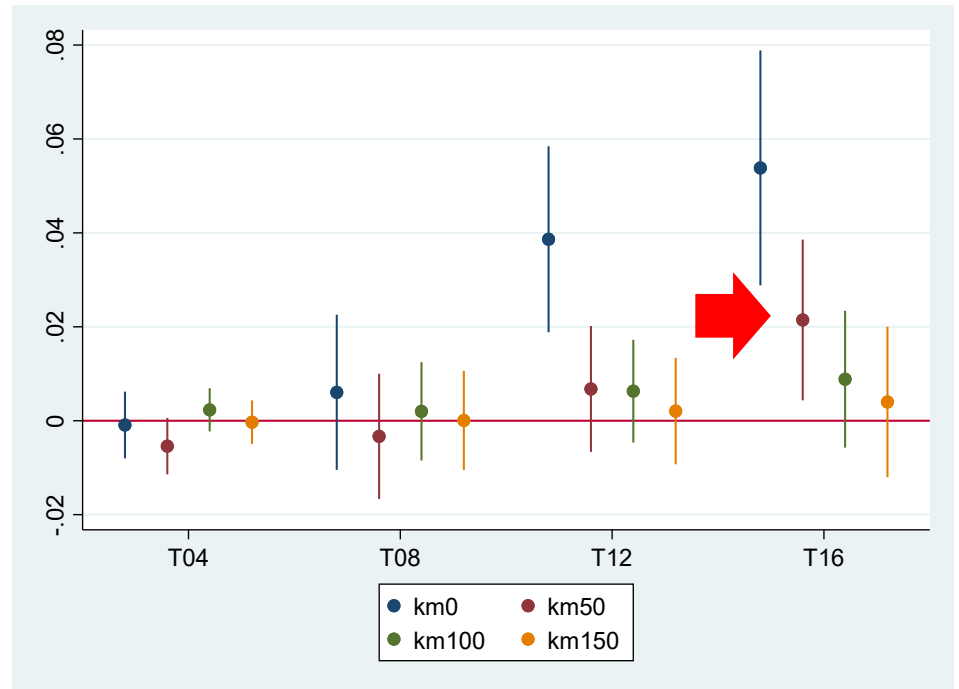
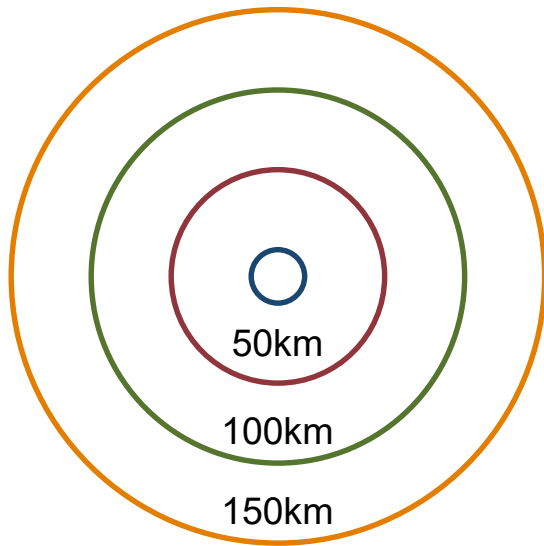


Intensity and location



Spillovers

PRELIMINARY



Implications and open questions

- Effect empirically established → coal phase-outs are not easy to implement for policymakers.
- Effect size is substantial → coal jobs are costly.
 - Effect extends beyond affected workers → 6x higher difference in voting decision than jobs lost.
 - Effect extends beyond affected counties → spillover effects up to 50km in 2016 election.
- What are the mechanisms?
- How context specific is the effect?
- What are successful policy responses? Findings suggest they must be tailored...



Thank you very much!

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