The Role of Social Science in Community Engagement for Industrial Decarbonization

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Key messages from the paper

- Engage and build trust with historically marginalized communities
  - “Maintaining transparency fosters trust and ensures informed participation. Transparency, including increased access to information, is vital for marginalized communities, given their long-standing experiences with deceit.”
- Engage developers, technologists, and government actors in community collaborations
  - “Making engagement more just requires intervening in how developers and technologists understand and practice ‘community engagement’ and how community engagement activities are integrated into projects.”

Policies to reduce earnings loss

- Despite substantial climate benefits, energy transition brings financial risks for communities historically built around energy-intensive industries
  - potential impacts physical and mental health, and well-being more broadly
- Blonz, Roth-Tran & Troland (2023): coal mining decline in Appalachia
  - decreased credit scores and increased credit utilization, delinquencies, amounts in third party collections, bankruptcy, and no. of individuals with subprime status

- Wage insurance for displaced workers – need RCT
  - Temporarily subsidize earnings of workers whose new job pays < old job
    - make reemployment more attractive, particularly in lower-wage jobs
    - subsidy amount proportional to the earnings decline
  - Policy goals:
    - avoid negative consequences of long unemployment durations
    - support workers for whom training is ineffective, infeasible, or unavailable

Policies to reduce earnings loss

- Hyman, Kovak & Leive (2023): workers displaced by trade shocks
  - *traditional program*: displaced workers participate in mandatory job training and receive extended unemployment insurance payments
  - *alternative program*: workers aged 50 or older also eligible for program that does not require job training and instead provides wage insurance
    - pay up to half of the difference between worker's pre- and post-separation wages for up to 2 years
  - findings: eligibility increases
    - short-run employment probabilities
    - cumulative earnings in the long run
  - net benefit to the government even under conservative assumptions
    - reduced unemployment insurance payments and increased tax revenues on higher earnings exceed wage insurance payments

Effects on pollution & health outcomes

- Impacts of closure or technology switch on air/water/noise pollution
  - e.g., steelmaking: Blast Furnace-Basic Oxygen Furnace (BF-BOF) route vs. Electric Arc Furnace route (EAF) on air pollution in communities nearby

- Impacts of closure or technology switch on health
  - morbidity (physical and mental health) and mortality
  - negative effects due to job displacement, earnings loss
    - e.g., “deaths of despair” (Case & Deaton, 2020)
    - Sullivan & von Wachter (2009):
      - Pennsylvanian workers in the 1970s and 1980s
      - mortality rates in year after displacement: 50-100% higher
      - workers with larger earning losses: greater increases in mortality
  - positive effects mediated by reductions in pollution

- Key estimates for cost-benefit analysis for industrial decarbonization

Effects on local tax revenue and public goods

- Impacts of closure or technology switch on local tax revenue
  - places with one major industry vs. places with diversified industries
- Impacts of closure or technology switch on local public goods
  - effects on school district finances, student performance
  - effects on community health centers, infant & elderly care
- Can government transfers mitigate potential negative effects?

THANK YOU!

Questions? Comments?

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