WHO'S FIT FOR THE LOW CARBON TRANSITION? EMERGING SKILLS AND WAGE GAPS IN JOB AD DATA

Discussion

Joelle Noailly

Geneva Graduate Institute & VU Amsterdam

Deutsche Bundesbank Spring Conference 2023

Contribution

- Improved data and mapping of low-carbon jobs
  (and how they differ from other jobs)

- Is the low-carbon transition killing more jobs than it creates?
  - important for public acceptance of climate policies
  - can be used to calibrate CGE models

- Wage data could give insights on inflationary pressure

Contribution

- Methodological paper based on text-mining job ads

1. more disaggregated than occupation-level data
   - green/non-green similar jobs within same occupation

2. precise and convincing set of keywords to define green jobs using word-embedding techniques
   - Relies on job identifier description of Lightcast job ads

3. exploit data on wages for 20% of job ads

Results

- Small share of low-carbon jobs (about 1.3%)
  - increasing over 2010-2012 (American Recovery and Reinvestment Act)
  - Then declining 2013-2016, and increasing again after 2017
- Increase in low-carbon manual jobs
- Limited geographical overlap with high-carbon jobs
- Broader set of skills than high-carbon or generic jobs
  - Technical-skill bias
- Low-carbon wage premium
  - Positive over 2010-2012, negative after 2017

Comments

- Some clarifications on methodology
- Skills set
- Wage premium
- Future work

Methodology

- Do all/ which jobs get posted online?
- Job identifiers of Lightcast?
  - Are low-carbon keywords only in skill description or also in employer characteristics?
- Definition of high-carbon jobs
  - grey jobs – CCS
- Identification of sectors (NAICS)
- Performance metrics of classification algorithm

Skills

- Low-carbon jobs require a broader set of skills

- Are you comparing jobs within the same sector?
  - e.g. engineers in FF energy, vs engineers in energy-saving ICT

- Is that because low-carbon jobs are newer?
  - new emergent technologies require a broader set of skills
  - complex technologies (e.g. nanotechnology, AI)
  - mirrors findings that clean technologies tend to be applied in larger number of sectors (just like all new tech)

Wage premium

Why does the low-carbon wage premium decline?

- Reversal of climate policy
- Role of international trade putting down pressure on low-carbon wages
  - different exposure to trade openness
  - could test hypothesis on subsample of low-carbon jobs that can be offshored
  - what if low-carbon transition creates more jobs but these can be offshored more easily?

Wage equations for high-carbon jobs

- Do you test empirically the role of workers' unions?

Future work

- Links with low-carbon innovation and growth
  - similar insights (share, trend, not conducted by incumbents, no geographic overlap)
  - identification of R&D scientists jobs? given larger spillovers for clean R&D, there is a case for policy support of R&D scientists
  - human capital spillovers and economic growth
- Impacts of environmental regulations
  - RGGI in East-Coast led to phasing out coal plants
- Local impact of green FDIs on job creations