

Jobs and Environmental Regulation

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RESOURCES
FOR THE FUTURE

Background

- ‘Jobs vs Environment’ debated since 1970s
- Recession clearly peaked interest in issue
- Many analysts and politicians cite regulation as major factor in *job losses*
- E.O. 13563 (2011) adds *job creation* to list of impacts to be considered
- EPA responds by expanding analysis of employment impacts in RIAs, many of which suggest *net job gains*

Research and Policy Challenges

Research: Extremely difficult to disentangle job impacts of regulation from economic and technology trends throughout the economy

Policy: EPA and other regulatory agencies under pressure to generate estimates of jobs lost/gained

Key questions have different boundaries

- What are the direct effects on jobs in specific industries subject to regulation?
- What are the overall effects on jobs, considering impacts on environmental protection industries (e.g., scrubber manufacturers) and other industries affected by the regulation, both positive and negative, direct and indirect?

Two approaches used to estimate direct job impacts

- Structural models
 - Berman and Bui (2001)
 - Morgenstern, Pizer and Shih (2002)
 - Belova, Gray, Linn, Morgenstern (2013)
- Reduced form models
 - Henderson (1996), Becker and Henderson (1999)
 - Greenstone (2002)
 - List et. al. (2003)
 - Kahn and Masur (2010)
 - Walker (2012) (looks at individuals, not just jobs)

MPS Results

- Three effects identified
 - Cost (+)
 - Demand (-)
 - Factor shift (+/-)
- Estimates based on 1979-91 data
 - Pulp and paper
 - Plastics
 - Petroleum
 - Steel
- No credible estimates developed for six other industries

MPS Interpretation (2002)

“...our study of...environmental regulation in the...[four industries] suggests that a million dollars of additional...expenditure is associated with an insignificant change in employment, with a 95% confidence interval ranging from -2.8 to +5.9 jobs.”

EPA Interpretation

- Focused on statistically insignificant average point estimate of +1.55 jobs per \$ million environmental expenditures
- Confidence intervals included in some RIAs but fact sheets often ignored ranges entirely
- Applied results to various industries without regard to labor intensity, demand elasticity, or other important differences.

Recent Structural Models

- Belova, Gray, Linn and Morgenstern (2013)
- Using expanded sample, no evidence of large negative employment effects, although some statistical issues encountered
- Initial analysis suggests negligible impact of regulation on plant exit probabilities
- Overall, reinforces initial finding of modest (insignificant) job impacts

Reduced form models

- All studies find some movement of production and jobs from non-attainment to attainment areas
- Greenstone (2002) finds loss of 590,000 jobs, \$75 billion in output (1987\$) from nonattainment areas due to CAA, 1972-87
- BUT no evidence on *net* job U.S. loss
- Results not usable in national-level RIA

New Approach: Job Impacts of CPP

- EPA abandons use of MPS; attempts to capture key relationships in single/closely allied industries via multiple paths
- Added production costs implies more jobs
- Lower electric demand implies fewer jobs
- Added DSM implies more jobs
- Select other impacts also examined

Conclusions

- Direct impact of environmental regulation on labor markets is highly complex, defying simple characterization/quantification
- Variety of effects, including both positive and negative impacts, varying across regs, industries
- When applying analytical results from one situation to others, great care must be taken to assure comparability and capture key uncertainties
- EPA use of MPS/BGLM results questionable
- CPP analysis creative attempt to mimic at least some elements of general equilibrium models

Thank you