Volume Title: The Design and Implementation of U.S. Climate Policy

Volume Author/Editor: Don Fullerton and Catherine Wolfram, editors

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-36914-0; 978-0-226-26914-6

Volume URL: http://www.nber.org/books/full10-1

Conference Date: May 13-14, 2010

Publication Date: September 2012

Chapter Title: Comment on "Climate Policy and Labor Markets"

Chapter Author(s): Matthew E. Kahn

Chapter URL: http://www.nber.org/chapters/c12151

Chapter pages in book: (p. 49 - 51)

Jaffe, A., S. Peterson, P. Portney, and R. Stavins. 1995. "Environmental Regulation and the Competitiveness of U.S. Manufacturing: What Does the Evidence Tell Us?" *Journal of Economic Literature* 33 (1): 132–63.
Kelter, Laura A. 2009. "Substantial Job Losses in 2008: Weakness Broadens and Deepens across Industries." *Monthly Labor Review* 132 (3): 20–33.
Killian, L. 2008. "The Economic Effects of Energy Price Shocks." *Journal of Economic Literature* 46 (4): 871–909.

Comment

Matthew E. Kahn

This impressive chapter utilizes a state-level panel data set covering the years 1976 to 2007 to provide new estimates of the relationship between retail electricity prices and state employment activity. Based on an estimation strategy that controls for state and year fixed effects, this chapter exploits within-state variation in electricity prices. A key finding is that the electricity price elasticity is roughly –.12. Deschênes uses this estimate to predict the likely employment effects of a federal carbon mitigation policy. If such a policy would raise electricity prices by 4 percent, then he predicts that aggregate US employment would decline by 460,000. In absolute terms, this would appear to be a very large unintended regulatory effect, while relative to the nation's total workforce this effect is small.

In the summer of 2009, the House of Representatives barely passed the American Clean Energy and Security Act. In the summer of 2010, the Senate chose not to vote on that bill. The Congress' tepid efforts to battle climate change indicate that its members believe that such long-run regulation must have significant short-run costs. How do such senators know this? They are unlikely to have general equilibrium modelers on their staff. The Deschênes estimates offer credible evidence and represent a key "missing link" in public policy discussions. Combining state-specific predictions for how carbon regulation will affect state electricity prices with the Deschênes estimates would yield an expected job incidence measure that could help to predict congressional voting patterns on carbon mitigation legislation.

This chapter focuses on the short-run effects of electricity prices on employment. In the medium term, higher energy prices will induce some firms to innovate to economize on energy consumption (Popp 2002). Such nimble firms will be less likely to shut down or reduce employment when future electricity price increases take place. In contrast, there will be other

Matthew E. Kahn is professor in the Institute of the Environment, the Department of Economics, and the Department of Public Policy at the University of California, Los Angeles, and a research associate of the National Bureau of Economic Research.

For acknowledgments, sources of research support, and disclosure of the author's material financial relationships, if any, please see http://www.nber.org/chapters/c12151.ack.

firms in declining industries who are not making new investments to modernize their factories. Higher electricity prices may nudge these firms to shut down.

The Deschênes chapter implicitly assumes that employers are myopic and base their employment decisions on current electricity prices. Given that job creation represents an investment, firms should base such decisions on expected future input prices. A productive future line of research would be to resurrect some of the rational expectations efforts from labor economics (see Topel 1986) and apply them in this setting. For example, is state employment more sensitive to unanticipated increases in electricity prices or anticipated increases in electricity prices?

Within the same industry, rising electricity prices can have asymmetric effects on firms. Relative to new capital, older capital is likely to be much more energy inefficient and to be more likely to be rendered obsolete by increased energy prices. But, this chapter's state/industry/year aggregate analysis implicitly assumes that electricity price changes have symmetric effects on job creation and job destruction. This merits future research. Recent work by Bloom et al. (2010), using data from the United Kingdom, highlights that better managed firms are significantly less energy intensive. Such firms would be less likely to reduce their employment in the face of an unexpected increase in electricity prices.

This study reports disaggregated estimates by major industry. I am puzzled by some of the facts that emerge as reported in table 2.1's column (3). In particular, Deschênes cannot reject the hypothesis that there is no relationship between electricity prices and manufacturing employment. In fact, for nondurables manufacturing there is a positive but statistically insignificant correlation. This finding might surprise Rust Belt senators who are concerned about the continuing decline of this key sector in their states. Based on his table 2.1 findings, the sectors that are most affected by electricity prices include: agriculture, transportation, and FIRE (finance, insurance and real estate). This last fact surprises me. In states with rising electricity prices, firms in the FIRE sector can seek out office space in more energy efficient buildings or be charged lower rental rates as tenants. Eichholtz, Kok, and Quigley (2009) have documented that LEED certified and Energy Star commercial buildings command a price premium relative to the average building. Such premiums are likely to be larger in areas with higher electricity prices. In growing cities with rising electricity prices, the new buildings are likely to be built to economize on electricity consumption. Both of these facts would predict that FIRE employment would not be sensitive to increases in medium term changes in state electricity prices.

This chapter asks an important public policy question and utilizes a careful empirical strategy to generate new facts. I expect that a large amount of scholarship will build on this chapter's findings.

References

Bloom, Nicholas, Christos Genakos, Ralf Martin, and Raffaella Sadun. 2010. "Modern Management: Good for the Environment or Just Hot Air?" *Economic Journal* 120 (544): 551–72.

Eichholtz, Piet, Nils Kok, and John M. Quigley. 2009. "Doing Well By Doing Good? Green Office Buildings." *American Economic Review,* forthcoming.

Popp, David. 2002. "Induced Innovation and Energy Prices." *American Economic Review* 92 (1): 160–80.

Topel, Robert. 1986. "Local Labor Markets." *Journal of Political Economy* 94 (3): S111–S43.