

March 2, 2022

John Doe, Editor  
Journal of Environmental Economics and Management

Dear Editor,

The paper, “Technology Adoption and the Timing of Environmental Policy: Evidence from Efficient Lighting” by Sarah Armitage, is being reviewed for the Journal of Environmental Economics and Management. The paper examines the effects of timing of energy efficiency standards and subsidies on later competition with more efficient products, in the context of energy efficient lighting in the United States between 2010 and 2018. The main research questions are (1) what are the trade-offs between welfare and final efficient-product market share when employing early subsidies for moderate efficiency light bulbs (CFLs and halogens) in the face of future high-efficiency light bulbs (LEDs) coming to market; and (2) what are the same trade-offs when evaluating early efficiency standards?

Using a modified static discrete choice model to estimate demand parameters and endogenous consumer return-to-market time, the author examines counterfactual policies and finds that (1) the early (observed) efficiency standards decrease the final amount of LEDs purchases but maximize overall welfare including externalities compared to later possible standards implementations, and (2) if CFL subsidies were phased out later than observed, welfare is increased but LED purchases decline. These results depict a policy trade-off between LED diffusion and reduction in externalities.

- (3.0) The supply side is not modeled and assumptions are made about counterfactual supply that result in less-than-credible conclusions about welfare. Thus, prices are fixed and only consumer welfare and social damages from externalities are considered.
- (3.1) There are other subsidies at play that make estimation of demand parameters less believable, but there may be a relatively clear way to address the issue.

My recommendation for this paper: Weak Revise and Resubmit

I think point (3.1) is a challenge, but if the author were able to address the supply side issue in the counterfactual estimation, this paper could be a nice empirical example of policy analysis and a small methodological contribution static discrete choice options. Point (3.2) may be able to be addressed with an explanation if there is a reason the other rebate subsidies are not concerns in the demand estimation. This also could be resolved with some robustness checks. I think the author has a chance at R&R, but it would be a lot of work.

Warmly,  
Aaron Watt

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