

State Taxation and the Reallocation of Business Activity

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**American Economic Association
San Francisco, 3 January 2016**

Main Reaction

The authors have produced an outstanding empirical study with high policy relevance.

1. A very effective use of rich longitudinal business-level datasets. These datasets are playing an increasingly important role in applied research.
2. As someone who began using longitudinal business-level datasets in ancient times (late 1980s), it's fantastic to see the advances in their application. This paper is an excellent example of progress in this area.
3. The paper also marshals and exploits much knowledge of business taxation and the nature of variation in business tax rates across states, time and form of business organization.

The paper covers a lot of ground and contains many interesting results. Given limited time, I will focus my remarks on a small, limited set of issues and suggestions.

Some Issues and Suggestions

1. The paper does not answer this question: For multi-state firms, what's the total elasticity of employment w.r.t. the state corporate/personal income tax rate, accounting for both intensive and extensive establishment-level margins?

- A. The authors highlight response elasticities based on regressions that give equal weight to all establishments (or firms), large and small. I think this is problematic, given the potential for response elasticities to vary (greatly) by size.
- B. For the intensive-margin results, an easy “fix” is to weight the establishment (firm) regressions by establishment (firm) employment, perhaps winsorizing weights at the top end.
- C. Evidence in Tables 12 and 13 suggest that size-weighted regressions will yield larger estimated tax rate effects for the intensive margin responses.

Some Issues and Suggestions

- D. The dependent variable in the extensive-margin regressions is the count of establishments in the state-firm-year cell. This approach neglects differences in activity levels across establishments.
- The unweighted mean establishment size is MUCH lower than the activity-weighted mean. **And** smaller units probably exhibit a MUCH greater response elasticity on the extensive margin.
 - Hence, I suspect the reported results substantially overstate the activity-weighted response elasticity on the extensive margin.
 - Partial Fix: In carrying out regressions on the count data for establishments, weight by employment at the firm-state-year level. This approach recovers some of the information lost by working with counts – but not all, because it still neglects differences in establishment size and response elasticities within firm-state-year cells.

Note: The authors present some information on results by firm size, but the issue here pertains to establishment size.

Some Issues and Suggestions

- E. Obtaining total employment response elasticities:
- Sum the employment-weighted response elasticities on the intensive and extensive margins. This approach still suffers from the issue identified under “Partial Fix”.
 - Drop the explicit distinction between intensive and extensive margins. Use Davis-Haltiwanger growth rates as the dependent variable, and weight observations by the corresponding DH weights. Use changes in tax rates as the key explanatory variables of interest.
 - OLS estimation on firm- or establishment-level data is easy.
 - Consistent aggregation is straightforward.
 - An issue: When regressors are continuous, regression-predicted values can lie outside the $[-2,2]$ interval of the DH growth rate measures. Unlikely to be much of an issue using size-weighted firm-level regressions.

Some Issues and Suggestions

2. The specifications are not well suited to study spillover effects of the corporate (personal) tax rate on pass-through (corporate) entities.

To see the issue, consider an industry that produces and sells locally, and let θ_{is} denote the share of activity in industry i and state s accounted for by corporate entities. It's natural to hypothesize that a change in the state's corporate tax rate τ_c has a larger effect on the competitive environment for pass-through entities when θ_{is} is larger (and vice versa). Properly treating this issue requires the authors to condition on the interaction between θ_{is} and "localness." None of the specifications do so.

Some Issues and Suggestions

3. Some industries are footloose. Others depend heavily on inputs with costs that vary greatly by location (wood fiber for paper products, iron ore for steel, electric power for aluminum, etc.).

- A. Hypothesis: Greater response elasticity to tax rates in more footloose industries
- B. Let i =industry, p =place, and s =activity share. Define an index of footlooseness (FL) in the long run as

$$(\text{FL Index})_i = 1 - \sum_p |S_{ip} - S_p| \in [0,1]$$

(Admittedly, this is an imperfect index of footlooseness.)

- C. How do the tax rate response elasticities vary across industries that differ with respect to the FL Index or other indicator of footlooseness?

Some Issues and Suggestions

4. Why is the employment elasticity greater for C corps than pass-through businesses?

- Because industry mix differs between C corps and pass through businesses, and the response elasticity is generally larger in industries dominated by C corps?
- Because C corps are typically larger, and larger firms and larger establishments exhibit greater response elasticities?
- Because C corps are more likely to be multi-national firms, and multi-nationals have larger responses?
- Tables 5, 12 and 13 speak to these possibilities, but a systematic reconciliation of differing response elasticities between C Corps and pass-through entities would be helpful.

Some Issues and Suggestions

- 5. Persistence of tax rate changes:** The authors address the (un)predictability of the tax rate changes that drive their estimates, but they tell us little about their persistence. Hence, it's hard to map the results to the following question: What is the estimated employment effect of a given permanent change in the corporate or personal tax rate? Related issues:
- Does persistence differ materially across the types of tax rate experiments considered? If so, could that be why they yield somewhat different response elasticities?
 - Is it possible to distinguish among tax rate experiments in the data that differ materially in terms of (expected) persistence?