Exogenous Changes in State Corporate Tax Rates and Firm Headquarter Location

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Kevin Standridge and Emma Shin

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**Abstract:** In this study, we examine the effects of changes in state corporate tax rates on the number of firms headquartered in each state. We find that an increase in the corporate tax rate in a given state is associated with an increase in the number of firms headquartered in that state, even when limiting our sample to plausibly exogenous changes in state tax rates and controlling for state-level economic factors.

**Motivation**

The effects of changes in tax rates has been studied in a variety of contexts. Understanding how changes in tax rates affect decisions made by individuals, firms, and other entities is important for tax policy-setters to see if the policies they choose create the results they intended to create (and do not lead to any unforeseen, unwanted side effects).

The inherent difficulty of measuring the effect of a change in tax rates is that those changes are never exogenous. Changes in tax rates likely occur in response to changes in underlying economic factors, and therefore it is difficult to separate the effects of those changes from the effects caused by the event or trend that prompted the tax rate change to begin with.

In this study, we combat the endogeneity issues surrounding tax rate changes with a unique dataset. Nallareddy et al. (2018) combine data on state-level corporate tax rates (Suarez Serrato and Zidar, 2017) with data on if states changed corporate tax rates due to budget constraints or local economic conditions (Giroud and Rauh, 2018). We also use this data to come up with a list of state corporate tax rate changes that occur separately from underlying economic conditions and thus are arguably exogenous.

The research question we address is how do changes in state corporate tax rates affect the count of firms headquartered in each state. We find that after controlling for state-level economic factors, a change in a state corporate tax rate is associated with a statistically significant change in the same direction in number of firms headquartered in that state. We repeat this analysis by differentiating between positive and negative tax changes, and we see that the results are significant only for negative tax changes. We repeat the analysis two more times using log aggregate assets and log aggregate earnings as the outcome variable, and we find significant results for those outcomes as well.

**Prior Literature**

The papers from which we draw a portion of our data are all examples of contemporary research that address similar questions on state tax rate changes. Nallareddy, et al. (2018) examine the effect of state corporate tax changes on income inequality, finding that corporate tax cuts lead to higher overall income but greater income inequality. Suarez Serrato and Zidar (2017) estimate the proportional incidence of state corporate taxes for firms owners, workers, and landowners. Finally, Giroud and Rauh (2018) estimate short-run corporate tax elasticities for firms, finding evidence to support the idea that changes in state-level tax rates drives reallocation of business activity between states. Our research question, which looks specifically at firm headquarter count between states, is a natural extension of this existing research.

**Research Design**

We run our model using a standard OLS regression. Our dependent variable in our model is the count of public firms headquartered in a given state and year. Because the decision to establish or relocate a firm headquarter is substantial, we do not expect to see an instantaneous reaction to changes in tax rates. Therefore, we run our regression multiple times using the count variable for years ­*t – 2* through ­*t + 2* so as to capture a lagged effect (and show the absence of an effect in the years prior to the tax rate change). We also rerun our regressions using an alternative measure for the dependent variable, log of aggregate assets for public firms in a given state-year.

Our independent variable is an indicator variable equal to 1 if a state-year experienced a positive tax change, -1 if it experienced a negative tax change, and 0 if it experienced no tax change. We also split this into two indicator variables for positive tax changes and negative tax changes, which allows the model to capture asymmetric effects of positive vs. negative changes. As mentioned above, qualitative data was collected on these tax changes to categorize them as exogenous changes, which strengthens the validity of the causal effect we observe.

Our control variables include the log of GDP per capita, the share of GDP in finance, the share of GDP in government, the share of GDP in military, and population growth. All variables are measured at the state-year level.

**Outline**

We have already collected the data we need and have estimated our regressions. Because of this, our outline for future work is simple. Assuming the proposal is sufficient, all we have left to do is to complete the final write-up by May 1. If we need to make adjustments to our research design, we plan to finish those during the first two weeks of April and complete the write-up during the second two weeks.