The Impact of Taxes on Location Decisions
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Discussion by:
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Overview

• Germany has a “local” tax in addition to a national tax
• Definition of taxable income and other statutory language constant across municipal jurisdictions
• Local tax rate set by each municipality (key source of variation)
• Income is apportioned to municipalities using wages
  – McClure (1980) shows that this approaches a direct tax on wages

• **Key takeaway:** German firms shift location of wages to reduce tax bill.
Overview – visual
Overview – visual

Legend Tax

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Legend Tax

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Overview – visual
Model

\[ \text{Wage}_{i,j} = \alpha_0 + \beta_1 \text{TaxRate}_j + \sum \beta_m \text{FirmControl}_i^m + \sum \beta_m \text{MunicipalityControl}_j^m \]
\[ + \sum \beta_m \text{DistrictControl}_k^m + \varepsilon_i \]  \hspace{1cm} (1a)

\[ \text{Diff.Wage}_i = \alpha_0 + \beta_1 \text{Diff.TaxRate}0 - 25_i + \beta_2 \text{Diff.TaxRate}25 - 50_i \]
\[ + \beta_3 \text{Diff.TaxRate}50 - 75_i + \beta_4 \text{Diff.TaxRate}75 - 100_i + \sum \beta_m \text{FirmControl}_i^m \]
\[ + \sum \beta_m \text{Diff.MunicipalityControl}_j^m + \sum \beta_m \text{Diff.DistrictControl}_k^m + \varepsilon_i \]  \hspace{1cm} (1b)

\[ \Delta\text{Wage}_{i,t} = \alpha_0 + \beta_1 \Delta\text{TaxRate}_\text{UP}0 - 25_{j,t} + \beta_2 \Delta\text{TaxRate}_\text{UP}25 - 50_{j,t} \]
\[ + \beta_3 \Delta\text{TaxRate}_\text{UP}50 - 75_{j,t} + \beta_4 \Delta\text{TaxRate}_\text{UP}75 - 100_{j,t} \]
\[ + \beta_5 \Delta\text{TaxRate}_\text{DOWN}0 - 25_{j,t} + \beta_6 \Delta\text{TaxRate}_\text{DOWN}25 - 50_{j,t} \]
\[ + \beta_7 \Delta\text{TaxRate}_\text{DOWN}50 - 75_{j,t} + \beta_8 \Delta\text{TaxRate}_\text{DOWN}75 - 100_{j,t} \]
\[ + \sum \beta_m \text{FirmControl}_{i,t}^m + \sum \beta_m \Delta\text{MunicipalityControl}_{j,t}^m \]
\[ + \sum \beta_m \Delta\text{DistrictControl}_{k,t}^m + \varepsilon_{i,t} \]  \hspace{1cm} (2a)
Results Speak to Multiple Important Ideas

• What do firms actually do to reduce tax burdens?
• What are the “real” effects of corporate income tax?
• How do firms “adjust” to exogenous changes in statutory tax rates?
• Who bears the burden of the corporate income tax?
What do firms do to avoid taxes?

• An example:
  – Dyreng et al. (2008) – Substantial cross-sectional variation in tax rates
  – Dyreng et al. (2010) – Manager effects explain some of the variation
  – Chyz (2012) – Managers that are personally tax aggressive lead their companies to be tax aggressive too.

• Another example:
  – Chen et al. (2010) – Non-family firms are more tax aggressive
  – McGuire et al (2012) – Single class share firms are more tax aggressive
  – Badertscher et al. (2013) – Greater separation of ownership and control leads to more tax aggressiveness.

• This study shows something that firms do to avoid taxes!
What are the real effects of corporate taxes?

• Do corporate taxes affect real investment behavior?
  – Location decisions
  – Hiring decisions
  – Production decisions

• What are the non-tax costs of changing real behavior?
  – Coordination
  – Cultural
  – Language
  – Legal
  – Political

• This study shows that corporate taxes affect location of “wages”
  – Almost all non-tax costs appear to be removed (is this good??)
How do firms “adjust” to changes in taxes?

• We have evidence on the adjustment speed of investment to
  – Capital structure shocks (Leary and Roberts, 2005; Oztekin and Flannery, 2012)
  – Demand shocks (Maccini and Rossana, 1981)
  – Supply shocks (Borenstein et al., 1997)

• This study shows the adjustment speed to statutory tax rate change.
  – Adjustment speed is relatively slow (results stronger over a six year period than a three year period)
  – Adjustment speed is asymmetric (faster for downward rate changes than upward rate changes)
Who bears the burden of the corporate tax?

• Corporate tax incidence is widely studied but poorly understood

• Three likely groups of people that bear the corporate tax
  – Providers of capital
  – Providers of labor
  – Consumers

• This study *might* be able to speak to this issue if data exploited more thoroughly

• Understanding incidence important for policy arguments related to corporate tax
Odds and Ends

• Proxies for economic activity
  – Wages
  – Property
  – Sales

• Economic magnitude

• Separate accounting v. apportionment

• Real v. accounting effects
  – Mutually exclusive?

• Falsification tests
  – Loss firms
  – NOL firms
  – No wage firms
Thank you!