Identifying Tax-Setting Responses from Local Fiscal Policy Programs

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THIS PAPER: EVIDENCE OF COMPLEMENTARITIES IN LOCAL TAXES

- Paper studies how one local govt.'s decision to change tax rates influences the decision of (possibly distant) local govts. to change their tax rates

  - Context: two large states in Germany with different industry and demographic composition
  - Variation: local govt. selection into a debt reduction program (DRP) which required raising tax rates on mobile and immobile bases to balance budgets
  - Corporate income tax (CIT) is mobile, property tax (PT) is immobile **[?]**

- Method: DiD where munis selecting into treatment are matched based on balance sheet characteristics to physically distant, untreated munis within the same state

- Results point to **complementarities** in local govt.'s tax-setting behavior

  - (I) Positive co-movement of τ_m for DRP and non-DRP munis in both tax bases after policy
  - (II) Proximity of local govts. positively predicts strength of co-movement in τ_m
  - (III) MCPF puts PT on correct side of the Laffer curve, while CIT is on the wrong side

Clear fiscal externalities through lens of COVID shock

Chart 5. Migration by region, 1994–2021
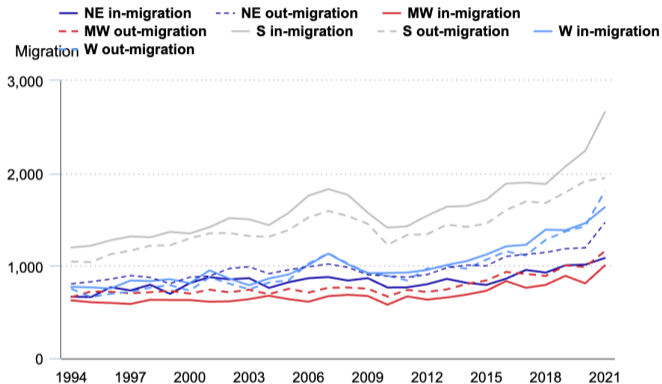
Click legend items to change data display. Hover over chart to view data.
Note: Data are single–establishment firms only. NE = Northeast, MW = Midwest, S = South, W = West.
Source: U.S. Bureau of Labor Statistics.

Source: Sadeghi, Cooksey, Colavito, "Firm Migrations in the United States: Magnitude and Trends," *Monthly Labor Review*, BLS, June 2023

Large literature on the "German model" of tax law

- German model of local tax-setting decisions: nationally fixed base rate $\bar{\tau}$ and then **munis choose a multiplier** $\theta_m \implies \tau_m = \theta_m \cdot \bar{\tau}$

  - Many other countries have versions of this federalist rule: Switzerland (many papers), Canada, Italy, and U.S. (kind of – credits/deductions means $\bar{\tau}$ not well-defined)

    * Japan has almost an exact copy of Germany's tax framework

  - In Germany, shifts in θ_m already used to identify effects of local business tax (LBT) on R&D spending (Lichter et al. 2022) and wages (Fuest, Peichl, Siegloch 2018), and decompose incidence of PT (Löffler & Siegloch 2021)

Overall discussion point

Already a large literature showing some of the results in this paper. Need to do more work to pin down the yardstick competition mechanism, which would be new!


COMMENT #1: YARDSTICK COMPETITION VS. LEARNING

- Main specification showing complementarities in tax setting is:

$$\theta_{m,t} = \alpha + \beta^{Nontreat} \cdot (Post_t \times Nontreat_{m,t}) + \delta_m + \zeta_t + \epsilon_{m,t}$$

- Authors show $\beta > 0$ with $0.62 \leq \beta^{Nontreat}/\beta^{Treat} \leq 0.77$ for LBT and $0.37 \leq \beta^{Nontreat}/\beta^{Treat} \leq 0.50$ for PT

- Can use timing of the responses and analysis of spillovers by physical distance to isolate learning channel

  - ▶ Learning would imply gradual attainment of new steady state tax regime
  - ▶ Distance plays no role in standard versions of yardstick theory
  - ▶ In trade models, distance is important because it impacts commuting costs and therefore substitutability across local govts.

**Figure 4: Slope of tax-reaction function over time**
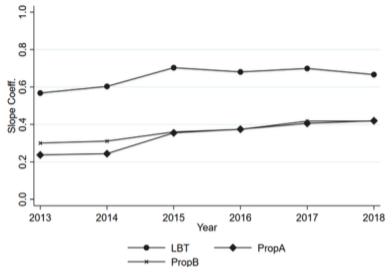
(a) NRW
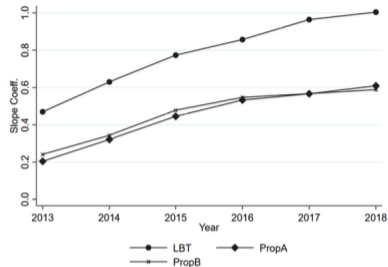
(b) Hesse

- Probably not a story about learning in NRW, but maybe in Hesse?
- How much of this discrepancy is due to differences in **staggered selection** into treatment across the two DRPs?
  - ▸ Multiple waves plus different anticipation horizons if some munis made quick decisions to participate in the DRP
  - ▸ In NRW in the first wave munis running into "excessive debt" (?) obligated to participate

Definitions of yardstick competition

- Not clear which notion of yardsticking the authors are invoking here
  - Provide definition upfront and tell reader which type of model you are invoking

- Two distinct flavors of "yardsticking" in economics:
  1. **IO approach** à la Shleifer (1985): franchised monopolies (i.e. local govt. in this case) infer their cost function based on the actions of other *ex ante* identical firms
     - ★ Implication: with lump-sum transfers, all govts. choose efficient level of cost reduction
  2. **Political economy** (Besley & Case 1992): voters learn about quality of their govt. through what other (neighboring) govts. do, and this forces policymakers to reform

- Using the phrase **"strategic complementarities"** may be less problematic since the scenario maps to price-setting firms in sticky price models
  - Monopolistic firms get hit with a shock, face price-setting costs, and decisions propagate to other firms through input-output (Cooper & John 1988)

Geographic clustering of $\Delta\tau_m$ in NRW potentially useful

Figure 1: Tax Multiplier Changes of the Nontreated in Hesse and NRW
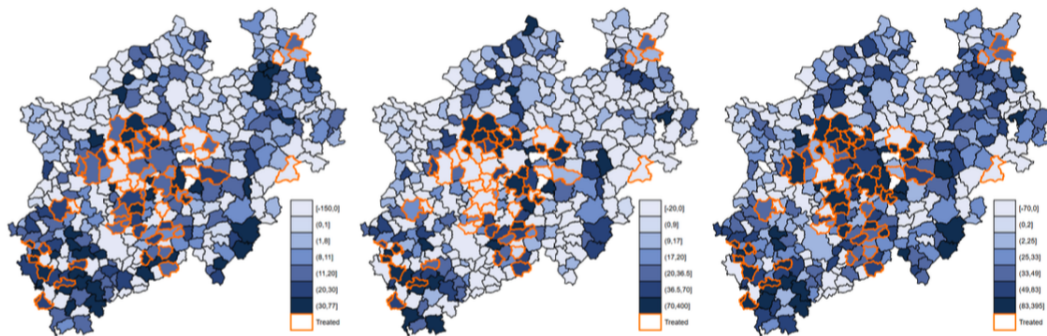
- Much more spatial clustering of treated munis in NRW relative to Hesse
- Industrial concentration + flat response function over time $\implies$ macro input-output story

COMMENT #2: IS THIS BEHAVIOR UNIQUE TO GERMANY?

- Large literature showing **"race to the bottom"** behavior for local corporate income tax base (especially in U.S.)
  - ▶ e.g. Mast (2020) on PT breaks for businesses, Slattery (2022) on CIT subsidies, Ferrari & Ossa (2023) on firm relocation subsidies, etc.

- Why is Germany on an equilibrium path where the strategic complementarities go in the opposite direction to systems like the U.S.?
  - ▶ Price floor: unlike U.S. where $\tau_m = 0$ in some states, $\theta_m \geq \underline{\theta} > 0$
  - ▶ Property tax bill indexed to 1964 appraisal value (real value drifts secularly downward)

- **Conservative interpretation:** in federalist regimes in which there is a floor on the tax rate and historically indexed property appraisals we will be...
  - ▶ On the wrong side of the Laffer curve for corporate income taxes
  - ▶ Under-taxing property because govt. valuation is divorced from its market value

COMMENT #3: OTHER MUNICIPAL BUDGET OUTCOMES?

- Paper restricts attention to tax rates as the sole outcome variable

- On some level this makes sense because research design relies on matching based on *ex ante* fiscal capacity of local governments

- But punchline is that CIT revenue collection is inefficiently low due to complementarities

  - Muni finance literature shows that "shocks" to local govt. budgets result in real spending cuts (Adelino, Cunha, Ferreira 2017; Dagostino 2022; Amornsiripanitch 2022)

  - One challenge here is that spending cuts and tax increases are substitutable ways to participate in the DRP $\longrightarrow$ what is the counterfactual?

  - There could be complementarities on the spending cut side as well (check this!)

- **Proposal:** look at real outcomes accounting for heterogeneity in the *Post* $\times$ *Nontreat* term by the degree of the tax hike to isolate peers' compliance along τ_m

  - Public employment, infrastructure, local welfare programs, etc.

COMMENT #4: IS THE PROPERTY TAX BASE REALLY IMMOBILE?

- Land tax bases are immobile and non-distortionary to the extent that τ_m does not influence the highest and best use of the parcel (possible exception: Detroit)

- Property taxes might be (almost) immobile in countries like the U.S. where commuting times are long and most people drive to work
  - ▶ Counterargument: neg. effects of SALT deduction cap on house prices (Li & Yu 2022)
  - ▶ Authors argue $\beta > 0$ for immobile tax bases indicates strategic behavior of govts.

- But in a country like Germany with an efficient transportation system, why wouldn't we expect people to move if property taxes increase? $\implies \Delta P < 0 \implies \Delta \mathcal{T} < 0$
  - ▶ Out-of-town homebuyers are more price elastic (Favilukis & Van Nieuwerburgh 2021)
  - ▶ Holding fixed measures of commuting costs (Monte, Redding, Rossi-Hansberg 2018) or doing within-CZ analysis would help isolate strategic responses
  - ▶ "Donut hole" approach at different km bandwidths to isolate distance decay of spillovers to the control group

Detroit unable to property tax itself out of distress
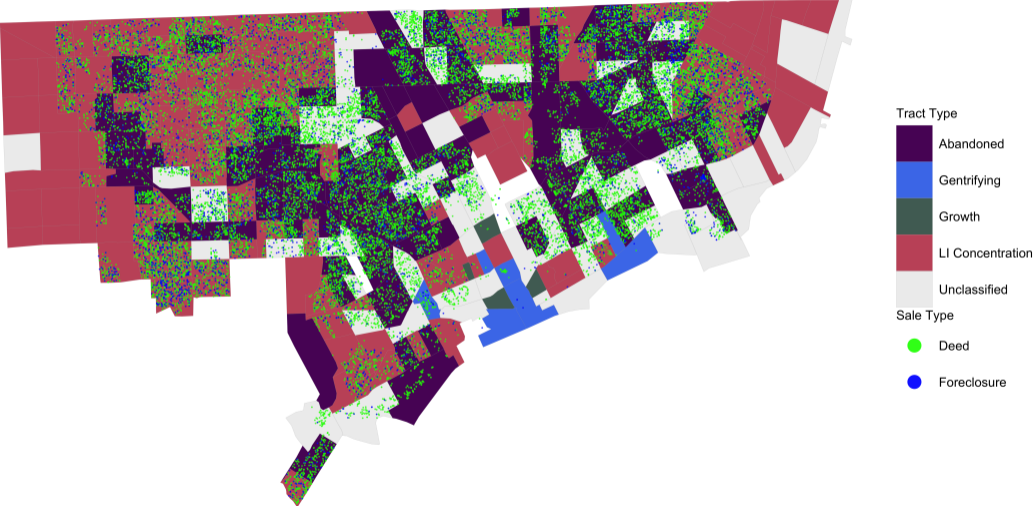
Source: LaPoint (2023) using Detroit Open Data Portal for 2012–2019.

Miscellaneous suggestions for the authors

- Standard errors: how can these be clustered at the state level if the analysis is conducted within state? (typo?)
  - Check robustness to Conley standard errors with maximal cutoff defined by the maximum km distance thresholds reported in the paper
  - Bootstrapped standard errors on tax response function (Table 3)

- Prop A (agricultural land tax base) should be much more immobile than Prop B, but get mostly similar tax response functions $\longrightarrow$ lean on this fact more!

- Redo Table 1 summary statistics as a balance test pre vs. post nearest-neighbor matching
  - Include election vote share variables

- Clarify choice of dates used to define $Post_t$ given staggered nature of the reforms

- Specification (3) omits interaction terms which are included in the regression (Table 2.C)

What to do about inter-jurisdictional tax competition?

- Carefully executed paper – I encourage everyone with interests in local tax competition and spatial public finance to read it!

- Could use a **conceptual framework** to help derive testable implications and help separate yardsticking from learning by local policymakers

- Implications for property tax reform in context like U.S. will depend on the mechanism

  ▶ If yardsticking, which type are we talking about? IO vs. macro? MCPF evidence suggests IO framework is not the right one here

  ▶ If learning, need to unpack timing of the responses and tell us more about the political economy underlying budget decisions

- Make the case that strategic complementarities generate efficiency losses by looking at spillovers to real outcomes (e.g. public employment, infrastructure spending)

THANKS!