

MACROECONOMIC EFFECTS OF TAX COMPETITION

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Discussion by

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UEA North American Meeting

World Bank, Washington, D.C.

September 30th, 2022

THIS PAPER: EFFECTS OF LOCAL TAX COMPETITION ON TFP

- Model combining features of Ossa (2015) and Gaubert (2018)
 - ▶ Ossa (2015): **Nash game** between localities leads to lower overall revenues
 - ▶ Gaubert (2018): **assortative matching** between high productivity firms and cities
- Very elegant closed-form solutions allowing for easy comparison between no tax, competition, and coordination regimes → **“scale factors”**
- Intuition for aggregate TFP loss similar to that in Gaubert (2018)
 - ▶ τ is always lower under inter-jurisdictional tax competition (IJTC) → “race to bottom”
 - ▶ No distortion in location choice at top of firm productivity distribution
 - ▶ But in some areas mismatch between productivity of the locality and of the firm
- \implies relatively low TFP areas attract too many firms through lower subsidies, similar to the negative effects of “winner picking” in place-based policies (PBPs)

COMMENT #1: GOING BETWEEN EMPIRICAL FACTS AND MODEL (1)

- Empirical section documents stylized facts about local tax breaks (PDIT data):
 - (I) Local tax incentives became more common in 1990s/early 2000s, and stable thereafter
 - (II) But increasingly rely on “megadeals” (> \$50 mil.)
 - (III) Local fiscal incentives uncorrelated with import and export shares (total trade?)
- Some facts echoed elsewhere (Bartik 2017; Slattery & Zidar 2020)
- Some of the facts are time series statements, but no dynamics in the model
- **Realized vs. pledged tax breaks in the data**
 - ▶ Data points pertain to pledged amounts over several years (e.g. the 2017 Foxconn deal)
 - ▶ Use realized spending and convert to present values when applicable
- Focus in model is on Nash outcomes when local govts. compete once for firms, but in reality everyone plays a repeated game (is this the stage game?)

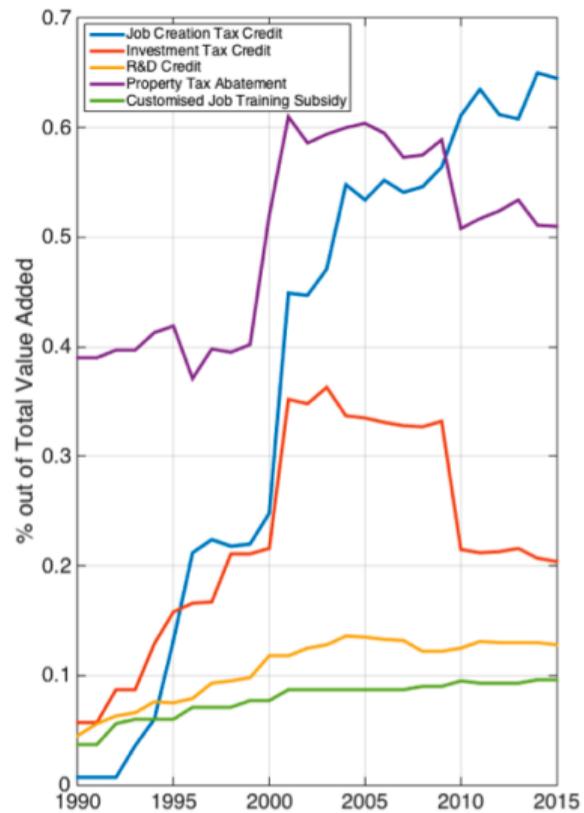
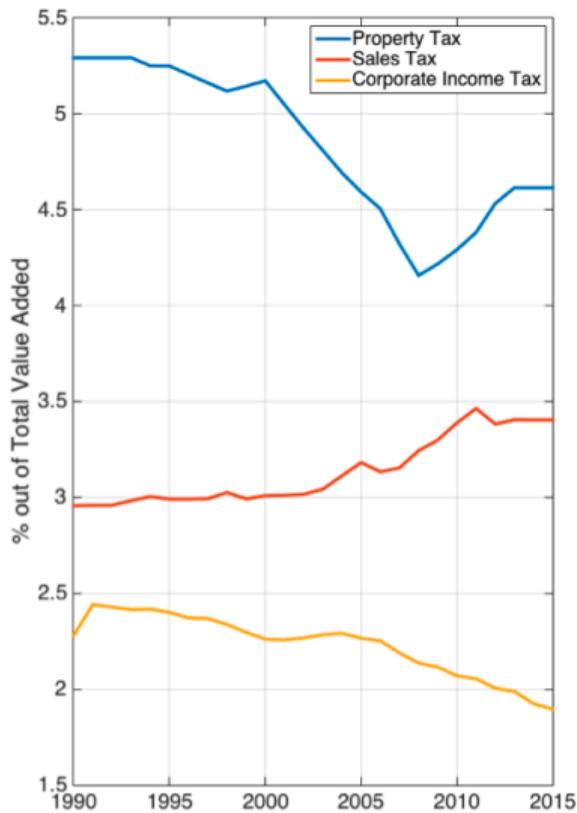
FOXCONN DEAL: CASE STUDY IN DEFECTION ON FIRM SIDE



*The empty Foxconn "innovation center" in Eau Claire, Wisconsin, on April 10th, 2020.
Photo by Matt Jewell*

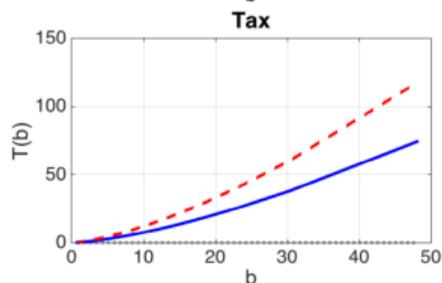
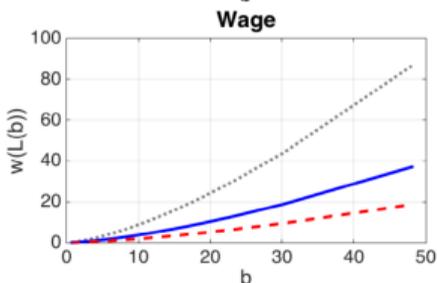
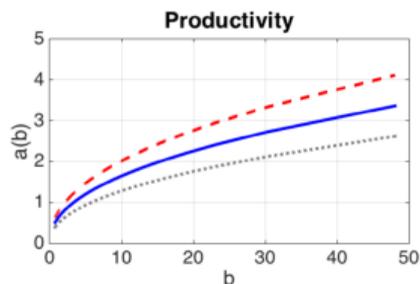
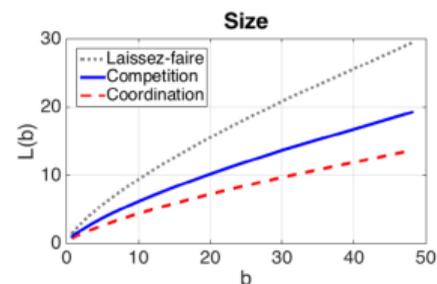
Three years later, the factory – and the jobs – don't exist, and they probably never will.

- Trump-brokered 2017 deal with Foxconn to bring 13k jobs and \$10 bil. in inv. to WI in exchange for \$4 bil. in tax credits
- **Revised deal:** \$672 mil. in inv. and 1,500 jobs in exchange for \$80 mil. subsidy
- Prominent example of why dynamics of firms' location decisions are important
- Can mimic these types of dynamic firm-govt. interactions by introducing other policy instruments
 - ▶ $\rightarrow \tau$ **proportional** to firm productivity would be step in this direction



- Lump-sum tax in model loosely corresponds to **job creation tax credit**
- Show as % of total local govt. expenditures

COMMENT #1: GOING BETWEEN EMPIRICAL FACTS AND MODEL (2)



- **Refine which empirical facts correspond to model environment**

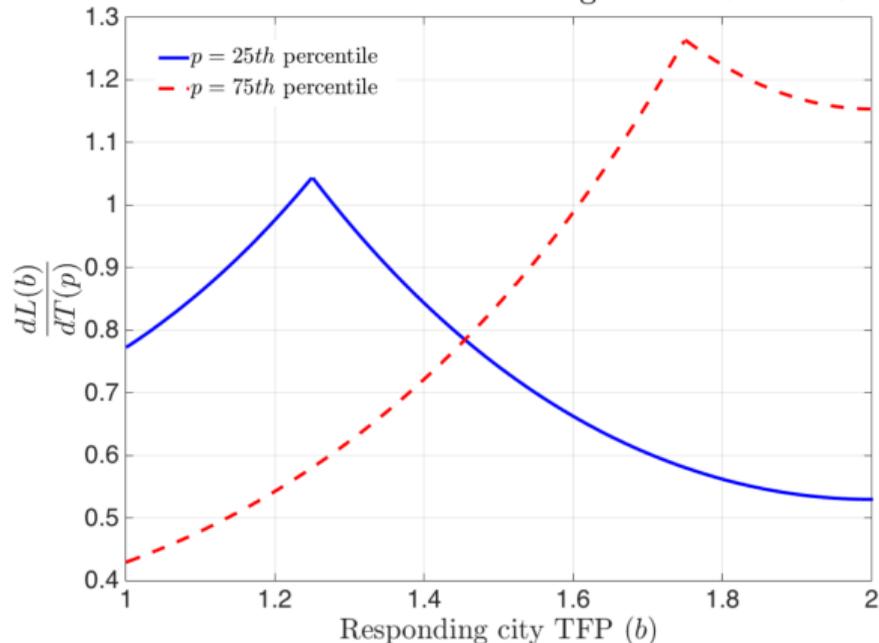
- ▶ Cross-sectional vs. dynamic statements: perturbations around steady (static)
- ▶ Types of policy instruments used: proportional taxes on output still most common but so far only consider lump-sum taxes

- For different parameterizations, how does model w/competition **match distribution** of local tax credits?

- ▶ Add a line to each panel figure corresponding to empirical distribution
- ▶ **Locality and firm-level value-added or profits per worker as TFP measures**

COMMENT #2: WHICH MECHANISMS ARE MISSING FROM MODEL?

Behavioral Effect When Tax Changes in 25% or 75% City



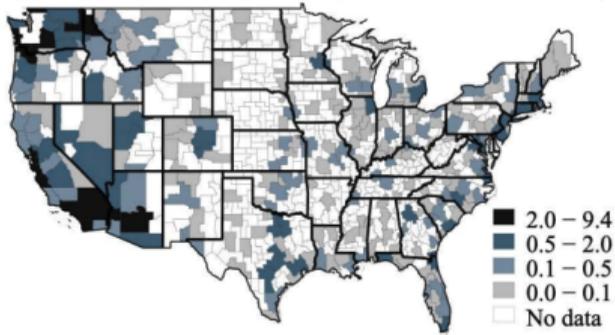
- **Space and local fundamentals (TFP) are the same in model**

- ▶ $\Delta\tau(b)$ shock propagates to cities closer in terms of *ex ante* local TFP $b \sim G(b)$
- ▶ Example in paper: Pittsburgh and Boston are adjacent, but in what sense?

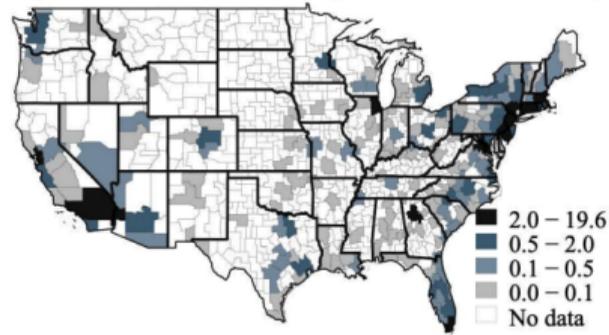
- Fiscal externalities would be different if space and TFP were separate concepts

- ▶ Inter-regional trade networks matter!
- ▶ Cities linked through housing markets and social networks (Schubert 2021)
- ▶ Cannibalization and strategic complementarities in $\tau(b)$ by distance

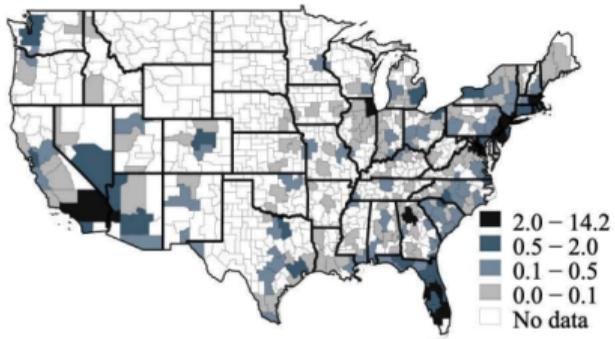
Migration flows into Seattle (% of inflows, '00-'07)



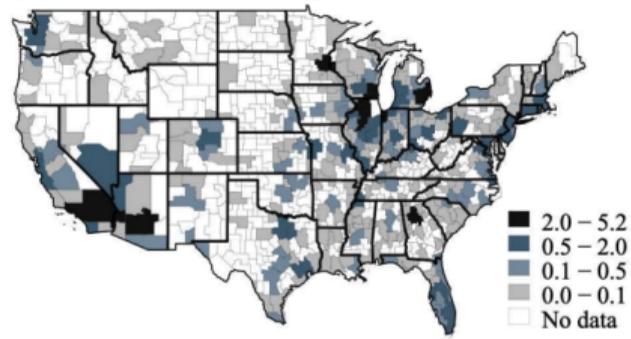
Migration flows into NYC (% of inflows, '00-'07)



Migration flows into Miami (% of inflows, '00-'07)



Migration flows into Chicago (% of inflows, '00-'07)



Source: Schubert (2021), "House Price Contagion and U.S. City Migration Networks," *mimeo*, UCLA.

- Both spatial and productivity-based linkages: Rochester is low TFP but close to NYC

COMMENT #3: IS THIS A MACRO PAPER?

- Current title is: “**Macroeconomic** Effects of Tax Competition”
 - ▶ Most statements in counterfactual and comparative static analyses pertain to cross-city inequality in terms of city size (# firms) and TFP
 - ▶ Simple closed-form expression (w/Pareto CDFs) for cost of tax competition in terms of aggregate TFP loss ✓
 - ▶ But output and welfare are the same as TFP here, and labor block of the model is shut down (i.e. each firm hires single homogeneous unit of labor)
 - ▶ Perhaps change to: “**Aggregate and Local Productivity** Effects of Tax Competition”
- Paper should be reframed to emphasize **distributional consequences** of IJTC
 - ▶ Is it correct to say that tax competition is a driving force for superstar cities?
 - ▶ If so, can we say anything about ability of model to predict city size distribution vs. housing supply constraint story of Gyourko, Mayer, Sinai (2013)?

MISCELLANEOUS SUGGESTIONS

- Authors mention PDIT data only go up until 2015, but megadeal plots go out to 2018
 - ▶ Megadeals from separate dataset, or imposing sampling restrictions?
- **Consolidate main results into fewer figures**
 - ▶ Many figures are restatements of same results (Figures 4/5 or 6/7)
 - ▶ Some figures also very difficult to follow (e.g. contour plots in Figures 14/15)
 - ▶ Discrete version of model can go in appendix
- One interpretation is that you recover the result from Gaubert (2018) but via **fiscal** instead of agglomeration externalities
 - ▶ Agglomeration: *marginal* TFP gain of adding a firm rather than TFP level is what matters
 - ▶ IJTC + agglomeration \implies **donut hole** problem where middle-ranked TFP cities lose
 - ▶ Run counterfactuals and comparative statics for version of model with agglomeration

FINAL TAKEAWAYS

- Ambitious paper and elegant first attempt at combining IJTC with off-the-shelf models of firm location choice to characterize TFP loss
- **No distortion in location choice at top** of firm TFP distribution offers guidance to policymakers for place-based redistribution
 - ▶ Complete fiscal centralization is infeasible, so might be possible to implement second-best regime by imposing higher taxes on high TFP firms (if these can be identified)
- Roadmap for future work...
 1. Definition of location that separates space from productivity endowment
 2. **Lump-sum vs. proportional taxes:** tighter links between theory and policy instruments
 3. **Quantification exercises: how big is the aggregate loss in TFP?**
 4. As written now, not really a macro paper → I would focus more on distributional consequences (i.e. superstar cities and local TFP)



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THANKS!
