# Discussion of Loffler Siegloch (2018) "Property Taxation, Housing, and Local Labor Markets: Evidence from German Municipalities"

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*NBER Summer Institute – Urban & Real Estate*

July 2018

**Important, promising paper!**

1. **Big question:** What is the effect of increasing property taxes on rents, house prices, wages and welfare?

2. **Interesting variation:** many changes to local $\tau^{property}$ in Germany

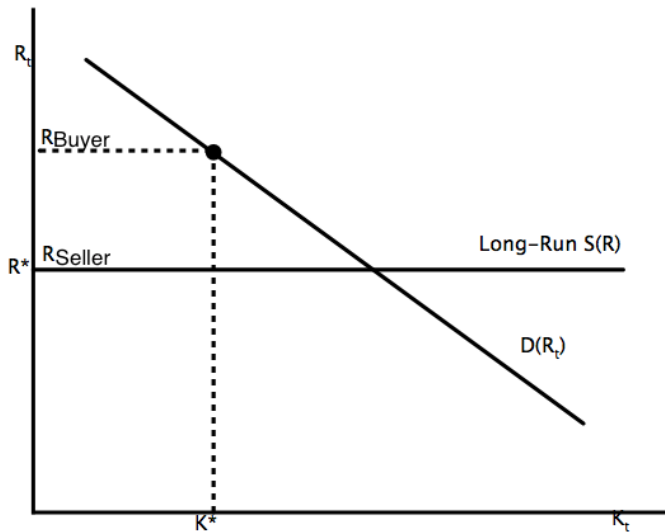3. **Nice Framework:** local labor markets with housing and construction

# What do they find: rents fall then fully recover
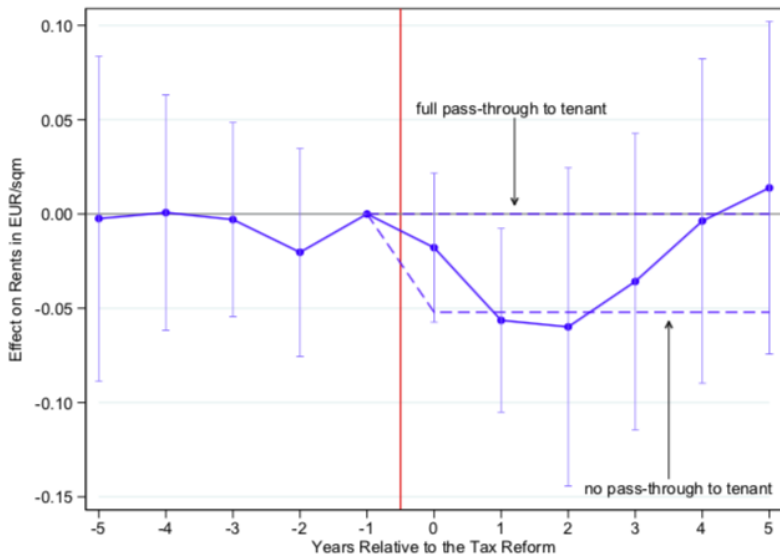
# A tax in the rental market for housing services
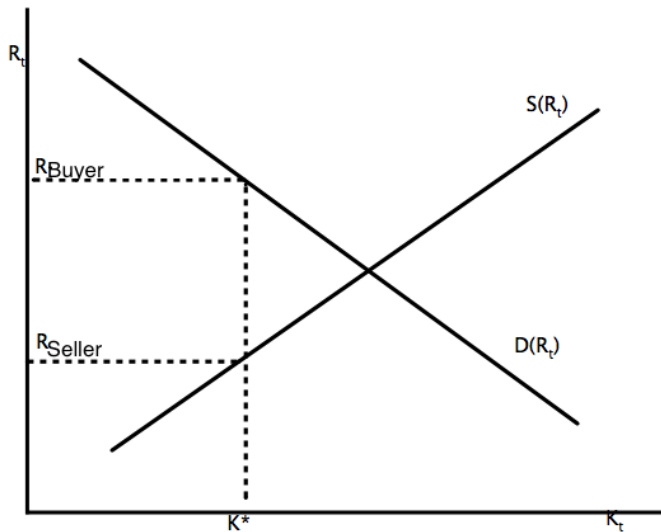
# Long run: Impact of capital tax (when $\epsilon^S = \infty$)

# Comment #1 - Focus more on supply of housing services

1. **Empirics:**
   - Can you measure how much quantity falls? Can you infer this from property tax revenues?

2. **Parameter values:**
   - Given tax change and elasticity of demand, what is implied $\hat{\epsilon}^{HS}$?
   - Appendix Equation B.38 should be in main text
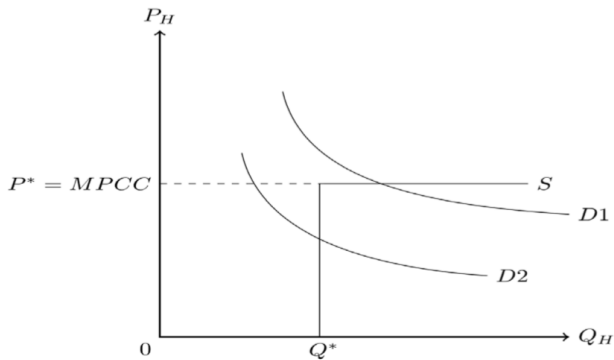
$$\epsilon^{HS} = \frac{1 - \gamma + \theta}{\gamma}$$

   where $H = L^\gamma K^{1-\gamma}$ and Land supply is $L = p_{land}^\theta$
   - How big is $\gamma$? Do land cost shares vary across regions?
   - Short run versus long run?

These are tax increases, so supply may be pretty inelastic



Source: Figure 1 of Glaeser Gyourko (2018)

## Comment # 2: more welfare accounting clarifies results

Worker welfare:

$$V_{ic}^H = (1 - \delta)\left(\ln w_c - \alpha \ln r_c^H - \alpha \ln(1 + t_c)\right) + \delta \ln G$$

$$\Delta V_{ic}^H = (1 - .06)\left(-.05 - .3(.019) - .3(.10)\right) + .06(.15)$$

$$= .94\left(-5\% + 0.6\% - 3\%\right) + 0.9\%$$

$$= -7\% + 0.9\%$$

Wage and mechanical tax effects are driving losses for typical worker (and they are leaving, which is consistent with worker welfare declines)

Aside: Clarify experiment/ connection to benefit view

- Mostly deficit reduction (85 cents), only 15 cents of G
- Heterogeneous $\delta$ across individuals?

# Comment # 2: more welfare accounting clarifies results

Firm owner welfare (note $Q = N^\beta \text{Floor space}^{1-\beta}$):

$$V_{ic}^F = \left( -\beta \ln w_c - (1-\beta) \ln r_c^M - (1-\beta) \ln(1 + t_c \kappa) \right) + 0 \ln G$$

- $\beta = .6$ means 40% of firm cost is floor space (which seems very high) and firms more sensitive to rents than people
- Assumes no productivity impact of gov spending (key in FMSZ 2018)

Welfare of supplier of housing services:

- Shouldn't this just be impact on rents? Focusing on house prices mixes stock and flow

Landowner weflare:

- How do landowners bear roughly of incidence if rents don't decline?
- Clarifying that population falls $\Rightarrow$ lower quantities, $\downarrow K, \downarrow p^{land}$
- Showing what happens to CS, PS, property tax revenue would help

# Comment # 3: focus more on the price-rent relationship

Home prices should be the flow of **anticipated** after-tax rental payments:

$$P_t \approx R_t + \frac{R_{t+1}(1-\delta)}{(1+r)} + \frac{R_{t+2}(1-\delta)^2}{(1+r)^2} + ...$$
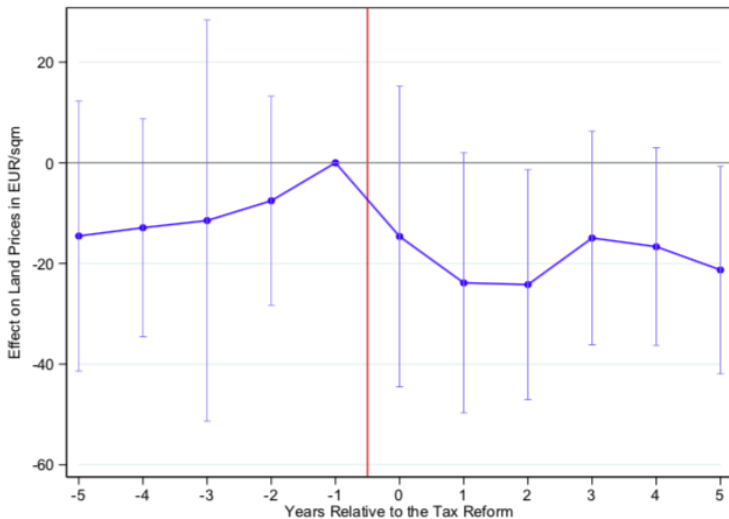
where

- $\delta$ is the depreciation rate
- $r$ is the interest rate

Quantitatively, the price-rent ratio is:

$$\bar{P} = \bar{R} \frac{1}{1 - \left( \frac{(1+g)(1-\delta)}{1+r} \right)}$$

If $g = 0$, $\delta = .05$, and $r = .05$, then the price-rent ratio $\approx 10.5$

# Comment # 3: focus more on the price-rent relationship

1. **Data:**
   - Can you show impacts on house prices?
   - Would expect time path of impacts to reflect
     $P_t \approx R_t + \frac{R_{t+1}(1-\delta)}{(1+r)} + \frac{R_{t+2}(1-\delta)^2}{(1+r)^2} + ...$
   - Land prices decline by 20 EUR/sqm and rents decline by .05 EUR/sqm, which is much bigger than price-rent ratio. Would look into this more

2. **Model:**
   - In the model, ratio of impact on land prices to rents equals $1/\gamma$.
   - Seems quite restrictive. Would consider how to relax this price-rent impact ratio a bit

## Comment #4: Provide more info on tax variation & use it

How big is the typical property tax?

- $R = 6$ EUR/sqm
- $\tau = 3.3\%$
- $Tax = .2$ EUR/sqm

What are the causes of property tax changes?

- Can you run a policy probit? Shows when changes are likely
- What else happens to budget and other tax policies? Perhaps you have more variation in G from different budget responses?

Are effects bigger for big tax changes?

- Can you use variation in size of tax change to improve precision? And show how that affects outcomes proportionally?

# Summary of comments

**Important, promising paper!**

1. Model
   - Focus more on supply of housing services
   - Price-rent relationship
2. Connect theory and empirics
   - Parameters that rationalize results
   - What would data have to look like under different views? Can you reject any statistically?
3. Accounting and welfare calculation
   - What happens to government budget? level and allocation of value?
4. Variation
   - Policy probit
   - Large increases. Use dosage
5. Data
   - Measuring land prices is hard. Add housing prices?
   - Missing quantity outcomes of interest, but maybe can use tax revenues