Local Property Taxation and the Rental Housing Market

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Open-Minded

Abstract

This paper investigates the effect of changes in the property tax multiplier on rental housing prices in Germany. According to the German tax system, the property tax is paid by the landlord. However, it can be legally shifted towards the tenants, which raises the question of the economic incidence of the tax burden. The empirical analysis is based on a geo-referenced dataset provided by *ImmobilienScout24*, the leading online broker for real estate in Germany, supplemented with detailed information on the municipality level. The data contains comprehensive information on advertised apartments for the period 2008 to 2015. The results show that in the short-run an increase in the tax burden is mainly borne by the landlord. The results differ for urban and rural municipalities: In urban municipalities, the landlord is able to shift most of the increased tax incidence towards the tenant, while the tax cannot be fully shifted in rural municipalities. This can partly be explained by different demand elasticities for urban and rural housing, with the demand for housing in cities being less elastic compared to rural areas.

Introduction

Motivation

- In 2017 property taxes accounted for 13% of municipalities' tax revenues in Germany.
- Property taxes in Germany are paid by the owner of a developed property, but can be legally shifted towards the tenants, therefore affecting almost the entire population.
- For rental apartments it is not clear whether the statutory incidence coincides with the economic incidence (England, 2016).
- Is of particular interest for Germany with almost 50% of the population living in rental apartments.
- Most literature focuses on the US (Orr, 1968; Heinberg & Oates, 1970; Tsoodle & Turner, 2008). Little evidence for Germany so far (Löffler & Siegloch, 2018).

Research question

Who bears the burden of the property tax for rental apartments in Germany?

Institutional Background

- Property taxes in Germany differ across municipalities as well as over time within municipalities.
- The gross rent in Germany consists of two parts: 1) the net rent and 2) the operating costs.
  - The net rent is paid exclusively for the provision of the apartment.
  - The operating costs are the running costs that regularly arise due to the ownership of a property. E.g. fresh and waste water, garbage collection, heating, and property taxation.
- The property tax is paid by the owner of the developed property, however, legally they can be shifted towards the tenant as a part of the operating costs.
- They are distributed based on the living space of each apartment.
- The operating costs are paid as an advance payment for the actual operating costs. After one year the account is settled and the operating costs are adjusted.
- The property tax liability is calculated as follows:

$$tax = ratable\ property\ value \times tax\ rate \times multiplier$$

Data and Sample

- *ImmobilenScout24* data extended with regional data on municipality and county level.
- The sample is restricted to West Germany for the years 2008 to 2015.
  - Include only observations that are in municipalities which have at least 15 observations per year.
- We cover 3.45 million object-year observations in 3,004 (out of 8,267) municipalities.
- These municipalities account for 73% to 82% of the total population in West Germany.

Empirical Framework

We estimate the following OLS model:

$$y_{imt} = \alpha P_{mt} + X'_{it}\beta + K'_{mt}\gamma + \delta_m + \tau_{mt} + \epsilon_{imt}$$

- y_{imt}: Log net rent
- P_{mt}: Log property tax multiplier
- X_{it}: Object controls
- K_{mt}: Municipality/county controls
- δ_m: Municipality fixed effects
- τ_{mt}: Commuting-zone × year fixed effects

→ Event studies are used to check for existing pre-trends.

Results

Figure 1: The Effect of the Property Tax Multiplier on Net Rental Prices (Event Study)

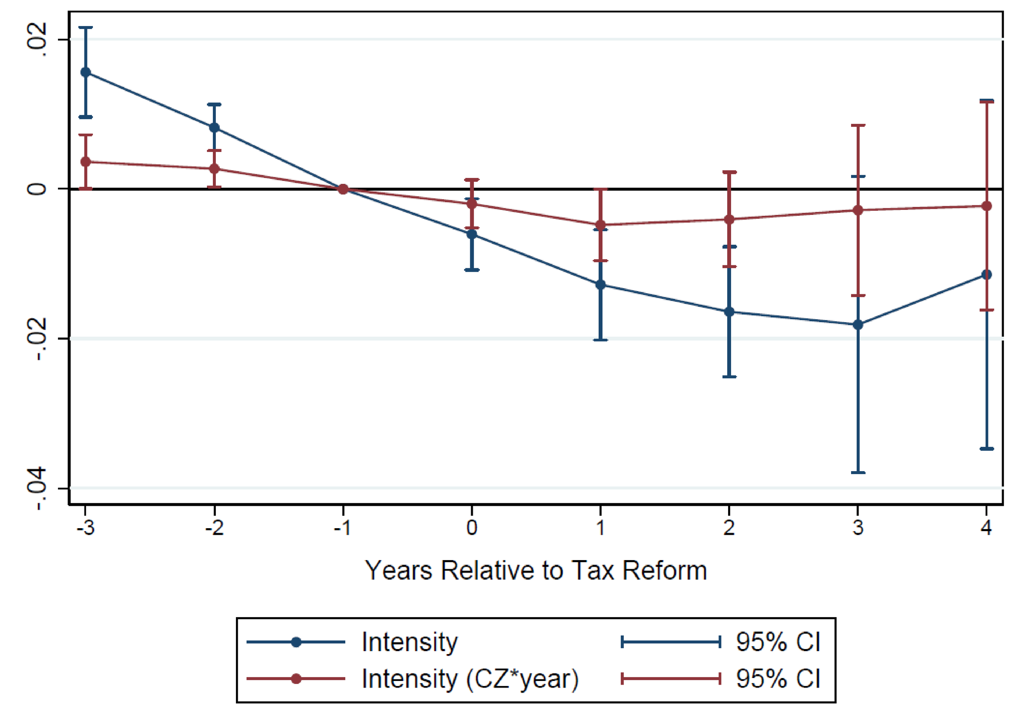

Table 1: The Effect of the Property Tax Multiplier on Net Rental Prices

	Overall		Urban		Rural	
	β/StdE	β/StdE	β/StdE	β/StdE	β/StdE	β/StdE
Log tax multiplier	-0.0388^{***}	-0.0297^{***}	0.0054	-0.0053	-0.0643^{***}	-0.0397^{***}
	(0.0102)	(0.0084)	(0.0156)	(0.0122)	(0.0097)	(0.0088)
Log lagged tax multiplier	–	-0.0176	–	0.0133	–	-0.0428^{***}
	–	(0.0102)	–	(0.0192)	–	(0.0101)
Municipality characteristics	yes	yes	yes	yes	yes	yes
Object characteristics	yes	yes	yes	yes	yes	yes
Municipality dummies	yes	yes	yes	yes	yes	yes
CZ-year dummies	yes	yes	yes	yes	yes	yes
R^2	0.8549	0.8549	0.8568	0.8568	0.8568	0.8568
Observations	3,455,110	3,455,110	3,455,110	3,455,110	3,455,110	3,455,110

Notes: † $p < 0.001$; *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. – Robust standard errors in parentheses (clustered at municipality level).

Descriptive statistics: Costs for an average apartment

- Average net rent is around 510€ per month
- Average operating costs are around 135€ per month
- Average property tax is around 14€ per month (i.e., ≈ 10% of the operating costs and ≈ 2.8% of the net rent, respectively)

Estimation results: Net rent

- An increase in the tax multiplier by 10% decreases the net rent by 0.3% or equivalent by about 1.5€ per month.
- The decrease completely offsets the increase in the operating costs.

Heterogeneity by urban and rural municipalities

- Urban municipalities: Full shifting of the tax burden towards the tenant.
- Rural municipalities: Increased tax burden mainly carried by landlord.

Conclusion

- Results show that in the short-run landlords borne the additional tax burden:
  - Net rent decreases to offset the increase in the operating costs paid by the tenants.
  - No shifting of the additional tax burden towards tenants.
- Shifting differs between urban and rural municipalities:
  - Tighter housing markets allow shifting of the tax burden towards tenants.

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