

Housing cooperatives in a regulated rental housing market

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Motivation

- Affordability crisis
- Solutions
 - ▶ Housing benefits
 - ▶ Rent control
 - ▶ Public housing / social housing
 - ▶ Preferred treatment of non-profit landlords (subsidized land, restricted tenders)
 - ★ Municipal housing associations
 - ★ Housing cooperatives
- Research question: Do housing cooperatives differ and are they affected of rent control?

Main contributions

- We expand the state of knowledge on the effects of housing cooperatives on rent levels, satisfaction with dwelling, and length of rental periods.
- We supplement the literature on rent regulation with an analysis of a type of housing that has been largely neglected in research on the housing market in this context: the cooperatives.
- We use the actual rents reported by respondents in a general representative longitudinal study (GSOEP) and not the rents advertised on real estate price portals.
- Our study is primarily aimed at existing rents and only marginally at re-rents.

Housing cooperatives

- A cooperative is “an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise.” (ICA 2015)
 - ▶ Crucial cooperative principles: voluntary and open membership, democratic member control and economic participation of members
 - ▶ Cooperative values: mutual self-help, self-responsibility, democracy, equality, equity, and solidarity
- Cooperative principles affect objectives and governance of housing cooperatives.
 - ▶ In the interest of the members, housing cooperatives should provide housing security and quality, but also greater levels of social capital.
 - ▶ Cost effectiveness and the absence of a profit motive imply lower housing costs for members than for the average tenant.

Rent control institutions

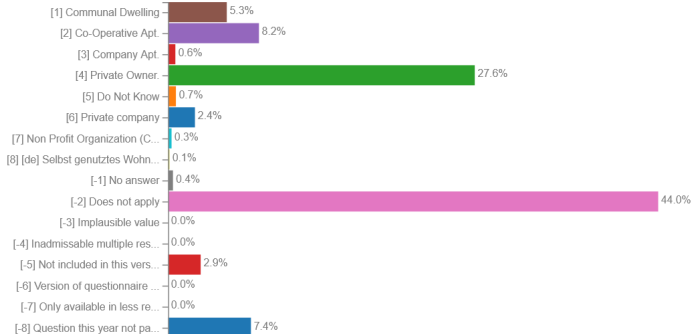
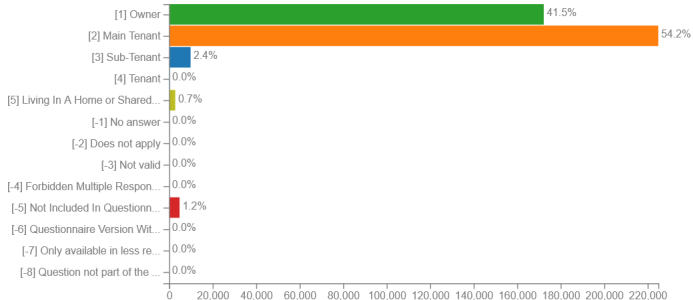
- Although housing cooperatives are already obliged by the cooperative law to promote the interests of members, they are also subject to general tenancy law and rent regulation.
- Most tenancies in Germany are unlimited; the landlord can only terminate the tenancy with good reason, such as personal use.
- Rent increase in ongoing tenancies:
 - ▶ at most up to the local comparative rent
 - ▶ 12 months after the last increase at the earliest
 - ▶ by a maximum of 20% over a period of three years (maximum rent increase).
- Rent control reform 2013: the federal states were given the opportunity to limit the increase in rents to 15% within three years in municipalities with tight housing markets (**strict maximum rent increase, reduzierte Kappungsgrenze**).

Rent control institutions

- No rent regulation for new contracts (apart from a general usury ban, which, for example, banned rents 50% above the local comparative rent)
- Rent control reform 2015: the federal states were given the legal authority to restrict rental price increases for new contracts by a ceiling of 10% above the local comparative rent (**rent cap, Mietpreisbremse**) in municipalities with tight housing markets (new apartments built after 2014 are exempt from the limit).
- Both for ongoing tenancies and new contracts, there are also exceptions to rent regulation for modernization projects.
- With a few exceptions, the rent cap applies in those municipalities in which the strict maximum rent increase applies and vice versa.

Data source and main variables

- German Socio-Economic Panel (SOEP): longitudinal survey of approximately 11,000 private households in the Federal Republic of Germany from 1984 to 2020 (eastern German länder since 1990).
- Version: SOEP V37 (release 2022)
- Period: 2001-2019 (after unification, before Covid-19)
- Units: persons/households
- Variables of interest: $\ln(\text{rent per sqm})$, satisfaction with dwelling, length of stay, rent control
- Independent variable: landlord type



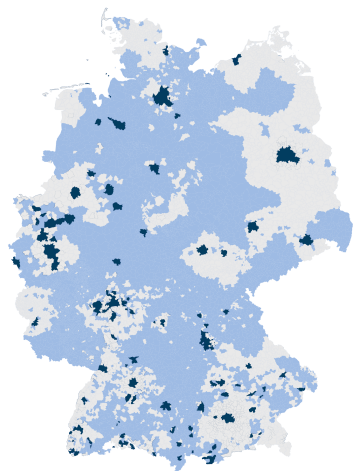
Data quality

- Many respondents do not know the legal form of the landlord
 - ▶ Many missings
 - ▶ Inconsistent answers across time
 - ▶ Inconsistent answers across questions
- Solutions:
 - ▶ Interpolation for one/two missings for the same person in the same dwelling with identical owner types before and after
 - ▶ Imputation for one/two missings directly after move using future answers
 - ▶ Exclusion:
 - ★ three periods in a row in the same dwelling, identical owner type in the first and third period, but different owner type in the second period
 - ★ more than one change of owner category if the dwelling does not change and owner change not explicitly stated
 - ▶ Pool municipal housing cooperations, housing cooperatives and housing non-profit organizations
 - ▶ Moves not perfectly documented → use of variable remove from geo data

Local rent control status

- Exact location not revealed in the generally accessible version of the GSOEP
- Local rent control status derived from the combination of the spatial planning region (Raumordnungsregion), the NUTS 2 region, the municipality size class, the structural municipality type (siedlungsstruktureller Gemeindetyp) and the allocation to rural or urban regions (siedlungsstruktureller Regionstyp); only for municipalities without changes to the municipal area
- Exclusion of households living in areas where the regulatory status for a combination of these characteristics is ambiguous
- Allocation impossible if municipalities in one and the same region with the same size and regional structure characteristics are regulated differently in the period under review, or if there have been municipal area reforms in the category in question

Rent control map



Note: In dark blue the municipalities in Germany with at least one form of rent control in the period 2013-March 2019, in light blue the municipalities without rent regulation in this period and in light gray the areas for which the status of rent regulation in the period 2013-March 2019 could not be assigned to the respondents.

Rents and satisfaction: TWFE model

- Linear fixed-effect model with individual, year, and federal state fixed effects, interacted with municipal size class fixed effects:
- LHS variables $y_{it_{sm}}$: $\ln(\text{rent per square meter})$ (alternatively: satisfaction with dwelling on scale 0-low to 10-high)
- Main RHS variable: dummy indicating that the respondent lives in a cooperative apartment
 - ▶ To compare cooperatives with for profit owners, we only include years where the respondents either live in a cooperative apartment or in an apartment owned by a private for-profit company or landlord.

TWFE regression models of log rents

	(1)	(2)	(3)	(4)
dv: ln(rent per sqm)				
cooperative housing	-0.0407*** (0.0130)	-0.0347** (0.0152)	-0.0440** (0.0183)	-0.0411** (0.0184)
size of housing unit in sqm	-0.00362*** (0.000206)	-0.00352*** (0.000231)	-0.00329*** (0.000289)	-0.00329*** (0.000288)
estimated year of construction	0.00208*** (0.000211)	0.00200*** (0.000229)	0.00199*** (0.000273)	0.00199*** (0.000272)
reduced rent	-0.0874*** (0.00978)	-0.0782*** (0.0106)	-0.0611*** (0.0111)	-0.0612*** (0.0111)
length of rental period	-0.00470*** (0.000785)	-0.00409*** (0.000794)	-0.00364*** (0.000882)	-0.00360*** (0.000880)
rent not imputed	-0.0262*** (0.00327)	-0.0301*** (0.00340)	-0.0258*** (0.00389)	-0.0258*** (0.00389)
minor renovation required		-0.0138*** (0.00426)	-0.0124** (0.00494)	-0.0125** (0.00494)
complete renovation required		-0.0404*** (0.0114)	-0.0266** (0.0121)	-0.0266** (0.0121)
dilapidated		-0.129** (0.0539)	-0.143** (0.0668)	-0.143** (0.0668)
rent control			0.0407*** (0.00790)	0.0485*** (0.00915)
rent control x coop				-0.0279** (0.0131)
N	89974	73727	50350	50350
F	104.6	71.76	50.43	48.41
R ²	0.775	0.775	0.796	0.796
R ² _w	0.135	0.124	0.119	0.119

Note: Standard errors clustered at the household level in parentheses, * 0.1 ** 0.05 *** 0.01; federal-state \times municipality-size, year, and individual fixed effects included; (1): basic, (2): w dwelling conditions, (3)/(4): areas with information on rent regulation, (4): also interaction terms.

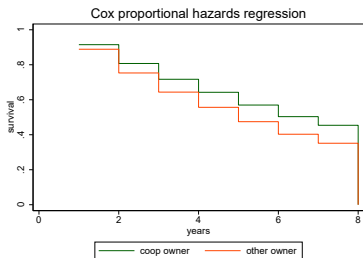
TWFE regression models of satisfaction with dwelling

- LHS variable: satisfaction with dwelling (on scale 0-low to 10-high)
- Main RHS variable: dummy indicating that the respondent lives in a cooperative apartment
- Additional controls: age, current self-rated health status, current household size, and rent per sqm in the set of covariates
- Result: statistically and economically insignificantly negative effect of cooperative housing on satisfaction with dwelling

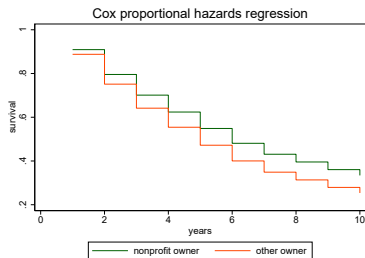
Length of the rental period

- Cox proportional hazards model
- Time-invariant controls (measured when moving): personal characteristics (gender, age, country of birth, new-job indicator), the number of household members, and in a second model dwelling characteristics (dwelling size, construction year, reduced rent).
- Only rental periods starting after the first move observed not earlier than 2001.

Length of the rental period: survival rates



coop vs others



non-profit vs others

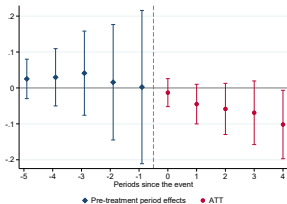
Rent control: DiD imputation estimator

- Difference-in-difference imputation estimator from Borusyak et al. (2024)
- LHS variable y_{it} : $\ln(\text{rent per square meter})$
- Observational unit: household
- The first-stage estimates coefficients by OLS within the not-yet treated observations
- At the second stage, for each treated observation, the estimated and predicted coefficients of the first stage are used to predict the outcome without treatment
- This gives the imputed individual treatment effect.
- The averaging over each or all years since the start of rent regulation results in the respective ATT.

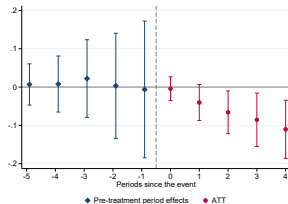
Rent control: Controls

- Controls: reduced rent dummy, rent imputation flags
- W/o trend controls: strong pretrends
- W/ cohort-city-size-east specific linear trends: no pretrends; significant ATTs

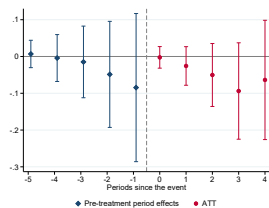
Effects of rent control on rents with linear trend controls



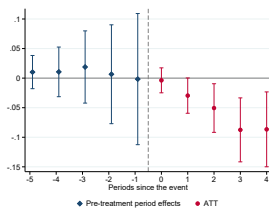
(a) cooperative



(b) not for private profit



(c) for profit



(d) all

Note: Controls: reduced rent dummy, rent imputation flags, cohort-city-size-east specific linear trends; control group: not-yet treated

Rent control: Robustness checks

- Exclusion of imputed ownership
- Exclusion of imputed rents
- Exclusion of 2014/2015 (due to break in time series of rents)

Conclusion

- Main results:
 - ▶ Residents of cooperative housing pay lower rents
 - ▶ Residents of cooperative housing live in more stable tenancies
 - ▶ Residents of cooperative housing are not more satisfied with their housing situation
 - ▶ Despite lower rents, cooperatives are affected by rent control measures

- Thank's for your attention !