Housing regimes and the distribution of wealth: A comparison of Austrian regions

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with
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Are regional housing policy institutions associated with national and sub-national wealth inequality?

Use heuristic regime typology to classify regional housing institutions in Austria and examine whether wealth outcomes associated previously with regimes differ across regions

- The wealth premium of homeownership varies across places - with implications for national level estimates of horizontal inequality and inequality decompositions groups
- Differences in regional wealth inequality are partly attributable to regional differences in housing choices
Comparative housing studies

In comparative social science, housing (welfare) regime typologies reflect the institutional setup of housing policies. Regimes are also associated with different wealth stratification outcomes (horizontal inequality renters-owners, vertical inequality).

Mechanisms:
- affecting the distribution of housing tenure choices
- shaping the wealth premium associated with different tenure choices


Motivation and Background

Correlates of wealth inequality across countries (Causa, Woloszko, and Leite 2020; Kaas, Kocharkov, and Preugschat 2019; Pfeffer and Waitkus 2021):

- How to account for stratification within different groups of housing tenants (i.e. owners vs. renters)?
- What institutions can explain distributional outcomes?

Housing regimes (Kemeny 1981; Hoekstra 2009):

- Housing regimes and wealth inequality (Bryant, Spies-Butcher, and Stebbing 2022; Christophers 2021; Wind, Lersch, and Dewilde 2017)

- Discussion on the merits of using regional (housing) regimes as an analytical tool Hoekstra 2020; Stephens 2020; Blackwell and Kohl 2018.
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Comparative setup and hypotheses

Housing regime(s) in AT

Austria considered to be archetypical example of unitary rental markets.

- Low levels of homeownership
- Decent affordability - competition between private and non-profit providers
- Small differences in quality across tenure types
Housing regime(s) in AT

But...

- Rent regulation depends on age of housing stock - older dwellings are more tightly regulated (rent levels, contract duration, ...) - regional differences in age of housing stock

- Non-profit sector: large state-level variation in mix between municipal providers and housing associations

- Moreover,
  - Subsidising of new construction at state level (predominantly direct construction subsidies) - balance between supply and demand side subsidies
  - Spatial development planning at state/municipal level
Hypotheses

Wealth premium (tenure wealth gap) varies across regions (higher premium where rental markets are less regulated)

Regional regimes also feed into regional inequality:

- Through regional differences in the share of renters in combination with homeownership wealth premium (higher renter share where rents are more regulated and higher prevalence of municipal vis-à-vis associations)
- Through different impact of a marginal owner on the distribution of wealth
Dataset I

- ECB Household Finance and Consumption Survey (HFCS) - Wave 3 (2017) for Austria
- Financially knowledgeable person provides information on household assets and debt, by asset class
- N total (Vienna) 3072 (802)
- No oversampling of the rich
- Complex survey design: all implicates used, survey (replicate) weights taken into account where appropriate
Dataset II

- **HFCS Core**
  - (Marketable) Wealth: Net wealth, non-housing wealth, inverse hyperbolic sine transformation (ihs)
    - Based on respondent’s assessment of their wealth
    - Housing: ”If you sold your house today, what price would it fetch?”
    - Extensive plausibility checks
  - Housing: Tenure structure, rent payments (excl. utilities)
  - Demographic data, income (gross)

- In addition from paradata:
  - Detailed regional stratification, by federal states and urbanisation
  - Information on landlords (private, subsidised, council)
  - Housing quality (condition, type of construction, ...)
Methodology

First step: ”Tenure wealth gap”
Object of interest: differences in coefficients-”coefficient effects” (Kaas, Kocharkov, and Preugschat 2019; Christelis, Georgarakos, and Haliassos 2013)

- Net wealth/non-housing net wealth with inverse hyperbolic sine transformation
- Difference in mean net wealth between homeowners and renters
- Use OLS to compute mean difference between different types of tenure net of other characteristics
Methodology II

Second step: RIF regressions (Fortin, Lemieux, and Firpo 2011)

- Explaining by how much a function of the marginal outcome distribution is affected by changes in the covariate distribution
- IF gives the relative change in a distributional statistic of interest if there is a marginal increase in the probability mass of one specific element in the distribution
- The influence function of the Gini Coefficient is given by (Choe and Van Kerm 2018):

$$IF(y, Gini, F) = - \frac{\mu(F) + y}{\mu(F)} Gini(F) + 1$$

$$- \frac{y}{\mu(F)} + \frac{2}{\mu(F)} \int_0^y F(x) \, dx$$

(1)
Tenure wealth gap

- **Net wealth**
  - Vienna: Owner has the highest wealth, followed by other tenancy statuses.
  - Other provinces: Similar pattern observed with owner having the highest wealth.

- **Non-housing wealth**
  - Vienna: Similar trend as net wealth, with owner having the highest wealth.
  - Other provinces: Similar trend as net wealth, with owner having the highest wealth.

Tenancy status:
- Owner
- Renter
- Free Usage
## Tenure wealth gap

**Table: Tenure and wealth accumulation**

<table>
<thead>
<tr>
<th></th>
<th>Net wealth estimate</th>
<th>Net wealth std.error</th>
<th>Non housing net wealth estimate</th>
<th>Non housing net wealth std.error</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intercept</strong></td>
<td>-2.457</td>
<td>0.648***</td>
<td>-10.227</td>
<td>0.526***</td>
</tr>
<tr>
<td><strong>Renter</strong></td>
<td>-3.078</td>
<td>0.172***</td>
<td>-0.574</td>
<td>0.145**</td>
</tr>
<tr>
<td><strong>Free</strong></td>
<td>-2.574</td>
<td>0.229***</td>
<td>0.236</td>
<td>0.18</td>
</tr>
<tr>
<td><strong>Large urban</strong></td>
<td>0.062</td>
<td>0.227</td>
<td>0.575</td>
<td>0.175**</td>
</tr>
<tr>
<td><strong>Small urban</strong></td>
<td>0.195</td>
<td>0.106</td>
<td>0.877</td>
<td>0.07***</td>
</tr>
<tr>
<td><strong>Rural</strong></td>
<td>0.322</td>
<td>0.128*</td>
<td>0.892</td>
<td>0.111***</td>
</tr>
<tr>
<td><strong>Renter × Large urban</strong></td>
<td>-0.791</td>
<td>0.16***</td>
<td>-1.065</td>
<td>0.222***</td>
</tr>
<tr>
<td><strong>Free × Large urban</strong></td>
<td>1.169</td>
<td>0.349**</td>
<td>0.530</td>
<td>0.272*</td>
</tr>
<tr>
<td><strong>Renter × Small urban</strong></td>
<td>0.205</td>
<td>0.142</td>
<td>-0.337</td>
<td>0.108**</td>
</tr>
<tr>
<td><strong>Free × Small urban</strong></td>
<td>0.173</td>
<td>0.3</td>
<td>-0.611</td>
<td>0.245**</td>
</tr>
<tr>
<td><strong>Renter × Rural</strong></td>
<td>-0.416</td>
<td>0.19*</td>
<td>-0.791</td>
<td>0.203**</td>
</tr>
<tr>
<td><strong>Free × Rural</strong></td>
<td>0.615</td>
<td>0.354</td>
<td>-0.279</td>
<td>0.274</td>
</tr>
</tbody>
</table>

*Note:* *p < 0.1;** *p < 0.05;*** *p < 0.01. Source: HFCS 2017. Survey weights and multiple imputations taken in to account. Control variables: education, age, foreign nationality, married, inherited, income, household size, other real estate
Housing tenure structure
Influence function

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Results
## RIF regression

### Table: Tenure and inequality

<table>
<thead>
<tr>
<th></th>
<th>Gini (net wealth)</th>
<th>p80p20 ratio (net wealth)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>estimate</td>
<td>std.error</td>
</tr>
<tr>
<td>Intercept</td>
<td>-1.305</td>
<td>0.629*</td>
</tr>
<tr>
<td>Renter</td>
<td>0.339</td>
<td>0.075**</td>
</tr>
<tr>
<td>Free</td>
<td>0.365</td>
<td>0.067***</td>
</tr>
<tr>
<td>Large urban</td>
<td>-0.047</td>
<td>0.018**</td>
</tr>
<tr>
<td>Small urban</td>
<td>0.061</td>
<td>0.047</td>
</tr>
<tr>
<td>Rural</td>
<td>0.012</td>
<td>0.023</td>
</tr>
<tr>
<td>Renter × Large urban</td>
<td>0.121</td>
<td>0.057*</td>
</tr>
<tr>
<td>Free × Large urban</td>
<td>0.028</td>
<td>0.061</td>
</tr>
<tr>
<td>Renter × Small urban</td>
<td>-0.031</td>
<td>0.066</td>
</tr>
<tr>
<td>Free × Small urban</td>
<td>-0.043</td>
<td>0.06</td>
</tr>
<tr>
<td>Renter × Rural</td>
<td>0.046</td>
<td>0.07</td>
</tr>
<tr>
<td>Free × Rural</td>
<td>0.006</td>
<td>0.053</td>
</tr>
</tbody>
</table>

*Note:* *p < 0.1;** p < 0.05;*** p < 0.01. Source: HFCS 2017. Survey weights and multiple imputations taken into account. Control variables: education, age, foreign nationality, married, inherited, income, household size, other real estate
Discussion

Evidence on differences in the tenure wealth gap at the subnational level

- considering the tenure wealth gap nationally obscures systematic variation in household wealth within different groups of tenants

- Sub-national differences comparable to international findings on the tenure wealth gap (for example, comparing Austria with Finland or Germany)

Regional inequality and housing: cross-regional variance is substantial – in particular in view of tenure choices feeding into inequality → Counterfactual wealth inequality in Vienna with the housing tenure structure of other regions ranges 6.6% below the actual Gini coefficient in Vienna.
Conclusion

The sub-national comparison points towards important role of tenure in accounting for national wealth inequality and differences in the distribution of wealth across regions in Austria.

Differences in taxation and other social policy institutions are less important at the sub-national level.

The findings highlight the value of analysing the relationship between institutions and regional inequality within countries.

Future research may draw on causal designs to investigate in more detail the mechanisms at work (Goffette-Nagot and Sidibé 2016).
References


References II


References III


References IV


### Descriptive statistics: Core variables

#### Table: Descriptive statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>net wealth - ihs</td>
<td>10.841</td>
<td>4.619</td>
</tr>
<tr>
<td>non housing net wealth -ihs</td>
<td>9.777</td>
<td>4.540</td>
</tr>
<tr>
<td>renter</td>
<td>0.468</td>
<td></td>
</tr>
<tr>
<td>free user</td>
<td>0.072</td>
<td></td>
</tr>
<tr>
<td>other provinces</td>
<td>0.770</td>
<td></td>
</tr>
<tr>
<td>vocational education</td>
<td>0.475</td>
<td></td>
</tr>
<tr>
<td>other education</td>
<td>0.377</td>
<td></td>
</tr>
<tr>
<td>age</td>
<td>52.980</td>
<td>16.951</td>
</tr>
<tr>
<td>foreign national</td>
<td>0.091</td>
<td></td>
</tr>
<tr>
<td>married</td>
<td>0.505</td>
<td></td>
</tr>
<tr>
<td>inherited</td>
<td>0.379</td>
<td></td>
</tr>
<tr>
<td>income</td>
<td>10.586</td>
<td>0.692</td>
</tr>
<tr>
<td>household size</td>
<td>2.136</td>
<td>1.230</td>
</tr>
<tr>
<td>other real estate</td>
<td>0.870</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Source: HFCS 2017. Survey weights and multiple imputations taken into account.*
Descriptive statistics: Wealth distribution

Data II

Net wealth vs. Percentile net wealth for Vienna and Other provinces.
### Indicators: Wealth distribution

#### Table: Summary indicators

<table>
<thead>
<tr>
<th>Index</th>
<th>Vienna</th>
<th>Other provinces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean net wealth</td>
<td>176897.721</td>
<td>272230.292</td>
</tr>
<tr>
<td>Mean non-housing wealth</td>
<td>86512.445</td>
<td>98098.416</td>
</tr>
<tr>
<td>Gini net wealth</td>
<td>0.809</td>
<td>0.703</td>
</tr>
<tr>
<td>Gini non-housing wealth</td>
<td>0.814</td>
<td>0.802</td>
</tr>
<tr>
<td>Top 20% share net wealth</td>
<td>0.834</td>
<td>0.700</td>
</tr>
<tr>
<td>Top 20% share non-housing wealth</td>
<td>0.821</td>
<td>0.818</td>
</tr>
</tbody>
</table>

*Note: Source: HFCS 2017. Survey weights and multiple imputations taken into account.*
Age of housing stock

Housing regime(s) in AT