Switzerland: Are School Boards Using Their Leeway for School Mixing?

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structure

- Context of research
- Swiss case: elected school boards exacerbating effects of residential segregation?
- City of Zurich: residential segregation by school districts
- Outlook:
  - Segregation between schools
  - Reference: Pareto optimal districts and catchment areas
  - Locational choices for schools
  - Comparative case study for 5 Swiss cities
Context of research:
‘The Democratic Foundations of the Just City’

– International SNSF research project (2017-2020)
– Planning for ‘The Just City’ (Fainstein 2010) meets ‘Spatial Justice’ (Soja 2010)
  – Urban renewal and housing policies for equity, recognition and development of individual capabilities
  – Equal access to opportunities (prevent ghettoization)
– Democratic foundations: comparative analysis of political leadership & accountability (Birmingham, Lyon, Zurich)

➔ Beyond renewal/housing policies: role of school politics for counteracting effects of residential segregation?
School politics in Switzerland

- Low share of private schools: 4%
- No free choice for public schools
- Assignment within school district through...
  - Directly elected district school boards (presidents) (canton of Zurich)
  - School administration (other cantons)

➢ School boards elected by Swiss citizens only: do they use their leeway for school mixing, or rather exacerbate effects of residential segregation?
School politics in Switzerland

City of Zurich

- 12 electoral districts/34 neighborhoods
- School districts: 5 (1934), 7 (1961), 9? (proposed 2001) → closer to citizens, spread workload, no consideration of residential segregation!
- 2006: Canton-wide professionalization of school management (principal), but school assignment remains with district school board president → assignments as political decision?
- Decree by school presidents to ensuring short/safe walking distances and a balanced school composition (social and language, performance, gender)
Residential segregation by school districts: FOREIGNERS

- Uto: 20%
- Letzi: 31%
- Waidberg: 17%
- Glattal: 32%
- Schwamendingen: 34% [Mitte: 43%]
- Zürichberg: 21%
- Limmattal: 30% [Hard: 38%]
Residential segregation by school districts: LOW educational attainment
Residential segregation by school districts: HIGH educational attainment
Outlook

Segregation between schools

– Ongoing data collection: catchment area borders
– Mapping nationality and educational attainment by catchment areas
– Data source: Structural Survey (randomized samples, pooled 2010-2015), households weighted by no. of children aged 5-15
– Caution: area borders are porous, no data on approved re-assignment requests
Outlook

Estimate counteracting/exacerbating effect of school assignments?

– Other approaches: relating school segregation to a baseline of residential segregation (e.g., share of minority in ‘neighborhood’ serving that school; Monarrez 2017)

– Reference base here: pareto-optimal districts/catchment areas computed by simulations

– Considering political/geographic parameters (walking distance, safety, barriers), capacities of schools

– Cp. gerrymandering research (Tam Cho & Liu 2016)

→ How well have school boards used their leeway for school mixing?
Outlook

Pareto optimal school districts – simulate alternative arrangements by re-grouping current (contiguous) catchment areas:

- $\min[\var(foreign\%_5to15y\_old_{district}) + \var(low\_attaining\_parents\%_5to15y\_old_{district})]$ → Struct.Survey

- $\max(pupils\_total_{district}) \leq \max(pupils\_total_{district\_old})$ → spatialized registry data?

- District sectors separated by barriers (forests, railway tracks, highways) to be treated as separate districts for calculating variance in first equation!

→ Compare to current arrangement / reform proposal 2001
Outlook

Pareto optimal catchment areas – simulate alternative catchment areas around schools

- Respect district borders (3 scenarios: current, proposal 2001, pareto optimal) and barriers (forests, railway tracks, highways)

- \[ \min[\text{var}(\text{foreign\%}_{5\text{to}15\text{y\_old}}_{\text{catchA}}) + \text{var}(\text{low\_attaining\_parents\%}_{5\text{to}15\text{y\_old}}_{\text{catchA}})] \] \rightarrow \text{Struct.Survey}

- \[ \text{pupils}_{\text{1st\ grade}}_{\text{catchA}_i} = \text{pupils}_{\text{1st\ grade}}_{\text{school}_i} \] \rightarrow \text{registry data?}

- \[ \text{max}(\text{walking\_distance}_{\text{catchA}}) \leq \text{max}(\text{walking\_distance}_{\text{catchA}\_old}) \] \rightarrow \text{registry data?}

- \[ \text{mean}(\text{walking\_distance}_{\text{catchA}}) \leq \text{mean}(\text{walking\_distance}_{\text{catchA}\_old}) \] \rightarrow \text{registry data?}

\rightarrow \text{Compare to current arrangement}
Outlook

Locational choices for schools

- Profound impact on options for designing balanced school districts and catchment areas
- Discuss recent locational choices for new schools (Limmattal, Glattal)
Outlook

Comparative case study for 5 Swiss cities

– Analyses complemented by analysis of regulations and expert interviews (school board presidents, assigning assistants, school planners)

– Differences by political composition of school district? (For the US: Macartney & Singleton 2017)

– Differences between laymen assignment (Zurich) and professional assignment in other cantons?


**Literature**


Thank you!