

Project Outline - Data Analysis Using R

Impact of school index on housing prices in NRW

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Findings from literature

- Many papers suggest that there is a connection between school performance or school quality and housing prices as parents value the education of their children (see Machin 2011).
- Given the broader interest in how school-related factors shape local housing markets, we focus specifically on the role of the school social index.

Research question

How does the social index of schools influence housing prices, and does the proximity to schools modulate this effect in urban areas?

Usage of available data

- We are planning to use the cross-sectional real-estate dataset from the RWI as well as the general school and -index dataset.
- Panel data will not be used since school and index data is only available for one year.

Empirical approaches in the literature

In their paper (Black and Machin 2011) identified six main approaches to analyze the relationship between school characteristics and housing prices:

- ① Regression based estimates
- ② Parametric and non-parametric modelling of unobservable factors
- ③ Instrumental variables approaches
- ④ Discontinuity methods using administrative boundaries
- ⑤ Difference-in-difference, repeat sales and quasi-experimental methods
- ⑥ Combined methods

Shortcomings of our empirical strategy

- A regression-based hedonic model in the housing context might be prone to certain endogeneity problems due to omitted variables.
- A reason for that is the extensive scope of relevant housing characteristics and demographic features

Source: Machin (2011)

References

- Black, Sandra E., and Stephen Machin. 2011. "Housing Valuations of School Performance." *Handbook of the Economics of Education* 3: 485–519.
<https://doi.org/10.1016/B978-0-444-53429-3.00010-7>.
- Machin, Stephen. 2011. "Houses and Schools: Valuation of School Quality Through the Housing Market." *Labour Economics* 18 (6): 723–29. <https://doi.org/10.1016/j.labeco.2011.05.005>.