Public Schools and Private Real Estate Markets, 1940-2000

Kelli A. Perkins
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Research Question

How has school funding affected property values in metropolitan Hartford from 1940-2000?
Conflicting Conclusions

- School spending increases, property values increase
  Homebuyers value school spending

- School spending decreases, housing values increase
  Residents value low taxes
Why is This Question Significant?
Shed light on how property values in area rose quickly in post war period - e.g. How did Avon, CT go from having a one room schoolhouse up until the 1950s, but developed a nationally competitive public school system by the 1990s?
The Data

Dependent Variable: 
*Equalized Net Grand List (ENGL)*

-Gaps in housing value data for Hartford County; therefore, ENGL used as substitute
Independent Variables

Net Expenditures Per Pupil (NEPP)

-does not include:
Other Independent Variables

- Town Population (POP)
- Population Minority (POPM)
- Density (DENSE)
- Average Daily Membership (ADM)
- Percent of Expenditures from Local Funds (PELF)
- Tax Revenue (TAXR)
The Data Con’t

Hartford County, CT
29 Municipalities

-Marlborough and Burlington not included, regional school districts
The Model

Relationship to be approximated:

\[ \text{ENGL} = \beta_1(\text{NEPP}) + \beta_2(\text{POP}) + \beta_3(\text{POPM}) + \beta_4(\text{DENSE}) + \beta_5(\text{ADM}) + \beta_6(\text{PELF}) + \beta_7(\text{TAXR}) + \varepsilon \]
Expected Signs:

NEPP
POP
ADM
PELF
TAX

DENSE
POPM
Limitations of the Model

- Insufficient Observations
- Multicollinearity
- Functional Form
No Relationship on the County Level Over Time

-Equation evaluated for individual cities over time
Results

Three Suburbs: Avon, Bloomfield, West Hartford

Taxable Property Values Over Time

Net Expenditures Per Pupil Over Time
Avon

Equation:

$$\text{ENGL} = \beta_1(\log\text{NEPP}) + \beta_2(\log\text{PELF}) + \beta_3(\log\text{DENSE}) + \varepsilon$$

- 1% increase in NEPP = $41,336,000 increase in ENGL over time
- 1% increase in PELF = $45,000,000 increase in ENGL over time
- 1% increase in DENSE = $109,059,000 decrease in ENGL over time
Bloomfield

Equation:

$$ENGL = \beta_1(NEPP) + \beta_2(POPM) + \varepsilon$$

- $1$ increase in NEPP = $13,677 \text{ increase in ENGL over time}$
- $1\%$ increase in POPM = $905,850 \text{ decrease in ENGL over time}$
West Hartford

Equation:

\[
ENGL = \beta_1 (\log \text{NEPP}) + \beta_2 (\text{POPM}) + \varepsilon
\]

- 1% increase in NEPP = $8,973,000 increase in ENGL over time
- 1% increase in POPM = $1,607,000 increase in ENGL over time
Conclusions

Relationship between school spending and property values???

-Not conclusive, especially considering suburbs have similar amounts of school spending
Perhaps Missing Variable???

- Perceptions of School Quality (cannot be measured quantitatively)
Next Steps