Introduction
- Urban sprawl significance in US.
- Average high school graduation rate in the nation’s 50 largest cities was 53%, compared with 71% in the Suburbs* (New York Times, 2009).
- Current literature establishes positive relationships between secondary education public investment and economic growth (Jackson et al., 2015).
- Investigating secondary-level human capital investment within Omaha, Nebraska, allows researchers to examine education provision patterns at an initial stage.

Hypotheses
1. Consistent population migration to western edges of Omaha
2. Significant public expenditure growth at the local level.
3. Statistically significant academic improvement in lower income schools.

Purpose
1. Understand the effects of public expenditure in secondary education on academic performance.
2. Examine the role of suburbanization within the education provision of a mid-range city.
3. Develop effective public policy to counter the suburbanization issues within growing metropolitan areas.

METHODS AND MATERIALS

Data
- Zip Code Tabulated Area (ZCTA) and school district data:
  - Nebraska Department of Education
  - United States Census
  - Omaha Public Schools

Procedure
- Examine relationship between:
  - Urban Sprawl
  - Public Spending
  - Academic Performance

Method
- T-test
- Simple linear regression for Academic Performance: 
  \[ P = \alpha + \beta_1 \text{Urban Sprawl} + \beta_2 \text{Public Spending} + \epsilon \]
  \[ P = \text{Academic Performance} \]
  \[ S = \text{Per Capita Public Expenditure} \]
  \[ I = \text{Median Family Income} \]
  \[ L = \text{School Percentage on Free or Reduced Lunch} \]

RESULTS

Urban Sprawl
- Population moving to western, low-density census tracts.
- Medium level of urban sprawl (49.98) in 2010
- Southwestern ZCTAs demonstrate fastest population growth in city between 2000-2013.

Suburban Growth and Public Expenditure Variation
- Enrollment and per capita spending grew in every sampled district.*
- The range in per pupil district spending rose by $199.55 between 2000 and 2014.

Public Spending and Academic Performance
- OPS had highest return from increased spending. *
- Westside had a drop in graduation rates despite increased spending.

CONCLUSIONS

- Majority of Omaha’s urban sprawl occurred prior to 2000.
- We still see a medium level of urban sprawl within the city.
- Suburban districts have higher graduation rates than does OPS, despite spending less per capita.
- Is there a statistically significant relationship between public spending and academic performance?*

Future Work
- Understand the impact of graduation levels on ZCTA income levels.
- Research the economic contributions of recent graduates on the local economy.
- Investigate high school graduate preparation for post-secondary education completion.

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