

*Do Local Public Service Expenditures Have
Lasting Effect on House Prices?*

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Local Budgets Affect House Prices

- **The notion of property tax capitalization** was formally hypothesized and tested by William Oates (1969).
- Then researchers examined the evidence in various locations in US and Canada and generally found property tax to have a (-) effect on House Values and Public Services (Education) a (+) effect.

For most part, education is the key public service.

- No systematic evaluation of the **extent OR duration of Capitalization of Local Budgets into house values overtime.**
- **No repeated sample in the literature to date.**
- Our major contribution to this literature is comparing the capitalization of local budgets in a repeated sample and over a period of 15 years.

The Literature Overview

- Capitalization of Local Budgets into House Values
- Debates has ensued about methodology:
 - Macro vs. Micro data
 - Do homebuyers care about expenditures?
 - Debate about the Extent of Capitalization:
 - Does it exist? And if so to what extent?
 - Does it happen in different places?
 - What is the extent of the effect of local budgets on house values?
 - Which services are important to homebuyers?
 - Does it disappear over time? Or does it last?
- Capitalization can promote Economic Growth/Decay of a community.

The Significance of the Research:

Four Key Economic Issues:

- Is property tax a benefit tax?
- Does capitalization last or does it go away with adjustments in supply of housing OR changes in taxation and expenditures?
- Tax Capitalization has significant redistribution consequences.
 - Tax capitalization can erode households' most important asset (90% of households' most important asset).
- Lower house prices, lower tax base → A Vicious Cycle leads to depletion of the tax base, which can hinder local ***Economic Growth***.

This Study: Abstract

- This study is the first to offer a repeated data.
- We use detailed Micro data (MLS actual sales data)
- We offer a comparative analysis of **capitalization of local budgets** into house values for two periods (1984 and 1999).
- We use a Hedonic Demand Model, which includes housing and community characteristics for 1458 single family homes in 1984 and 1546 in 1999.
- We find that homebuyers care about the levels of public expenditures for Education (k-12) and other primary local public services such as “Public Safety.”
- We show that both education and public safety expenditures have positive effects on house prices, albeit much stronger effect and statistical significance for education.
- Whereas the property tax differences, among and between jurisdictions, have a negative effect on house prices, *ceteris paribus*.

A Repeated Experiment: 1984 and 1999

DATA

- MLS: Single Family home sales, including detailed housing characteristics, Property tax payments, Assessed Values and School District designation.
- Fire and Police Districts matched by the author.
- Government Finance Data: NY State Comptroller Data, Various reports for three years (use their averages) for each set.
- Distance to CBD (NYC): author's calculations.
- Crime Rate: NY Department of Justice data.
- Poverty Rate: School District Data

The Model and Estimation Equation

A Hedonic Demand Function:

HV = f (Housing Characteristics, Community Characteristics)

Housing Characteristics include: # Rooms, # Bedrooms, # Bathrooms, Deck, Garage, Lot Size, Central Air and Age

Community Characteristics: School District, Town, Distance to CBD (NYC), Poverty Rate, Per Pupil Education Expenditure, Property tax payments, Public Safety (Police and Fire Districts Expenditures) and Community Crime Rate.

Also considered use a double-log estimation equation, which give elasticities.

Regression Results Overview

- All Housing and Community attributes have their expected **theoretical signs**.
- We addressed the problem of **heteroscedasticity and corrected it** with a White Test, using a two stage-least square estimation.
- The Coefficients for Effective Tax Rate and Education are reported in the next slides.

Results for 1984 Data

For our 1984 sample, we have the following results for the Budgets' Effects:

- **Education Expenditure Coefficient** being + 0.27, with t statistic of 3.39 is significant at 95 % level.
- The other two public services have negligible effects on house prices in both sample.
- **Property tax Coefficient**, being **-0.47** more than offsets the positive effect of the education expenditure; giving a net effect of **-0.20** for the two effects combined.

Results for 1999 Regression

For our 1999 sample we have the following results:

- **Education Expenditure Coefficient** being 0.28 , with t statistic of 4.09 is significant at 95 % level.
- The other two public services have negligible effects on house prices in both samples.
- Property tax Coefficient, being -0.407 (with $t=-23$) more than offsets the positive effect of the education expenditure; giving a net effect of - **0.127**, for the combined effect of Tax differentials (ETXR) and Education Expenditure.

1984 and 1999 Results

- Coefficients of ETXR: - 0.47 (1984) Vs -0.407 (1999) [VERY SIMILAR]
- Coefficients of Education: +0.27 (1984) Vs.+0.28 (1999) [VERY SIMILAR]
- **Net Effects VERY SIMILAR:**
 - **1984: - 0.20**
 - **1999: - 0.127**
 - Public Safety: Negligible in Both Samples.
- **We conclude: in two samples we have considered, capitalization of tax differentials persists.**
- **In summary**

The ETAR differentials has a (-) effect on house prices in both sample.
Education has a (+) effect on house prices in both sample.
- **In both samples: the negative effect of ETXR dominates the Positive effect of Per pupil Education Expenditure on house prices.**