

Online Appendix: The Valuation of Local School Quality under School Choice

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*Data provided by Zillow through the Zillow Transaction and Assessment Dataset (ZTRAX). More information on accessing the data can be found at <http://www.zillow.com/ztrax>. The results and opinions are those of the author(s) and do not reflect the position of Zillow Group. All errors are my own. Contact: McMaster University, zhenga17@mcmaster.ca

Table A1

State (1)	Highest Grade for Elementary School (2)	Percentage of Total Elementary Schools (3)
Florida	Grade 5	87
North Carolina	Grades 5 and 6	88
Massachusetts	Grades 5 and 6	73
Tennessee	Grades 4 and 5	75
New York	Grades 5 and 8	77

Coverage of Elementary Schools by State. In my dataset I restrict the highest grade for elementary schools. Column (2) shows what the restriction is by state and Column (3) shows the percentage of elementary schools I keep.

Table A2: Hedonic Regression: All Houses within 5 miles of a Charter

	<i>Dependent variable:</i> ln House Price (real)
Test	0.056 (0.012)
log sq feet	0.053 (0.011)
% white	0.087 (0.009)
Bathrooms	0.132 (0.014)
% Bachelor's	0.20 (0.013)
% with Children	0.012 (0.011)
Median HH Income	0.246 (0.016)
Test:Event ₁	-0.012 (0.009)
Test:Event ₋₁	0.011 (0.007)
Test:Event ₂	-0.006 (0.009)
Test:Event ₋₂	0.027 (0.011)
Test:Event ₋₃	0.007 (0.011)
Test:Event ₃	-0.034 (0.009)
Test:Event ₋₄	0.014 (0.012)
Test:Event ₄	-0.053 (0.011)
Test:Event ₅	-0.058 (0.013)
Year Fixed effects?	Yes
Boundary Fixed effects?	No
Sociodemographic Controls?	Yes
Observations	438,815
Adjusted R ²	0.463

Notes: Hedonic regression of log house prices on housing characteristics, sociodemographics, and event years. Test is the percent of students in the zoned school who exceed the standard in standard deviations. *log sq ft* is the square footage of the house sold in logs. *Bathrooms* is the number of bathrooms of the house. Other house characteristics included but not shown are Year Built fixed effects and Year Sold fixed effects. Sociodemographic measures are at the census block group level of the house. *% white* is the percentage of white individuals. *% Bachelor's* is the percentage of individuals with a bachelor's degree or higher. *% with Children* is the percentage of married households with children. *Median HH Income* is the median household income in thousands of dollars. All sociodemographic variables are in standard deviations. Coefficients *Test : Event_j* are the estimate on *Test* in event year *j*. Event year 0 is the year the charter opened and is the omitted category. Standard errors are clustered at the block group level.

Table A3: Event Study Boundary Discontinuity Regression

	<i>Dependent variable:</i>					
	ln House Price (real)					
	Main (1)	No Sociodemographics (2)	Charter < 4 miles (3)	Charter < 3 miles (4)	Charter 4-6 miles (5)	Charter 4-7 miles (6)
test	0.055 (0.010)	0.090 (0.008)	0.092 (0.009)	0.076 (0.010)	0.032 (0.018)	0.032 (0.015)
% Bachelor's	0.130 (0.011)					
% with Children	0.026 (0.007)					
Median HH Inc	0.119 (0.011)					
% white	0.053 (0.012)					
log sq ft	0.039 (0.010)	0.073 (0.010)	0.071 (0.011)	0.073 (0.012)	0.069 (0.019)	0.080 (0.016)
Bathrooms	0.196 (0.007)	0.236 (0.007)	0.231 (0.008)	0.225 (0.008)	0.244 (0.014)	0.241 (0.011)
Test:Event ₋₁	0.004 (0.005)	0.006 (0.005)	0.006 (0.005)	0.005 (0.005)	0.008 (0.008)	0.020 (0.008)
Test:Event ₋₂	0.004 (0.008)	-0.001 (0.006)	0.005 (0.007)	0.010 (0.007)	0.004 (0.009)	0.012 (0.009)
Test:Event ₋₃	0.008 (0.009)	-0.006 (0.008)	-0.001 (0.008)	0.004 (0.008)	-0.018 (0.015)	-0.019 (0.014)
Test:Event ₋₄	-0.007 (0.010)	-0.016 (0.009)	-0.009 (0.010)	-0.003 (0.009)	0.017 (0.014)	0.021 (0.013)
Test:Event ₁	-0.009 (0.005)	-0.009 (0.005)	-0.012 (0.005)	-0.006 (0.006)	-0.001 (0.008)	0.001 (0.007)
Test:Event ₂	-0.022 (0.006)	-0.023 (0.005)	-0.027 (0.005)	-0.023 (0.006)	-0.004 (0.011)	0.001 (0.010)
Test:Event ₃	-0.043 (0.007)	-0.039 (0.006)	-0.048 (0.006)	-0.036 (0.007)	-0.012 (0.011)	-0.018 (0.010)
Test:Event ₄	-0.056 (0.007)	-0.050 (0.006)	-0.060 (0.006)	-0.045 (0.008)	-0.033 (0.011)	-0.025 (0.011)
Test:Event ₅	-0.067 (0.008)	-0.065 (0.006)	-0.072 (0.007)	-0.061 (0.008)	-0.018 (0.016)	-0.030 (0.014)
Observations	220,321	349,661	308,737	244,629	69,194	91,966
Pre-trend F test	0.50	0.22	0.55	0.66	0.14	0.007

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Notes: Boundary discontinuity event study. Column (1) is the main specification with sociodemographic controls included. Column (2) is without sociodemographic controls. Column (3) for houses within 4 miles of a charter school opening. Column (4) for houses within 3 miles of a charter school opening. Column (5) and Column (6) are with the sample of houses within 4-6 miles and 4-7 miles, respectively, of a charter school opening. All sociodemographic variables are in standard deviations. Coefficients $Test : Event_j$ are the estimate on $Test$ in event year j . Event year 0 is the year the charter opened and is the omitted category. Standard errors are clustered at the block group level. The last row, “Pre-trend F test” shows the p-value from an F test that all the pre-trend coefficients $\{Test : Event_{-1}, Test : Event_{-2}, Test : Event_{-3}, Test : Event_{-4}\}$ are equal to zero.

Table A4: Heterogeneity by Urbanicity

	<i>Dependent variable:</i>	
	ln House Price (real) City	Suburb/Town
	(1)	(2)
<i>Test</i>	0.105 (0.015)	0.076 (0.010)
<i>log sq ft</i>	0.105 (0.023)	0.072 (0.010)
<i>Bathrooms</i>	0.235 (0.012)	0.225 (0.009)
<i>Test:Event₋₁</i>	0.002 (0.008)	0.008 (0.005)
<i>Test:Event₋₂</i>	0.006 (0.010)	-0.010 (0.008)
<i>Test:Event₋₃</i>	-0.001 (0.015)	-0.010 (0.009)
<i>Test:Event₋₄</i>	-0.027 (0.017)	-0.012 (0.010)
<i>Test:Event₁</i>	-0.021 (0.009)	-0.003 (0.005)
<i>Test:Event₂</i>	-0.030 (0.008)	-0.019 (0.006)
<i>Test:Event₃</i>	-0.052 (0.010)	-0.031 (0.006)
<i>Test:Event₄</i>	-0.067 (0.011)	-0.038 (0.007)
<i>Test:Event₅</i>	-0.067 (0.012)	-0.059 (0.007)
Observations	124,389	222,348
Adjusted R ²	0.671	0.663
Pre-trend F test	0.33	0.10

Notes: Boundary discontinuity regression of log house prices on housing characteristics, and event years. Column (1) is for the sample of houses in a city. Column (2) is only for houses that are in a suburb or town. *Test* is the percent of students in the zoned school who exceed the standard in standard deviations. *log sq ft* is the square footage of the house sold in logs. *Bathrooms* is the number of bathrooms of the house. Other house characteristics included but not shown are Year Built fixed effects and Year Sold fixed effects. Sociodemographic measures are at the census block group level of the house. *% white* is the percentage of white individuals. *% Bachelor's* is the percentage of individuals with a bachelor's degree or higher. *% with Children* is the percentage of married households with children. *Median HH Income* is the median household income in thousands of dollars. All sociodemographic variables are in standard deviations. Coefficients *Test : Event_j* are the estimate on *Test* in event year *j*. Event year 0 is the year the charter opened and is the omitted category. Standard errors are clustered at the block group level. The last row, "Pre-trend F test" shows the p-value from an F test that all the pre-trend coefficients $\{Test : Event_{-1}, Test : Event_{-2}, Test : Event_{-3}, Test : Event_{-4}\}$ are equal to zero.

Table A5: Robustness

	<i>Dependent variable:</i>					
	Post-2012 (1)	Closed Charters (2)	Distance to Boundary (0.20 miles) (3)	In House Price (real) Boundary Length 2.5 miles (4)	Time-Varying Test (5)	Charter Enrollment (6)
Test	0.115 (0.010)	0.105 (0.025)	0.082 (0.009)	0.100 (0.011)	0.081 (0.008)	0.084 (0.014)
log sq ft	0.070 (0.010)	-0.002 (0.020)	0.070 (0.010)	0.063 (0.011)	0.071 (0.010)	0.123 (0.024)
Bathrooms	0.229 (0.008)	0.352 (0.022)	0.233 (0.007)	0.217 (0.007)	0.236 (0.008)	0.175 (0.011)
Test:Event ₋₁	0.015 (0.008)	-0.022 (0.018)	0.007 (0.005)	0.001 (0.006)	0.004 (0.005)	-0.003 (0.008)
Test:Event ₋₂	0.021 (0.015)	-0.002 (0.020)	0.003 (0.007)	-0.011 (0.009)	-0.001 (0.009)	-0.020 (0.012)
Test:Event ₋₃	0.037 (0.020)	0.006 (0.015)	-0.005 (0.009)	-0.002 (0.010)	-0.001 (0.011)	-0.017 (0.014)
Test:Event ₋₄	0.023 (0.045)	0.012 (0.019)	-0.013 (0.010)	-0.018 (0.011)	-0.015 (0.015)	0.003 (0.019)
Test:Event ₁	-0.018 (0.007)	-0.035 (0.013)	-0.007 (0.006)	-0.011 (0.007)	-0.012 (0.005)	-0.011 (0.007)
Test:Event ₂	-0.036 (0.008)	-0.028 (0.015)	-0.019 (0.006)	-0.021 (0.007)	-0.027 (0.006)	-0.017 (0.009)
Test:Event ₃	-0.053 (0.009)	-0.039 (0.017)	-0.037 (0.006)	-0.037 (0.007)	-0.046 (0.007)	-0.025 (0.008)
Test:Event ₄	-0.067 (0.009)	-0.045 (0.020)	-0.047 (0.007)	-0.046 (0.008)	-0.055 (0.008)	-0.042 (0.009)
Test:Event ₅	-0.085 (0.010)	-0.110 (0.018)	-0.063 (0.007)	-0.064 (0.008)	-0.068 (0.009)	-0.075 (0.009)
Observations	219,056	52,658	285,160	192,459	284,105	98,755
Adjusted R ²	0.645	0.613	0.661	0.685	0.663	0.647
Pre-trend F test	0.22	0.36	0.37	0.28	0.68	0.066

Notes: Boundary discontinuity regression of log house prices on housing characteristics, and event years. Column (1) is for the sample of houses sold after 2012. Column (2) is only for houses that were within 5 miles of a charter that opened and then closed. Column (3) restricts the distance to the boundary from 0.25 miles to 0.20 miles. Column (4) restricts the school boundary length to 2.5 miles. Column (5) allows for test scores to vary year-to-year. Column (6) drops charter schools with high-enrollment. *Test* is the percent of students in the zoned school who exceed the standard in standard deviations. *log sq ft* is the square footage of the house sold in logs. *Bathrooms* is the number of bathrooms of the house. Other house characteristics included but not shown are Year Built fixed effects and Year Sold fixed effects. Sociodemographic measures are at the census block group level of the house. *% white* is the percentage of white individuals. *% Bachelor's* is the percentage of individuals with a bachelor's degree or higher. *% with Children* is the percentage of married households with children. *Median HH Income* is the median household income in thousands of dollars. All sociodemographic variables are in standard deviations. Coefficients $Test : Event_j$ are the estimate on *Test* in event year j . Event year 0 is the year the charter opened and is the omitted category. Standard errors are clustered at the block group level. The last row, "Pre-trend F test" shows the p-value from an F test that all the pre-trend coefficients $\{Test : Event_{-1}, Test : Event_{-2}, Test : Event_{-3}, Test : Event_{-4}\}$ are equal to zero.

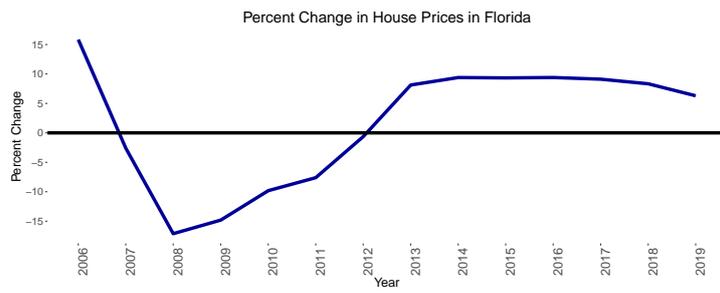


Figure A1: Annual percent change in house prices for Florida. Data taken from the Federal Reserve Economic Data at the St. Louis Fed.