School District Consolidation, Student Performance, and Housing Values*

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Submitted: November 19, 1997
Revised: March 12, 1998

Proposed running head: School District Consolidation

*Thanks to Don Haurin, Lucia Dunn, Hazel Morrow-Jones, Tasneem Chipty, and the anonymous referees. I achieved all remaining errors independently.

Abstract

School district consolidation is often purported to save taxpayers money. However, the current study shows that doubling the size of a school lowers student proficiency passage rates by 1%. In turn, this lowers the average house price by $400. This represents 30% of the total loss in house value due to consolidation. Therefore, regardless of cost savings, homeowners' property values fall, and thus the tax base is likely to contract due to a school district merger. Unlike previous studies, both building and district size measures are used to analyze the effect of size on proficiency test passage and graduation rates.

JEL Classification Codes: H40, I21, D73, R00

1. INTRODUCTION

Much of the attention given to school district consolidation has focused on efficiency and economies of scale. An angle of the consolidation debate that has been given less attention is the effect of enrollment on student behavioral outcomes. The economic consequences can be considerable. School quality is an important determinant of house values. Therefore, if consolidation affects school quality, house prices will change, as will the district's tax base, and thus the district will be forced to alter the tax rate or expenditures.

The current study examines the relationship between enrollment and student performance and relates the results to the school district consolidation decision. Whereas previous studies typically focus on school district size, this paper considers school district enrollment, school building enrollment, and the number of high schools in the district to measure size. The evidence suggests that using school building enrollment may be a less troublesome measure of the effect of size on student performance. Furthermore, cost savings to a homeowner from school district consolidation would have to exceed $1,344 in order for the average homeowner to break even (Brasington, 1997*b*). $400 of this is due to decreased school quality: doubling school size is linked to a one percent drop in proficiency test passage, which in turn is associated with a $400 decline in the price of the average home in the district. This is the first paper the author has found that links the school size, student performance and house price aspects of school district consolidation.

2. LITERATURE REVIEW

Much of the debate over school consolidation has centered on savings due to economies of scale. For instance, Duncombe, Miner, and Ruggiero (1995) and Ratcliffe, Riddle, and Yinger (1990) find there are considerable potential cost savings from consolidation, particularly for small school districts. Lewis and Chakraborty (1996) also suggest enrollment is negatively related to cost per student. This last study is particularly relevant because it examines both school enrollment and school district enrollment. While it finds both measures of enrollment are associated with lower per-student costs, when the two measures compete, it is school enrollment that remains significant. Lewis and Chakraborty conclude that consolidation of schools, not districts, may be the key to reaping gains from scale economies. On the other hand, Young (1994) finds little evidence of cost savings, and Deller and Rudnicki (1992) believe researchers who have found scale economies in public education may actually be picking up managerial inefficiency, and that once this inefficiency is accounted for, there is no evidence of size economies.

Efforts to achieve cost savings from consolidation may backfire if the resultant increase in enrollment depresses student outcomes. School quality is an important determinant of house prices (Haurin and Brasington, 1996; Jud and Watts, 1981). If higher enrollment from consolidation depresses school quality, and lower school quality in turn lowers house prices, the district may require a higher tax rate to retain current spending levels. School district consolidation, then, may not lower tax rates even in the presence of scale economies. An important question to address, then, is whether consolidation affects student performance.

Because consolidation means an increase in student enrollment, one can address the question by examining whether enrollment affects school quality.

According to Ornstein (1993), "Right now, we have no research evidence that school consolidation or school decentralization improves education." Size has been measured by school district enrollment, the number of pupils in a particular grade, the number of schools in a district, and building enrollment. The current report suggests that building cohort size is a superior measure of size and that consolidation is significantly, consistently related to lower student performance.

Ornstein (1989) presents the percentage of schools in the United States that are decentralized and traces the decline in the number of school districts over time. He finds inconclusive evidence of any consistent relationship between school district size and a variety of performance measures. Jewell (1989) examines the simple correlation between student outcomes and school and district size. He postulates that the independent effect of school district size and school size on standardized test scores is negligible; however, he indicates that both measures of size are negatively related to graduation rates. Haller (1992) finds high school size is positively related to student discipline problems, although the effect is small.

Stern (1989) rigorously examines the manner in which per-pupil spending on teacher salary affects proficiency test scores. Stern notes in passing that the smaller the cohort in a grade level, the higher student achievement seems to be: the impact of a large total grade-level enrollment is strongly and consistently detrimental to student test scores regardless of classroom size.

Friedkin and Necochea (1988) summarize the literature to date by concluding that some researchers find a positive relation, some find no relation, and others find a negative relation between size and student performance. Their effort is an attempt to reconcile these conflicting prior studies. Using the number of pupils in a particular grade to proxy for school system size, Friedkin and Necochea find school system size is consistently negatively related to proficiency test scores, but the interaction between school system size and socioeconomic status is always positive. They conclude that as the socioeconomic status of the school system rises, the association between size and performance of the school system goes from negative to positive.

On the other hand, Fowler and Walberg (1991), using school building enrollment and the number of schools within a district, do not concur with Friedkin and Necochea's (1988) results. Fowler and Walberg use eighteen outcome measures, of which fifteen are proficiency test results. School size has a negative, significant effect on only six of the eighteen measures of student performance. The number of schools in a district has a negative relationship with ten of the eighteen outcome measures and a positive relationship with one.

Ornstein (1993, 1989), Jewell (1989), Haller (1992), and Friedkin and Necochea (1988) use extremely few independent variables in their analyses. Ornstein (1993, 1989) and Jewell (1989) do not use rigorous analytical techniques like regression analysis, relying instead on correlation and non-statistical inference. Friedkin and Necochea (1988) and Stern (1989) do not use a measure of school building enrollment, while Fowler and Walberg (1991) do not retain a measure of district enrollment in their final analysis. The analysis presented in the current study addresses both district size and school size, and it has many more independent variables than any

of the studies mentioned[1]. Given the lack of unanimity of results and the deficits in the analysis, further study seems warranted.

3. DATA DESCRIPTION

Ohio's high school students must pass a 9th-grade proficiency test to receive a full high school diploma[2]. All students must take the test, so sample selection bias is not an issue (Hanushek and Taylor, 1990)[3]. The proficiency test contains four sections: reading, writing, math, and citizenship. The measures of school outcome employed are the percent of 9th-grade students in each district who pass each portion of the 9th-grade proficiency test on their first attempt in 1993. The year 1993 is used because Ohio began using the proficiency test in 1990, and using 1993 scores allows a small adjustment period, potentially providing more representative scores than the initial testing years provide. Of the 611 Ohio school districts, 602 reported their 1993 proficiency test results. Six of these are central city districts.

4. EMPIRICAL MODEL

The education production function takes the following form:

$$\Pi_{ij} = \Pi(s_j, r_j, \psi_j) \qquad (1)$$

where Π is the percentage of students passing the i-th component of the proficiency test in school district jurisdiction j, s represents the district's student characteristics, r signifies the district's parent characteristics and ψ represents inputs directly related to the district's schooling process like teachers.

Variables and definitions are provided in Table 1, but a few deserve extra discussion.

(Insert Table 1)

The Ohio Department of Education's definition of the graduation rate is flawed. It defines the graduation rate as the number of regular graduates divided by ninth-grade enrollment four years prior. Due to this definition, it is very possible that there will be greater than 100% graduation rates in fast-growing school districts. Similarly, districts experiencing a net outflow of population will have a deceptively low graduation rate. However, the dropout rate has a clear definition: the number of current dropouts divided by current grade 7-12 enrollment, including joint vocational schools. The number of current dropouts is probably indicative of cumulative dropouts in a cohort between school districts, so one minus the current year's dropout rate is used for Graduation Rate.

It is difficult in practice to distinguish between student and parent attributes. One student variable present in the dataset is the percentage of students living with both parents. This variable is highly positively correlated with percentage of persons in the school district who are married, and it is highly negatively correlated with the percent of students who are nonwhite. This strong correlation makes it difficult to measure the independent effect of marital status or race; therefore, it is only possible to estimate the separate effect of either presence of both parents, percent of community residents who are married, or student racial composition. Of the three possibilities, BOTH PARENTS PRESENT is chosen as a student characteristic. An unreported regression substituted student racial composition for BOTH PARENTS PRESENT and achieved qualitatively identical results. Another student factor used is RECENTLY MOVED IN, which measures the percentage of parents of school-aged children who have lived in the district for one year or less. Changing school districts is often difficult for children;

therefore this variable is included in the production of education and is expected to be negatively related to performance. The final student variable used is PERCENT AT RISK. Parent factors include PARENT NO H.S. DIPLOMA and PARENT H.S. DIPLOMA ONLY to capture parental education levels, and PARENT INCOME.

The remaining independent variables are related to the school itself. SCHOOL ENROLLMENT is high school building enrollment divided by the number of grades in the high school. If there is more than one high school, the average is reported. Other related variables include EXPENDITURE PER PUPIL, TEACHER SALARY, PUPIL/TEACHER RATIO, TEACHER NO B.A., TEACHER BACHELOR'S ONLY, and TEACHER EXPERIENCE. Variable means and sources are found in Table 2.

(Insert Table 2)

If there is a dichotomous outcome at the individual level (pass or fail) but the result is aggregated to the district level, and each district has a different number of students, then using OLS will result in heteroskedasticity (Kennedy, 1992). The heteroskedasticity problem is addressed by using a minimum chi-square method of weighting (Maddala, 1983). For example, when Math is the dependent variable, the weight is [DISTRICT ENROLLMENT/(Math)(1-Math)]$^{1/2}$.

5. EMPIRICAL RESULTS

Table 3 below shows the full results of the weighted least squares regressions of the effect of SCHOOL ENROLLMENT on proficiency test scores.

(Insert Table 3)

Parent and student factors are strong determinants of proficiency test scores. For instance, the results suggest that increasing the percentage of students living with both parents by 20% will raise the percentage of students passing the math test by 11%. Furthermore, if the percentage of at-risk students rises by 10%, a school district may expect a 7% drop in passage of the citizenship section and an 8% drop in passage of the math section of the 9th-grade proficiency test. Also, no school-specific input is consistently statistically significant[4].

The focus of Table 3 is building enrollment of high schools' effect on student performance. The results suggest that high school size is consistently negatively related to proficiency test outcomes. If the average high school in Ohio were to double its enrollment, which may happen in a consolidation or in rapidly-growing districts, the results suggest that proficiency passage will drop by approximately one percentage point, holding other factors constant. Jewell (1989) and Fowler and Walberg (1991) also study the effect of school size on test scores. The results of this study are more consistent than those achieved by either of those studies, although the magnitude of the effect is similar to that reported in Fowler and Walberg. Will the results hold when school district size is used instead of high school size?

Table 4 presents a summary of a series of regressions in which DISTRICT ENROLLMENT replaces SCHOOL ENROLLMENT. Because the results for the other variables are qualitatively identical to those in Table 3, Table 4 presents only the impact of district enrollment on each of the proficiency test sections.

(Insert Table 4)

DISTRICT ENROLLMENT is also consistently negatively related to proficiency test performance. The magnitude of the effect of school district enrollment on performance is nearly identical across all sections except math.

Finally, another measure of school district size is the number of high schools in a school district (e.g., Fowler and Walberg, 1991). The second row in Table 4 substitutes NUMBER OF HIGH SCHOOLS for the size measure and once again finds size lowers student performance, holding other factors constant. In summary, size is significantly negatively related to proficiency test passage in nine of the twelve cases.

Next, the relationship between school size and graduation rates is investigated. In Table 5, the column labeled School portrays regression results when Graduation Rate is the dependent variable and SCHOOL ENROLLMENT is an independent variable.

(Insert Table 5)

The results are similar to those for the proficiency test section regressions. Once again, SCHOOL ENROLLMENT is shown to be negatively, significantly related to student outcomes. However, the second column in Table 5, labeled District, shows what happens when DISTRICT ENROLLMENT replaces SCHOOL ENROLLMENT. While DISTRICT ENROLLMENT is negatively related to proficiency test score passage, it is positively related to the graduation rate. The final column, labeled # High Schools, shows a T-ratio for NUMBER OF HIGH SCHOOLS of 1.64, just shy of statistical significance at the .10 level. DISTRICT ENROLLMENT and NUMBER OF HIGH SCHOOLS are both measures of school district size, not high school

building size. The evidence suggests that large school districts are related to lower proficiency test passage but, somewhat surprisingly, higher graduation rates.

What could account for such a dramatic change? The answer probably lies with central cities. Central cities are characterized by high district enrollment and multiple high schools. The correlation between central cities and DISTRICT ENROLLMENT is 0.85 in the sample, and that between central cities and NUMBER OF HIGH SCHOOLS is 0.86. On the other hand, because they have multiple high schools, the correlation between central cities and SCHOOL ENROLLMENT is only 0.07. When the two district enrollment measures are used to capture size, some of the effect may be due to central cities, even holding a multitude of factors constant. Brasington (1998) finds evidence that central city school districts are consciously choosing to graduate many students that suburban and non-metropolitan school districts would not graduate. Researchers who intend to examine consolidation's influence on certain student outcomes such as the graduation rate should take care to control for the effect of central city policy differences[5].

Because of possible systematic central city effects, it also seems advisable for researchers to use school building enrollment instead of the number of buildings in a school district (Fowler and Walberg, 1991) or school district enrollment (Jewell, 1989) or the number of students in a grade level (Friedkin and Necochea, 1988). In direct contrast to this study, Jewell (1989) finds district enrollment is negatively related to graduation rates. However, Jewell's measure of district enrollment is aggregate statewide enrollment divided by the number of school districts in the state. Therefore his study probably does not capture any link between central city schools and larger-than-average district enrollment.

Despite the influence of central cities, it is apparent that size is negatively related to student performance. In a series of unreported regressions with central city districts omitted, NUMBER OF BUILDINGS, SCHOOL ENROLLMENT, and DISTRICT ENROLLMENT are all statistically significantly negatively related to all four proficiency test sections. In addition, each size measure depresses Graduation Rate, as expected.

6. CONCLUSION

Using an education production function approach, the current study has tested whether school size and district size influence student outcomes. Both school size and district size seem related to a decrease in proficiency test performance. This suggests that consolidation may have an adverse influence on student performance. These results are more consistent than those of previous studies. Doubling high school building enrollment is related to an approximately 1% decrease in proficiency test scores, holding a multitude of factors constant.

However, while building enrollment is negatively related to graduation rates, school district enrollment is positively related to graduation rates, all else equal. This surprising result is probably due to central city school districts systematically passing students through the system with little regard for performance (Brasington, 1998). The results of this study should therefore caution researchers who study consolidation's effects on student performance to measure size by school building enrollment rather than by measures of district enrollment.

There are economic consequences to consolidation that act through a decline in student performance. Brasington (1997*a*) finds that the decision to consolidate school districts or not is

motivated primarily by economies of scale factors, not sociodemographic factors. However, size is related to decreased student performance, school quality is related to house prices, and house prices are related to the tax base and tax rate. Therefore, while voters may choose consolidation on grounds of cost savings, the voter's fiscal situation may not improve. Using the same Ohio 9th-grade proficiency test used in the current study, Haurin and Brasington (1996) find that each percentage point in proficiency test passage is worth $400 to the value of a house. Therefore, based on the finding that a school merger that doubles school enrollment decreases proficiency test passage by approximately one percentage point, cost savings from such a merger would have to equal $400 in order for the average homeowner to recoup the loss in house price due to a decline in school quality.

Based on these findings, it is now possible for the first time to decompose the loss in house price due to school district consolidation into two factors: decreased student performance and loss of control over the educational agenda. Brasington (1997*b*) shows houses in consolidated school districts are worth $1,344 less than identical houses in independent school districts. The current study suggests that roughly $400 (about 30%) of this discount is due to a decline in student performance. The remaining $944 may be attributed to a loss of control over the educational agenda.

This is not meant to be the definitive study of consolidation's effects on student performance. Further study could use a value-added approach (Marquis, 1996) or a series of pre-merger and post-merger outcome measures to assess the impact of enrollment increases on performance, cost, and house values

NOTES

[1]Although Fowler and Walberg (1991) start with more independent variables, a backward stepwise regression eliminates all but seven of them for the final analysis. District enrollment is one of the variables eliminated.

[2]Students who fail the test but still pass their courses receive a certificate of attendance instead of a diploma.

[3]Only students assessed to have a learning disability are exempt. Only if a student's team leader determines that the student has a learning disability each year and exempts that student every year of his or her high school career will that student not be required to take the proficiency test.

[4]Concern has been expressed to the author about possible collinearity problems between the various school-specific inputs. While this is a potentially valid criticism, the only high correlations are between EXPENDITURE PER PUPIL and PUPIL/TEACHER RATIO (-0.61), and between EXPENDITURE PER PUPIL and TEACHER SALARY (0.65). Furthermore, experimentation with various combinations of school-specific variables yields similar qualitative regression results.

[5]In an unreported regression of graduation rates, both DISTRICT ENROLLMENT and a central city dummy variable were included, running the risk of collinearity. District enrollment was negative and significant, while the central city dummy variable was positive and significant. Similar results were obtained with NUMBER OF HIGH SCHOOLS.

Table 1. Definitions	
Variable	Definition
Citizenship	Percentage of students in school district passing citizenship section of 1993 9th-grade proficiency test on first attempt
Writing	Percentage of students in school district passing writing section of 1993 9th-grade proficiency test on first attempt
Math	Percentage of students in school district passing math section of 1993 9th-grade proficiency test on first attempt
Reading	Percentage of students in school district passing reading section of 1993 9th-grade proficiency test on first attempt
Graduation Rate	One minus the dropout rate for the current school year, where the dropout rate is the number of current dropouts divided by current grade 7-12 enrollment, including joint vocational schools
SCHOOL ENROLLMENT	Approximation of the number of students in each high school building in the district; high school building enrollment divided by the number of grades in the high school. If there is more than one high school, the average is reported.
NUMBER OF HIGH SCHOOLS	Number of separate high schools in the district
DISTRICT ENROLLMENT	Fall enrollment in the school district
PARENT NO H.S. DIPLOMA	Percentage of school-aged children in the district whose parents have no high school diploma
PARENT H.S. DIPLOMA ONLY	Percentage of school-aged children in the district whose parents have a high school diploma but did not attend college
BOTH PARENTS PRESENT	Percentage of school-aged children in the district who live with both parents
PARENT INCOME	Average annual income per working parent of school-aged children in the school district

PERCENT AT RISK	Percentage of school-aged children in the school district living in a single-parent household headed by a female who has no high school diploma and is either divorced or separated and earns less than the 1989 poverty level income
RECENTLY MOVED IN	Percentage of parents of school-aged children who have lived in the school district for one year or less
EXPENDITURE PER PUPIL	Total district expenditures divided by fall district enrollment
TEACHER SALARY	Average teacher salary in the district in dollars
PUPIL/TEACHER RATIO	Fall district enrollment divided by the number of full-time equivalent teachers
TEACHER NO B.A.	Percentage of teachers in the district who do not hold a bachelor's degree
TEACHER BACHELOR'S ONLY	Percentage of teachers in the district who hold a bachelor's degree but have less than 150 hours beyond the bachelor's degree
TEACHER EXPERIENCE	Average teacher experience in the district in years

Table 2. Means and Sources

Variable	Mean	Std. Dev.	Source
Citizenship	0.72	0.12	1
Writing	0.87	0.081	1
Math	0.61	0.14	1
Reading	0.87	0.068	1
Graduation Rate	0.97	0.021	1
SCHOOL ENROLLMENT	192	142	1,2
NUMBER OF HIGH SCHOOLS	1.15	1.07	2
DISTRICT ENROLLMENT	2,960	5,264	1
PARENT NO H.S. DIPLOMA	0.16	0.08	3
PARENT H.S. DIPLOMA ONLY	0.45	0.11	3
BOTH PARENTS PRESENT	0.81	0.09	3
PARENT INCOME	33,400	10,962	3
PERCENT AT RISK	0.021	0.023	3
RECENTLY MOVED IN	0.15	0.05	3
EXPENDITURE PER PUPIL	4,328	1,034	1
TEACHER SALARY	33,490	4,439	1
PUPIL/TEACHER RATIO	18.5	2.0	1
TEACHER NO B.A.	0.0045	0.014	1
TEACHER BACHELOR'S ONLY	0.26	0.093	1
TEACHER EXPERIENCE	15.33	2.02	1

Notes: 602 Observations. Sources: 1=Ohio Department of Education, Division of Education Management Information Services; 2=Ohio Educational Directory; 3=School District Data Book

Table 3. School Enrollment and Proficiency Tests				
Variable	Citizenship	Writing	Math	Reading
SCHOOL ENROLLMENT	-0.58×10^{-4}**	-0.26×10^{-4}	-0.63×10^{-4}**	-0.35×10^{-4}**
	(2.05)	(1.21)	(1.99)	(2.32)
PARENT NO H.S. DIPLOMA	-0.31**	-0.11**	-0.41**	-0.22**
	(4.19)	(2.00)	(4.94)	(5.66)
PARENT H.S. DIPLOMA ONLY	-0.084	-0.12**	-0.12*	-0.036
	(1.40)	(2.61)	(1.73)	(1.16)
BOTH PARENTS PRESENT	0.43**	0.26**	0.56**	0.29**
	(5.83)	(4.69)	(6.86)	(7.38)
PARENT INCOME	0.15×10^{-5}**	0.33×10^{-6}	0.19×10^{-5}**	0.42×10^{-6}
	(2.38)	(0.76)	(2.68)	(1.32)
PERCENT AT RISK	-0.71**	-0.32	-0.82**	-0.47**
	(2.44)	(1.45)	(2.57)	(3.04)
RECENTLY MOVED IN	0.0022	-0.088	-0.089	-0.092*
	(0.02)	(1.19)	(0.82)	(1.77)
EXPENDITURE PER PUPIL	0.62×10^{-5}	-0.85×10^{-10}	-0.22×10^{-4}**	-0.16×10^{-5}
	(0.75)	(0.00)	(2.33)	(0.38)
TEACHER SALARY	0.13×10^{-5}	-0.28×10^{-6}	0.48×10^{-5}**	0.97×10^{-6}
	(0.70)	(0.20)	(2.37)	(1.01)
PUPIL/TEACHER RATIO	0.0047	0.0021	-0.0017	0.00054
	(1.52)	(0.91)	(0.50)	(0.34)
TEACHER NO B.A.	-0.20	-0.011	-0.31	-0.064
	(0.72)	(0.05)	(1.04)	(0.44)
TEACHER BACHELOR'S ONLY	-0.026	-0.014	-0.066	-0.032
	(0.54)	(0.39)	(1.26)	(1.28)
TEACHER EXPERIENCE	-0.0014	-0.00070	-0.0012	0.00071
	(0.63)	(0.41)	(0.49)	(0.61)
INTERCEPT	0.32**	0.74**	0.26*	0.67**
	(2.65)	(8.20)	(1.95)	(10.88)
Adjusted R-squared	0.55	0.32	0.64	0.61

Notes: Number of observations=602. Dependent variable = percent passing the specified portion of proficiency test in 1993. Parameter estimates are reported with t-ratios in parentheses below.
**=significant at .05, *=significant at .10

Table 4. District Size and Proficiency Tests				
Variable	Citizenship	Writing	Math	Reading
DISTRICT ENROLLMENT	-0.13×10^{-5}**	-0.16×10^{-5}**	-0.34×10^{-6}	-0.15×10^{-5}**
	(2.53)	(3.78)	(0.64)	(5.03)
NUMBER OF HIGH SCHOOLS	-0.0041*	-0.0070**	-0.00083	-0.0053**
	(1.84)	(3.75)	(0.36)	(4.17)
Notes: Parameter estimates with T-values below in parentheses. ** = significant at .05, * = significant at .10. Dependent variable = percent passing each section in 1993. 602 obs.				

Table 5. Size and Graduation Rates			
Variable	School	District	# High Schools
SCHOOL ENROLLMENT	-0.21×10^{-4}**	-	-
	(3.66)	-	-
DISTRICT ENROLLMENT	-	0.30×10^{-6}**	-
	-	(2.76)	-
NUMBER OF HIGH SCHOOLS	-	-	0.00080
	-	-	(1.64)
PARENT NO H.S. DIPLOMA	-0.080**	-0.071**	-0.073**
	(5.20)	(4.60)	(4.73)
PARENT H.S. DIPLOMA ONLY	0.00079	0.0089	0.0069
	(0.07)	(0.79)	(0.61)
BOTH PARENTS PRESENT	0.054**	0.063**	0.058**
	(3.77)	(4.27)	(3.98)
PARENT INCOME	0.28×10^{-9}	$0.11 \times 10^{--6}$	0.91×10^{-9}
	(0.24)	(0.94)	(0.78)
PERCENT AT RISK	0.013	-0.022	-0.0053
	(0.23)	(0.37)	(0.09)
RECENTLY MOVED IN	-0.0093	-0.034*	-0.031*
	(0.49)	(1.87)	(1.71)
EXPENDITURE PER PUPIL	-0.60×10^{-6}	0.72×10^{-6}	0.53×10^{-6}
	(0.39)	(0.48)	(0.35)
TEACHER SALARY	0.34×10^{-6}	-0.30×10^{-6}	-0.17×10^{-6}
	(0.94)	(0.86)	(0.49)
PUPIL/TEACHER RATIO	-0.90×10^{-5}	0.91×10^{-4}	0.89×10^{-4}
	(0.02)	(0.16)	(0.15)
TEACHER NO B.A.	-0.079	-0.087	-0.088
	(1.43)	(1.57)	(1.57)
TEACHER BACHELOR'S ONLY	-0.0074	-0.011	-0.0090
	(0.84)	(1.23)	(1.02)
TEACHER EXPERIENCE	-0.00028	-0.29×10^{-4}	-0.90×10^{-4}
	(0.66)	(0.07)	(0.21)
INTERCEPT	0.95**	0.94**	0.94**
	(42.26)	(41.61)	(41.41)
Adjusted R-Squared	0.31	0.30	0.30

Notes: Parameter estimates with T-values below in parentheses. ** = significant at .05, * = significant at 0.10. Dependent variable = Graduation Rate. 602 obs.

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