Examining the Relationship between Community Involvement and Student Performance

Masayo Hosoi

Abstract

This study estimates the effect of community involvement on students' educational performance using data from the 2012 Programme for International Student Assessment. The results of this study reveal that promoting community involvement in school budgets improves student performance as measured by these test scores. However, greater community involvement in school administration has been shown to lower student performance levels.

Keywords: Educational finance; Productivity; Community involvement; PISA dataset
JEL classifications: C20; I21

1. Introduction

The influence of effective fiscal allocation on educational performance has been a central theme in policy development for a long time. In Japan, Koizumi Junichiro, Prime Minister of Japan, changed the fiscal rule of subsidizing compulsory education from the central government to the local government in 2005 to promote fiscal decentralization. This reform decreased the ratio of subsidy from 1/2 to 1/3. Opinions varied on whether this reform would produce disparities in compulsory education among communities or increase the incentive to improve the quality of education by providing a sense of ownership from using local government resources. Considering the fairness and effectiveness of public policy generally is important. Moreover, the effect of such a change in fiscal resource allocation between governments on public education is not negligible. Simultaneously, authorities responsible for making public policy between the affected organizations (e.g., school governing school and school) should consider the importance of the resulting performance in public education. For example, Misra, Grimes, and Rogers (2013) estimated the social capital stock for each school to analyze the relation between school performance and the existing social capital. They argue that community society impacts academic performance.

There is an increasing belief in policy circles that participation by local communities in public service delivery can promote development outcomes. Recently, in Japan, more focus has been placed on the role of community school. Community schools facilitate school operations and improve the functioning of schools by giving their opinions. People involved include school workers, parents,

and regional people, and their influence is reflected in school management practices, such as selecting school governing boards that include parent representatives as well as regional people. School governing boards are authorized to approve school policies and provide influential opinions on educational activities. Such local influences positively impact student performance. This study considers the possibility that such local school governing boards could be more responsive to local needs and improve student performance in middle schools.

Gropello and Marshell (2011) noted that community schools are just one item on a menu of school-based management reforms designed to promote parental participation and a more effective utilization of local knowledge and capacity. Marshall (2009) found evidence of achievement gains attributable to increased teacher effort in National Community-Managed Program for Educational Development community schools in rural Guatemala. Furthermore, King and Ozler (1998) documented that autonomous schools are more successful at tracking and monitoring teacher activity, which has increased student achievement according to data from Nicaragua. Finally, in a study by Gropello and Marshell (2011), a main finding was that in the Programa Hondureño de Educación Comunitaria (Honduran Community Education Program PROHECO), a community school program in rural Honduras, there was better maximization of teacher efforts and parental involvement in the school, both of which translate into higher levels of student achievement.

Hosoi (2013) argued that community involvement in school administration not only influences school curriculum but also impacts students' educational performance. Hosoi (2013) estimated the relations among the multiplier effect of community authority, fiscal decentralization, and student performance based on datasets from the 2009 Program for International Student Assessment (PISA).

Although this study uses the same research objective and regression model as that in the study by Hosoi (2013), three differences exist. This study (1) uses the degree of responsibility of the school governing board on school administration as a variable representing community involvement in educational policy, (2) defines fiscal autonomy as a relative degree of involvement in school budgets by principals, teachers, and local school governing boards to local and national governments. However, Hosoi's (2013) definition is a fiscal resource allocation between central government and school districts, and (3) uses datasets from the 2012 PISA. From (1) and (2) as mentioned above, this study focuses on the influence of community involvement on school budgets and administration. The results reveal that the effect of community involvement in school administration on student performance is statistically significant and negative. The negative multiplier effect was confirmed by several regressions. On the other hand, the involvement of principals, teachers and school governing boards in school budgets decisions generated a significant and statistically positive result. In conclusion, the estimated results reveal that the incentive effect on educational policy by fiscal authority improves student performance, but community involvement in educational administration does not always positively contribute to student performance.

Section 2 explains the data and empirical model. Section 3 presents the empirical results. Section 4

presents the conclusions.

2. Empirical Model, Data, and Empirical Methodology

2.1 Econometric Model

This study adds three variables to the educational production function: community involvement in school administration, school budgets, and an interaction term of both variables.

The regression model is as follows:

$$q_{ijk} = \alpha SA_{jk} + \beta SB_{jk} + \chi SA_{jk} \cdot SB_{jk} + z_{ijk}\delta + y_{ijk}\varepsilon + x_{jk}\phi + \mu v_k + u_{ijk}. \quad (1)$$

where q_{ijk} denotes the i th student's test score in school j in country k; SA_{jk} denotes community involvement in school management; SB_{jk} represents the degree of fiscal authority of the school and the school governing board; $SA_{jk} \cdot SB_{jk}$ is an interaction term; z_{ijk} denotes characteristics of the children involved in the study; y_{ijk} denotes characteristics of the families involved in the study; x_{ijk} represents school and teacher characteristics and the shortage of teaching materials; and v_k represents characteristics of the country. u_{ijk} is an error term, α , β , χ , δ , ε , ϕ and μ are the parameter vectors to be estimated.

Based on previous empirical studies of the production function for education (Woessmann et al., 2009, Wöβmann, 2003, Hosoi, 2013), this study selects a set of explanatory variables associated with students, households, teachers, and schools. Dataset construction is explained below. Table 1 presents the descriptive statistics.

2.2 Data

This study employs a student-level database derived from the PISA 2012 study. PISA measures the extent to which students aged 15 approaching the end of compulsory schooling are prepared to meet the challenges of today's knowledge societies. The PISA study provides comparable information on students' literacy in mathematics, language, and science for 65 countries, including 34 in the Organization for Economic Co-operation and Development (OECD). This study examines data concerning students from OECD member countries. We obtained a sample of 295,416 students from OECD member countries. All students were aged over 15 and were in the 7th grade or higher.

In addition to collecting test scores of sampled students in each school, questionnaires were distributed to school principals, teachers, and the students themselves. The school questionnaires requested information not only regarding various aspects of school organization but also regarding educational provisions in schools, that is, school characteristics and resources, instruction, curriculum and assessment, student body and faculty, the degree of each agent's decision-making ability, responsibility for identified tasks, and the extent of parental participation. A questionnaire was distributed to the parents of the students participating in PISA that queried regarding parental background, cost of educational services, attitudes toward their child's school, parental involvement

with the school, school choice, parental support for learning in the home, mathematics in their child's prospective career and job market, academic and professional expectations in mathematics, the child's past academic performance, career interests, and parental migration background.

2.3 Variables

2.3.1 Educational Outcomes

The first task was to measure student performance, q_{ijk}. This study used student test scores for which PISA publishes data with plausible values[1] rather than student raw scores for each of the three tested subjects (e.g., mathematics, science, and language).

2.3.2 Community Involvement in School Administration

Community involvement in school administration, SA_{jk} ,captured the school governing board's involvement in the school. Question 33 of the 2012 PISA asked schools, "Regarding your school, who has considerable responsibility for the following tasks?" If the school governing board could influence each of the related items, each received a value of 1 in the PISA 2012 database. Summing the values reported for each of the 12 items ((a)Selecting teachers for hire, (b) Firing teachers, (c) Establishing teachers' starting salaries, (d) Determining teachers' salary increases, (e) Formulating the school budget, (f) Deciding on budget allocations within the school, (g) Establishing student disciplinary policies, (h) Establishing student assessment policies, (i) Approving students for admission to the school, (j) Choosing the textbooks to be used, (k) Determining the course content, and (l) Deciding the courses to be offered), this study calculates a variable for measuring community involvement in each school. Consequently, the original data of this variable spans a scale from 0 to 12 (0 = least community involvement and 12 = most community involvement). Then, the original data was normalized to avoid zero for this indicator.

2.3.3 Community Involvement in School Budgets

The "Other" key variable in the regression model was the measure of community involvement in school budgets, SB_{jk} . This indicator was calculated as a relative evaluation representing fiscal autonomy (responsibility for budget formulation and budget allocation) of principal, teachers, and the school governing board to regional or local education authorities and the national education authority. These values were obtained from Question 33 of PISA 2012. This study calculates original data based on this indicator by summing the values reported for each of two items related to budget, ((e) Formulating the school budget, (f) Deciding on budget allocations within the school). Consequently, the original data of this variable spans a scale from 0 to 2 (0 = least community's fiscal autonomy and 2 = most

1) Plausible values are intermediate values provided to obtain consistent estimates of population parameters using standard statistical analysis. See PISA 2012 Technical Report from www.oecd.org/ for details.

community's fiscal autonomy). Finally, the calculated values were normalized to avoid zero for this indicator.

2.3.4 Other Control Variables

This study uses several control variables related to (1) student characteristics (z_{ijk}), (2) family background (y_{ijk}), (3) school characteristics (x_{jk}), and (4) country characteristics (v_k) suggested by earlier empirical studies of the effects of education. All variables are from the PISA 2012 database. GDP is from the World Bank's website (http://data.worldbank.org/). Many explanatory variables based on qualitative survey data have been transformed into dummies.

First, this study treats Numbers of Brothers or Sisters, International Grade, Sex, Age, and Immigrations as measurements of student characteristics. Numbers of Brothers or Sisters is a variable with values from 0 to 2 (the student has no brothers or sisters = 0, the student has a brother or sister = 1, the student has more than one brother or sister = 2). International Grade represents the student's grade when they took the PISA 2012 test. Sex is a dummy variable with a value of 1 for girls and 0 for boys. Age is the student's age when he or she took the PISA 2012 test. Immigrations represents whether a student was a native of their resident country. The index of Immigrations is defined as follows, native students (those students who had at least one parent born in the country) = 1, second generation students (those born in the country of assessment but whose parent(s) were born in another country) = 2, and first-generation students (those students born outside the country of assessment and whose parents were also born in another country) = 3.

Second, as variables representing family background, this study includes Books at Home, Home Possessions, Highest Parental Occupational Status, and Highest Educational Level of Parents. Books at Home represents the number of books reported in a students' household on a scale from 1 to 6 (0–10 books = 1, 11–25 books = 2, 26–100 books = 3, 101–200 books = 4, 201–500 books = 5, more than 500 books = 6). Home Possessions is a variable calculated by a summarized index of all household items from three questions regarding types of furniture at home, the number of home electronics, rooms with a bath or shower, the number of books at home, and cars belonging to the family. Highest Parental Occupational Status is a variable calculated from occupational data for both the father and mother of the student obtained by asking related questions. Highest Educational Level of Parents is a variable with values from 0 to 6, following the PISA 2012 database, which represents the highest educational attainment of each parent on a scale from 0 to 6 (none = 0, ISCED[2)] 1 = 1, ISCED2 = 2, ISCED 3B and C = 3, ISCED 3A and ISCED4 = 4, ISCED 5B = 5, and ISCED 5A and 6 = 6).

Variables measuring school characteristics include Competition between Schools, Funding from Government, Proportion of Girls, School Location, School Type, Total School Enrolment (in log), and Pupil–Teacher Ratio (in log).

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2) International Standard Classification of Education.

Competition between Schools is a measure representing the status of competition between schools: two or more competition = 1, one competition = 2, and no competition =3. Funding from Government represents the percentage of subsidy from government to the total school budget. Proportion of Girls represents the proportion of girls in the school population. School Location is a self-evident measure: village (fewer than 3,000 people) = 1, small town (3,000–15,000 people) = 2, town (15,000–100,000 people) = 3, city (100,000–1 million people) = 4, and large city (over 1 million people) = 5. School Type takes a value of 1 for private schools, 2 for private government-dependent schools, and 3 for public schools. Total School Enrolment (in log) is the number of children officially registered to attend school at a designated location. Pupil−Teacher Ratio (in log) denotes the number of students assigned to each teacher for instruction. Finally, we used GDP Per Capita (in log) as the variable to measure different economic levels between OECDs in 2012.

2.4 Analyses using PISA 2012 Datasets

Three points must be noted concerning analyses using PISA data. First, samples from international surveys might have statistical biases. When analyzing PISA data, OECD (2009) recommends using the weights and revising the biases. If we do not use the weights, the analyses will provide biased population parameter estimates. PISA 2012 provides 80 weights and a final weight per student.

Second, the PISA does not draw simple random samples of students from exhaustive lists of students aged 15. Thus, PISA samples students in two stages: first, schools are sampled, and subsequently, students in the participating schools are sampled. Such complex sampling design increases the standard errors of any population estimates. Therefore, 81 estimates using replication methods are necessary to derive a final estimate and its standard error.

Finally, the PISA uses plausible values for reporting student performance. In the 2012 PISA, five plausible values per student were provided. OECD (2009) mentioned that the required statistic and its respective standard error must be computed for each plausible value and aggregated to obtain final estimates. Therefore, any analysis that involves five plausible values, combined with the replicates, requires 405 estimates.

This study used a WesVar statistical package to compute estimates and their variance estimates from survey data using replication methods. The software is available without charge from http://www.westat.com/wesvar.

3. Regression Results

The Hausman test did not reject a null hypothesis that Community Involvement in School Administration, Community Involvement in School Budgets, and the interaction term are exogenous variables. Therefore, we could estimate the model using ordinary least squares (OLS). The results estimated by the OLS are summarized in Table 2.

The most important finding is that estimated coefficients of Community Involvement in School

Administration, Community Involvement in School Budgets, and the interaction term are statistically significant in several regressions. Community Involvement in School Administration was negative in the second regression model for all subjects, indicating that greater community participation does not necessarily enhance student performance. This result was directly opposite of the expectation that community involvement in public projects could adjust school curriculum policy to local needs, which would in turn improve student performance. For example, one of Woessmann's (2003) findings was that interested parents limited the way classes were taught, presumably by preventing teachers from being the judges of what constitutes the most suitable way to teach a particular subject. When interested parents are deemed to be a cause of limitation, students scored worse in mathematics. When community involvement in school administration is largely increased, they prevent radical school management tactics.

Community Involvement in School Budgets resulted in positive and statistical significance in almost all regressions. However, the autonomy with which the principals, teachers, and school governing boards could decide how to use fiscal resources for effective resource allocation in educational projects proved to positively impact student performance. Finally, the interaction term was negative and statistically significant in several regressions for mathematics and science.

Table 2 shows other noteworthy findings.

Among student characteristics, the sign of coefficients for Numbers of Brothers or Sisters and International Grade were negative and statistically significant in all regressions. A student who is the only child can receive maximum support from both parents, which cannot help but improve student performance. However, coefficients for Sex and Age were not statistically significant.

Among the variables for family background, Books at Home, Home Possessions, Highest Parental Occupational Status, and Highest Educational Level of Parents were positive and statistically significant in all regressions while the coefficient for Immigrations was negative with respect to student performance in all regressions.

For school characteristics, coefficients of Competition between Schools, Funding from Government, Percentage of Girls, and School Location were positive and statistically significant in several regressions. The coefficients for School Type and Total School Enrolment (in log) were negative and statistically significant in several regressions. The Proportion of Girls in a school population proved to be strongly positive for mathematics.

Finally, the GDP per Capita (in log) as a country characteristic was positive and statistically significant in all regressions.

4. Conclusions

This study estimated the effect of community involvement on public educational services using datasets from the 2012 PISA to examine educational policy regarding two critical factors for improving student performance: school administration and school budgets. Furthermore, it presented

empirical evidence that greater community involvement in school budget decisions can enhance student performance. However, the data also suggested that greater community involvement in school administration actually decreases student performance.

These results suggest that government reforms regarding educational provisions should pursue policies designed to increase the fiscal autonomy of agencies that provide them, thus encouraging more decentralized authorities to manage fiscal decisions at the community level. However, reforms should be cautious of increasing community authority in school administration as this path has the potential to lessen the levels of student performance.

This study cannot show a theory explaining the relationship between community involvement and student performance. In addition, there is a need for further research to investigate whether this study's findings for educational services can be generalized to other public services. These are research themes in the future.

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Table 1 Descriptive Statistics

	Sample	Min	Max	Mean	Standard Deviation
Student Performance					
Mathematics					
Plausible Value1	295,416	59.67	896.80	488.36	95.43
Plausible Value2	295,416	107.03	902.95	488.39	95.41
Plausible Value3	295,416	43.94	871.87	488.40	95.44
Plausible Value4	295,416	24.62	892.05	488.40	95.46
Plausible Value5	295,416	60.92	885.89	488.47	95.52
Language					
Plausible Value1	295,416	2.55	904.80	490.79	96.85
Plausible Value2	295,416	0.70	881.24	490.91	96.90
Plausible Value3	295,416	0.70	884.45	490.78	96.81
Plausible Value4	295,416	4.13	875.95	490.70	96.83
Plausible Value5	295,416	14.34	901.61	490.78	96.89
Science					
Plausible Value1	295,416	20.18	879.09	494.89	96.46
Plausible Value2	295,416	42.09	900.54	494.92	96.44
Plausible Value3	295,416	38.92	866.41	494.95	96.41
Plausible Value4	295,416	40.97	900.73	494.85	96.50
Plausible Value5	295,416	24.66	880.96	494.95	96.50
Institutions					
Community Involvement in School Administration	286,818	0.96	5.81	2.00	1.00
Community Involvement in School Budgets	278,692	0.63	3.88	3.00	1.00
School Administration × School Budgets	278,618	0.60	22.53	6.26	4.15
Student Characteristics					
Numbers of Brothers or Sisters	213,785	0	2	1.11	0.68
International Grade	295,416	7	13	9.70	0.72
Sex	295,416	0	1	0.50	0.50
Age	295,330	15.17	16.33	15.77	0.29
Immigrations	287,123	1	3	1.16	0.49
Family Background					
Books at Home	288,266	1	6	3.15	1.47
Home Possessions	291,731	-6.88	4.15	-0.08	1.08
Highest Parental Occupational Status	280,796	11.01	88.96	49.95	21.81
Highest Educational Level of Parents	285,877	0	6	4.41	1.56
School Characteristics					
Competition between Schools	286,333	1	3	1.64	0.84
Funding from Government	258,681	0	100	80.56	28.81
Proportion of Girls	287,917	0	1	0.48	0.18
School Location	287,419	1	5	3.07	1.10
School Type	283,064	1	3	2.77	0.53
Total School Enrolment (in log)	276,062	0.00	3.83	2.75	0.35
Pupil-Teacher Ratio (in log)	265,028	-1.03	3.01	1.10	0.22
Country Characteristics					
GDP per Capita (in log)	292,471	9.19	11.57	10.38	0.65

Table 2 Regression Results

(1) Mathematics

	coeff.	S.E.	coeff.	S.E.	coeff.	S.E.	coeff.	S.E.
Institutions								
Community Involvement in School Administration	2.33	3.08	-3.14***	0.91	-	-	-	-
Community Involvement in School Budgets	4.87***	1.47	-	-	0.71	0.81	-	-
School Administration × School Budgets	-1.77**	0.84	-	-	-	-	-0.66***	0.21
Student Characteristics								
Numbers of Brothers or Sisters	-1.79*	0.91	-1.74*	0.90	-1.66*	0.90	-1.74***	0.91
International Grade	-4.36***	1.00	-5.31**	0.95	-4.67***	1.00	-4.74***	1.00
Sex	-1.12	1.25	-1.06	1.24	-1.11	1.26	-1.08	1.25
Age	-0.67	2.12	-0.11	2.05	-0.32	1.26	-0.43	2.12
Immigrations	-9.70***	1.89	-10.03***	1.87	-10.06***	1.87	-9.83***	1.89
Family Background								
Books at Home	0.82*	0.42	0.85**	0.41	0.91**	0.42	0.88***	0.41
Home Possessions	14.74***	0.74	14.55***	0.73	14.56***	0.76	14.69***	0.74
Highest Parental Occupational Status	0.83***	0.04	0.82***	0.04	0.82***	0.04	0.83***	0.04
Highest Educational Level of Parents	6.47***	0.44	6.15***	0.43	6.54***	0.44	6.49***	0.44
School Characteristics								
Competition between Schools	1.98*	1.19	1.99*	1.18	1.99*	1.20	1.88***	1.19
Funding from Government	0.09***	0.03	0.09***	0.03	0.09***	0.03	0.09***	0.03
Proportion of Girls	8.76**	4.00	7.61*	3.90	8.37**	3.99	8.95**	4.04
School Location	1.17	0.84	1.08	0.82	0.91	0.83	1.06	0.84
School Type	-1.81	1.49	-2.75*	1.40	-0.90	1.47	-2.78*	1.47
Total School Enrolment (in log)	-10.98***	3.19	-10.66***	3.15	-11.27***	3.19	-10.84***	3.20
Pupil-Teacher Ratio (in log)	1.74	3.86	0.74	3.90	1.17	3.95	1.11	3.92
Country Characteristics								
GDP per Capita (in log)	11.60***	1.65	13.28***	1.62	11.72***	1.63	11.67***	1.64
constant	373.7***	40.87	376.0***	39.02	375.3***	40.03	387.8***	39.96
Number of Observations	295,416							
R-square	0.197		0.202		0.196		0.197	

(2) Science

	coeff.	S.E.	coeff.	S.E.	coeff.	S.E.	coeff.	S.E.
Institutions								
Community Involvement in School Administration	0.91	3.25	-2.42 **	0.96	-	-	-	-
Community Involvement in School Budgets	4.36 ***	1.60	-	-	1.48 **	0.74	-	-
School Administration × School Budgets	-1.15	0.91	-	-	-	-	-0.42 *	0.22
Student Characteristics								
Numbers of Brothers or Sisters	-2.02 *	1.05	-1.93 *	1.03	-1.92 *	1.04	-1.97 *	1.05
International Grade	-5.36 ***	1.03	-6.52 ***	0.99	-5.62 ***	1.02	-5.77 ***	1.03
Sex	-0.51	1.17	-0.41	1.16	-0.49	1.18	-0.46	1.17
Age	0.61	2.14	1.31	2.06	0.90	2.14	0.88	2.13
Immigrations	-15.07 ***	2.10	-15.38 ***	2.09	-15.39 ***	2.09	-15.23 ***	2.11
Family Background								
Books at Home	0.75 *	0.39	0.77 **	0.38	0.82 **	0.83	0.81 **	0.39
Home Possessions	14.04 ***	0.82	13.89 ***	0.80	13.89 ***	0.82	13.97 ***	0.82
Highest Parental Occupational Status	0.77 ***	0.03	0.77 ***	0.03	0.77 ***	0.03	0.77 ***	0.03
Highest Educational Level of Parents	6.02 ***	0.47	5.77 ***	0.46	6.07 ***	0.47	6.04 ***	0.47
School Characteristics								
Competition between Schools	1.70	1.15	1.77	1.15	1.71	1.16	1.61	1.16
Funding from Government	0.08 ***	0.03	0.08 ***	0.03	0.08 ***	0.03	0.08 ***	0.03
Proportion of Girls	6.12	4.09	5.93	3.97	5.72	4.06	6.20	4.12
School Location	1.35 *	0.76	1.25 *	0.75	1.14	0.75	1.24	0.76
School Type	-1.79	1.65	-3.26 **	1.56	-1.11	1.61	-2.87 *	1.64
Total School Enrolment (in log)	-8.06 **	3.27	-7.71 **	3.25	-8.38 **	3.32	-8.04 **	3.31
Pupil-Teacher Ratio (in log)	1.23	3.99	0.13	3.98	0.92	4.03	0.79	4.02
Country Characteristics								
GDP per Capita (in log)	18.11 ***	1.84	19.61 ***	1.81	18.19 ***	1.82	18.17 ***	1.83
constant	312.3 ***	41.03	314.9 ***	39.32	312.4 ***	39.64	325.0 ***	40.17
Number of Observations	295,416							
R-square	0.201		0.208		0.200		0.200	

(3) Language

	coeff.	S.E.	coeff.	S.E.	coeff.	S.E.	coeff.	S.E.
Institutions								
Community Involvement in School Administration	2.32	3.03	-1.90 **	0.90	-	-	-	-
Community Involvement in School Budgets	4.67 ***	1.54	-	-	1.48 *	0.79	-	-
School Administration × School Budgets	-1.42	0.87	-	-	-	-	-0.33	0.22
Student Characteristics								
Numbers of Brothers or Sisters	-2.19 **	0.97	-2.12 **	0.96	-2.11 **	0.96	-2.14 **	0.97
International Grade	-5.72	0.94	-6.56 ***	0.89	-5.93 ***	0.94	-6.08 ***	0.93
Sex	-0.86	1.29	-0.75	1.28	-0.84	1.30	-0.81	1.29
Age	0.15	2.08	0.67	2.03	0.36	2.08	0.39	2.07
Immigrations	-7.79 ***	1.96	-8.04 ***	1.95	-8.08 ***	1.94	-7.90 ***	1.97
Family Background								
Books at Home	1.28 **	0.43	1.28 ***	0.41	1.33 ***	0.42	1.33 ***	0.42
Home Possessions	14.40 ***	0.87	14.28 ***	0.85	14.29 ***	0.89	14.35 ***	0.88
Highest Parental Occupational Status	0.83 ***	0.04	0.82 ***	0.04	0.82 ***	0.04	0.83 ***	0.04
Highest Educational Level of Parents	5.08 ***	0.49	4.88 ***	0.48	5.11 ***	0.49	5.09 ***	0.49
School Characteristics								
Competition between Schools	2.35 **	1.14	2.37 **	1.13	2.35 **	1.14	2.26 *	1.14
Funding from Government	0.10 ***	0.03	0.11 ***	0.03	0.10 ***	0.03	0.11 ***	0.03
Proportion of Girls	4.90	3.26	4.58	3.14	4.68	3.22	5.09	3.27
School Location	0.60	0.78	0.50	0.76	0.42	0.77	0.50	0.78
School Type	-1.46	1.44	-2.67 *	1.39	-0.82	1.46	-2.37 *	1.42
Total School Enrolment (in log)	-3.22	2.93	-2.82	2.91	-3.36	2.99	-3.07	2.97
Pupil-Teacher Ratio (in log)	-4.17	3.82	-5.32	3.84	-4.64	3.90	-4.78	3.88
Country Characteristics								
GDP per Capita (in log)	11.00 ***	1.87	12.18 ***	1.83	11.09 ***	1.85	11.07 ***	1.86
constant	376.0 ***	39.45	382.0 ***	38.04	378.7 ***	38.32	389.5 ***	38.57
Number of Observations	295,416							
R-square	0.178		0.183		0.177		0.177	