Employment in public schools and the student-to-employee ratio

Through the stampede of the baby-boom generation entering and leaving the school systems and the stormy recessionary periods, employment in local government education surged over the 1964–93 period

Teresa L. Morisi

Employment in public schools has doubled since 1964. As a result, the student-to-employee ratio fell from 13.3 in 1964 to 6.4 in 1990.[1] Schools had fared well even in recessionary periods, when the student-to-employee ratio continued to drop or at least held steady. In the most recent recession, however, the student-to-employee ratio rose for the first time in the history of the data series. By 1993, the student-to-employee ratio returned to the 1990 level. It is unclear whether the ratio will decline further, as tightly constrained Federal, State, and local budgets will be forced to accommodate a rising student population in the coming years.

Enrollment linked to 'baby-boomers'

Enrollment in public elementary and secondary schools grew steadily from 1964, peaking at 46 million in 1971. The rise was caused by the "baby-boom generation" (persons born during the 1946–62 period) entering the public school system.[2] As the members of the baby-boom generation graduated or left school, enrollment fell steadily for the next 13 years — a total decline of 7 million students. Enrollment again began to climb in 1984 when the children of those born during the baby-boom period began attending school. Enrollment has risen by 4 million since 1984, but still remains 3 million below the 1971 peak level. (See chart 1 and table 1.)

Trends in total employment

The surge in public school employment over the 1964–93 period occurred despite four small annual declines (1978, and the 1981–83 period), falling enrollment, and the recessions.

Employment growth during falling enrollment. Employment in public schools rose in all but 4 years between 1972 and 1984, even though enrollment fell by 7 million during the period. The student-to-employee ratio continued to decline in 1978, despite the fact that public school employment fell for the first time since 1964. Employment again declined in 1981 and through 1983, but the student-to-employee ratio remained steady.

By 1982, the yearly enrollment declines began to lessen in magnitude. In 1984, enrollment declined only slightly and employment returned to its growth trend; as a result, the student-to-employee ratio resumed its decline.

Employment during recessions. Of the five recessions that occurred between 1964 and 1993,[3] only the last two recessions appeared to have any effect on local government education employment. (See box.) During the 1981–82 recession, employment declined both years, with a spillover effect of a small decline in 1983. The student-to-employee ratio remained constant during this recession.

Teresa L. Morisi is an economist in the Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

However, the 1990–91 recession had a more serious effect on employment in local government education. Between 1989 and 1991, enrollment surged by 1.5 million; growth of this magnitude had not occurred since the late 1960's. Although employment did not decline as it had in the previous recessions, the number of employees added in 1991 was the smallest since the decrease in 1983. This growth was not large enough to offset the gain in the number of students; therefore, the student-to-employee ratio increased for the first time in the history of the series.

Despite the fact that the recession had ended over a year earlier, hiring in 1992 was just enough to allow the student-to-employee ratio to remain unchanged. This sluggishness indicates that local governments, like much of the private sector, recovered slowly from the latest recession. By 1993, the student-to-employee ratio returned to the 1990 level. (See chart 2.) It is unclear whether the trend of a declining ratio will resume as government revenues improve. The student-to-employee ratio may be at such a low level that further declines are not possible.

Teachers and other staff

Data from the National Center for Education Statistics show a growth of 860,000 full-time equivalent teaching positions over the 1964–93 period. The student-to-teacher ratio displayed the same trend as the student-to-employee ratio, although the rate of decline was less sharp. In the late 1970's the declines in enrollment finally caught up with teachers as their number dropped by 71,000 between 1975 and 1981. Since 1981, teaching staffs have grown by 380,000.

Although teachers have continued to constitute the largest share of education staff, their share of full-time equivalent education positions declined from 60 percent in 1969 to 53 percent in 1990.[4] Over this period, the number of teaching positions grew by 16 percent. This was dwarfed by the 85-percent rise in teacher aide positions, the largest percentage increase among education staff.[5] The number of guidance counselors grew 40 percent between 1969 and 1990, while the number of principals and assistants grew 29 percent. Only librarian positions experienced slower growth than teaching positions. (See chart 3.)

What caused the employment growth?

One of the most important factors affecting employment growth in public schools has been the advent of the Federal Government assuming a larger role in education. Beginning in 1965, the Federal Government began spending millions of dollars on education programs for students with special needs in elementary and secondary schools. Much of the money has gone toward the hiring of specialists and aides to staff these programs. Programs for remedial and bilingual education and for disabled students have contributed the most to the growth in the number of education employees. Each program has its own staff and curriculum, and many students participate in more than one program.

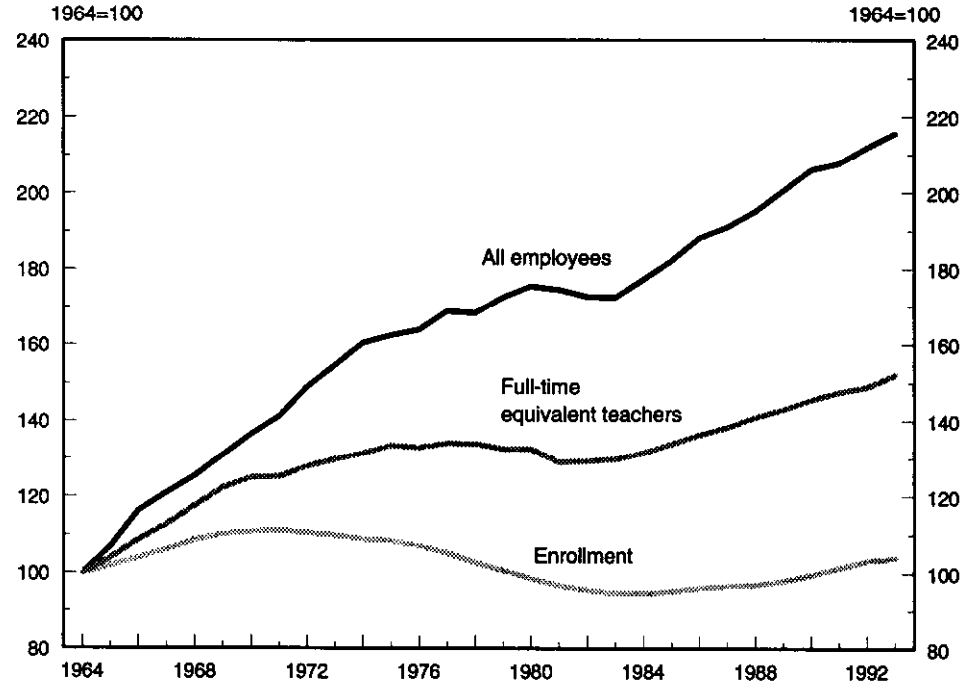
Remedial education. The first, and by far the largest, Federal program for elementary and secondary schools was Title I/Chapter 1 of the Elementary and Secondary Education Act of 1965. Chapter 1 provides remedial services to disadvantaged students; outside the classroom, the students are tutored by instructional staff. More than 90 percent of the Nation's school districts receive Chapter 1 support. Of the 172,000 positions funded by Chapter 1 in the 1991–92 school year, teacher aides accounted for 41 percent of positions, close to the 45-percent share held by teachers.[6] Schools have an incentive to hire teacher aides for these positions because their salaries are lower than those for teachers; indeed, a criticism some make of the program is that aides

Data sources

The student-to-employee ratio is calculated by dividing autumn public elementary and secondary school enrollment by November employment in local government education. Data on fall public school enrollment are actual counts published by the National Center for Education Statistics, U.S. Department of Education. Data on local government education employment is from the Bureau of Labor Statistics Current Employment Statistics program. The November employment data are used, because that is the last month of employment buildup related to a new school year.

Employment data include both the full-time and part-time workers on school payrolls. Thus, clerical, cafeteria, and custodial workers are included, as well as teachers and administrators. BLS counts the number of employees who receive wages during the pay period that includes the 12th of the month. Voluntary workers are not counted. In this analysis, trends of total employment in public schools are augmented with the data on education staff from the National Center for Education Statistics. However, because data from the National Center for Education Statistics are adjusted to full-time equivalents, they are not directly comparable to Current Employment Statistics data. Therefore, data from the two sources are analyzed separately.

Chart 1. **Index of employment and student enrollment in local government education, 1964–93**



SOURCE: Enrollment and teacher data are from the National Center for Education Statistics.

with little training are being used to instruct the neediest students.[7]

Some of the studies analyzing the effects of Chapter 1 instruction on achievement have been positive and some have been negative. The general agreement is that although disadvantaged students are helped by this program, more could be done. In 1992, a study by the Commission on Chapter 1 concluded that the practice of pulling students out of class for special instruction was no longer adequate; that the regular curriculum needed to be upgraded in order for special needs students to acquire more advanced skills than the basic skills they were currently receiving.[8] The commission recommended that schools in poorer districts receive more Chapter 1 funding, and that incentives be created to ensure that schools improve the academic performance of needy students.[9]

Bilingual instruction. The Federal Government first provided funds for bilingual education in 1968 with Title VII of the Elementary and Secondary Education Act of 1965; by 1974, Congress specified that the money be spent on native language instruction.[10] Consequently, schools had to hire certified bilingual teachers because English could no longer be the primary language of instruction. As immigration has increased, so has the demand for bilingual instruction. Studies on the effects of native language instruction have been contradictory; advocates against such instruction argue that students who mainly receive instruction in their native languages do not learn enough English to later succeed as adults.[11]

Education of disabled children. Funding for educating disabled children was first provided in 1966; legislation and court decisions culminated in the Education for All Handicapped Act of 1975, later renamed the Individuals with Disabilities Education Act. It requires that school districts provide a free, appropriate public education for handicapped and learning disabled students. The schools must hire not only special education teachers and aides, but also pay for "related services," which includes specially trained personnel.[12] In 1977, children who did not have a physical handicap but had a specific learning disability were declared eligible for these services under the Individuals with Disabilities Education Act; as a result, the share of children with learning disabilities rose from 22 percent of participants in this program during the 1976–77 school year to 44 percent in 1989–90.[13]

In recent years, the trend has been to place severely disabled children into regular classrooms. This usually requires the presence of a special education teacher or aide in the classroom along with the regular teacher. The increased practice of putting disabled children into regular

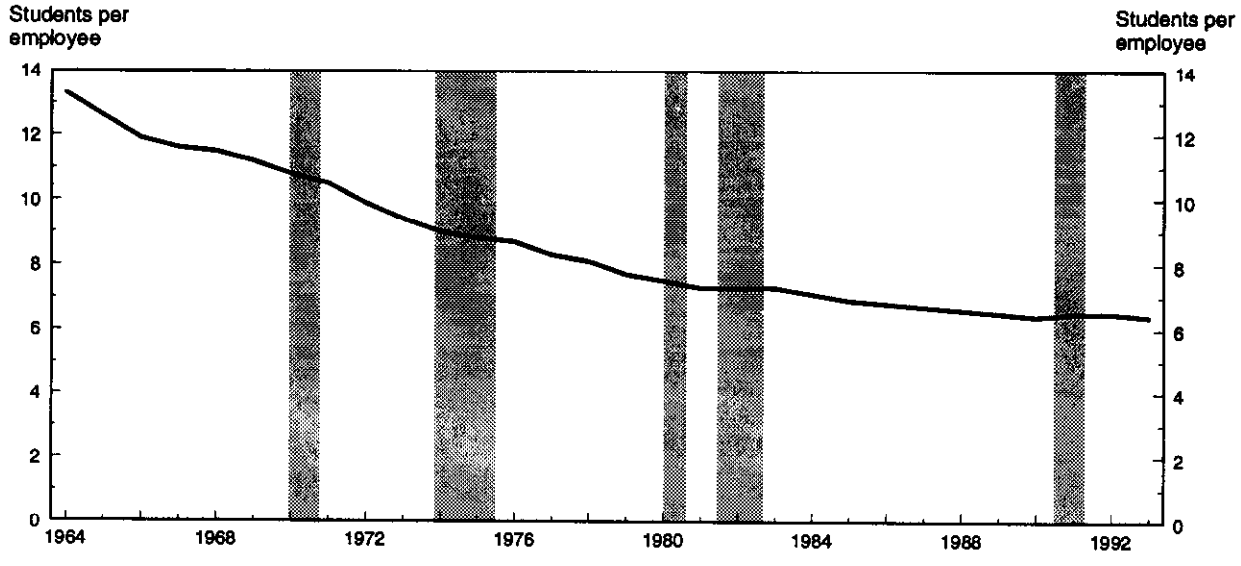
Table 1. **Student enrollment, all employees and teachers in local government education, and student-to-employee and student-to-teacher ratios, 1964–93**

[Numbers in thousands]

Year	Student enrollment in public schools grades K-12, fall[1]		Employment of all workers in local government education, November		Employment of full-time equivalent teachers[1]		Student-to-employee ratio	Student-to-teacher ratio
	Level	Change	Level	Change	Number	Change		
1964	41,416	—	3,122	—	1,648	—	13.3	25.1
1965	42,173	757	3,334	212	1,710	62	12.6	24.7
1966	43,039	866	3,626	292	1,789	79	11.9	24.1
1967	43,891	852	3,776	150	1,855	66	11.6	23.7
1968	44,944	1,053	3,913	137	1,936	81	11.5	23.2
1969	45,550	606	4,085	172	2,016	80	11.2	22.6
1970	45,894	344	4,257	172	2,059	43	10.8	22.3
1971	46,071	177	4,404	147	2,063	4	10.5	22.3
1972	45,726	–345	4,641	237	2,106	43	9.9	21.7
1973	45,444	–282	4,825	184	2,136	30	9.4	21.3
1974	45,073	–371	5,008	183	2,165	29	9.0	20.8
1975	44,819	–254	5,071	63	2,198	33	8.8	20.4
1976	44,311	–508	5,120	49	2,189	–9	8.7	20.2
1977	43,577	–734	5,269	149	2,209	20	8.3	19.7
1978	42,551	–1,026	5,259	–10	2,207	–2	8.1	19.3
1979	41,651	–900	5,389	130	2,185	–22	7.7	19.1
1980	40,877	–774	5,473	84	2,185	0	7.5	18.7
1981	40,044	–833	5,452	–21	2,127	–58	7.3	18.8
1982	39,566	–478	5,392	–60	2,133	6	7.3	18.5
1983	39,252	–314	5,388	–4	2,139	6	7.3	18.4
1984	39,208	–44	5,536	148	2,168	29	7.1	18.1
1985	39,422	214	5,689	153	2,206	38	6.9	17.9
1986	39,753	331	5,870	181	2,244	38	6.8	17.7
1987	40,008	255	5,960	90	2,279	35	6.7	17.6
1988	40,189	181	6,092	132	2,323	44	6.6	17.3
1989	40,526	337	6,263	171	2,357	34	6.5	17.2
1990	41,217	691	6,430	167	2,398	41	6.4	17.2
1991	[2]42,000	783	6,484	54	[2]2,432	34	[2]6.5	[2]17.3
1992	[2]42,731	731	6,612	128	[2]2,454	22	[2]6.5	[2]17.4
1993	[3]43,353	622	6,728	116	[3]2,507	53	[3]6.4	[3]17.3

[1] Based on data from the National Center for Education Statistics. [2] Preliminary. [3] Estimated.

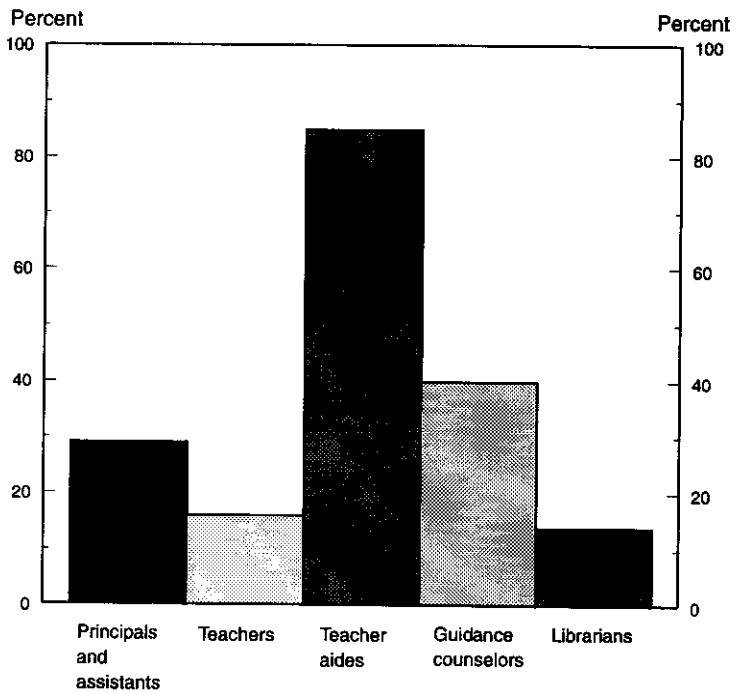
Chart 2. **Student-to-employee ratio in local government education, 1964–93**



NOTE: Ratio is calculated by dividing fall public school enrollment by November employment in local government education. Shaded areas denote recessions as identified by the National Bureau of Economic Research.

SOURCE: Enrollment data are published by the National Center for Education Statistics.

Chart 3. **Growth of full-time equivalent education staff in public schools, 1969–90**



SOURCE: National Center for Education Statistics.

classrooms has therefore contributed to the demand for special education staff.

Other trends. Employment growth in public schools is also positively influenced by:

• Shifts toward smaller classes, which are believed to be beneficial for learning. Many States have passed laws mandating smaller class sizes.

• Establishment of vocational training centers for high school students and "magnet" schools that offer specialized instruction.

• Increases in the amount of money spent per pupil. The current expenditure per student rose from $2,162 in the 1965–66 school year to $5,054 (estimated) in 1992–93 (1991–92 dollars).[14] Disposable income has risen; at the same time there has been a decrease in the ratio of the number of students to the population as a whole.[15] This allows more money to be spread among fewer pupils.

Will the surge continue?

Public school enrollment is projected to grow throughout the 1990's; by 1998, enrollment is projected to surpass the 1971 peak.[16] This surge in enrollment will require State and local governments to hire more teachers and other staff just to maintain the current student-to-employee ratio.

Even if there are more Federal funds for remedial, bilingual, and special education programs, State and local budgets will likely be strained by the increase in school-age children. As a result, there may not be enough money available to allow the student-to-employee ratio to decline further. Thus, the recent pattern of a stable, or even increasing student-to-employee ratio in public education, established since 1990, may remain for some time. ❑

Footnotes

[1] Data from 1964 forward are used because enrollment data prior to 1964 encompassed the entire school year. For 1964 and later years, enrollment figures are for fall only and thus can be compared with fall employment data.

[2] National Center for Education Statistics, *Digest of Education Statistics 1992*, NCES 92–097 (Washington, DC, National Center for Education Statistics, October 1992), p.1.

[3] These recessionary periods, as identified by the National Bureau of Economic Research, are: December 1969–November 1970; November 1973–March 1975; January 1980–July 1980; July 1981–November 1982; and July 1990–March 1991.

[4] *Digest of Education Statistics 1992*, table 78.

[5] Data on support staff and school administrative staff are not comparable prior to 1984. Therefore, they are not used in this comparison.

[6] Chapter 1 office, U.S. Department of Education, Washington, DC.

[7] *Who is Teaching Our Children: A Look at the Use of Aides in Chapter 1*, Issue Paper (International Reading Association, January 1994).

[8] Rochelle Stanfield, "A Blistering Report Card," *Washington Update: Policy and Politics in Brief* (Washington, DC, The National Journal, 1992), p. 2899.

[9] Mary Jordan, "Panel Says Poor Children Disserved by School Aid," *The Washington Post*, Dec. 11, 1992, p. A10.

[10] Edward B. Fiske, "The Controversy Over Bilingual Education in America's Schools; One Language or Two?" *The New York Times*, Nov. 10, 1985, p. 1.

[11] Marilyn Elias, "Kids' Best Interests the Crux of Bilingual Education Debate," *USA Today*, July 21, 1993, p. 7D.

[12] Eileen M. Gardner, "The Growth of the Federal Role in Education," *Critical Issues: A New Agenda for Education* (Washington, DC, The Heritage Foundation, 1985), p. 27.

[13] *Digest of Education Statistics 1992*, table 50.

[14] *Digest of Education Statistics 1992*, table 156.

[15] National Center for Education Statistics, *Projections of Education Statistics to 2002*, NCES 91–490 (Washington, DC, National Center for Education Statistics, December 1991), p. 77.

[16] *Projections of Education Statistics to 2002*, table 1.