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ABSTRACT

"Projections of Education Statistics to 2007" is the 26th report in a series begun in 1964 that revises projections annually to show statistics on elementary and secondary schools and institutions of higher education at the national level. Included are projections for enrollment, graduates, classroom teachers, and expenditures. In addition, this report contains projections of public school elementary and secondary enrollment and high school graduates to the year 2007 at the state level. These projections are not intended to supplant detailed projections prepared in the individual states. Projections in this report reflect revisions influenced by the 1990 Census and its 1995 estimates. A methodology section describes models and assumptions used to develop the projections, which are based on a cohort-survival model, an age-specific enrollment rate model, exponential smoothing models, and econometric models. Most of the projections include three alternatives, based on different assumptions about growth paths. The first alternative set, the middle alternative, is considered to be the most likely projection, but the high and low alternatives present a reasonable range of outcomes. Total public and private elementary and secondary school enrollment is projected to increase to 54.3 million by the year 2007, an increase of 7% from 1995. Higher education enrollment is projected to increase from an estimated 13.9 million in 1995 to 16.1 million in 2007. Accompanying these increases will be increases in the numbers of high school and college graduates and classroom teachers. Four appendixes contain technical information, supplementary tables, remarks on data sources, and a glossary. (Contains 1 chart, 71 figures, 52 tables, 26 methodological tables, and 12 supplementary tables.) (SLD)

NATIONAL CENTER FOR EDUCATION STATISTICS

Projections of Education Statistics to 2007

2007
2007
2007
2007

U.S. Department of Education
Office of Educational Research and Improvement
NCES 97-382

NATIONAL CENTER FOR EDUCATION STATISTICS

Projections of Education Statistics to 2007

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Foreword

Projections of Education Statistics to 2007 is the 26th report in a series begun in 1964. This report provides revisions of projections shown in *Projections of Education Statistics to 2006* and includes statistics on elementary and secondary schools and institutions of higher education at the national level. Included are projections for enrollment, graduates, classroom teachers, and expenditures to the year 2007.

In addition, this report includes projections of public elementary and secondary enrollment and high school graduates to the year 2007 at the state level. These projections were produced to provide researchers, policy analysts, and others with state-level projections developed with a consistent methodology. They are not intended to supplant detailed projections prepared in individual states.

The projections presented in this report reflect revisions influenced by the 1990 census. The revised population projections developed by the Bureau of the Census also reflect the incorporation of the 1995 estimates and latest assumptions for the fertility rate, net immigration, and mortality rate.

This report contains a methodology section describing models and assumptions used to develop the national projections. The projections are based on a cohort survival model, an age-specific enrollment rate model, exponential smoothing models, and econometric models. The enrollment rate model uses population estimates and projections from the Bureau of the Census. The exponential smoothing models are based on the mathematical projection of past data patterns into the future. The econometric models use projections of exogenous variables from DRI/McGraw-Hill, an economic forecasting service. Therefore, assumptions regarding the population and the economy are the key factors underlying the projections of education statistics.

Most of the projections include three alternatives, based on different assumptions about growth paths. Although the first alternative set of projections (middle alternative) in each table is deemed to represent the most likely projections, the low and high alternatives provide a reasonable range of outcomes.

In the forecast summary, key demographic and economic assumptions are presented in chart 1 and selected education statistics are shown in figure 1. A summary of the projections is available in a pocket-sized folder, *Pocket Projections 2007.*

Mary J. Frase, Acting Associate Commissioner for
Data Development and Longitudinal Studies
May 1997

Acknowledgments

Projections of Education Statistics to 2007 was produced by the National Center for Education Statistics in the Data Development and Longitudinal Studies Group under the general direction of Thomas D. Snyder, Director of the Annual Reports Program. The report was prepared by Debra E. Gerald, Mathematical Statistician, and William J. Hussar, Financial Economist.

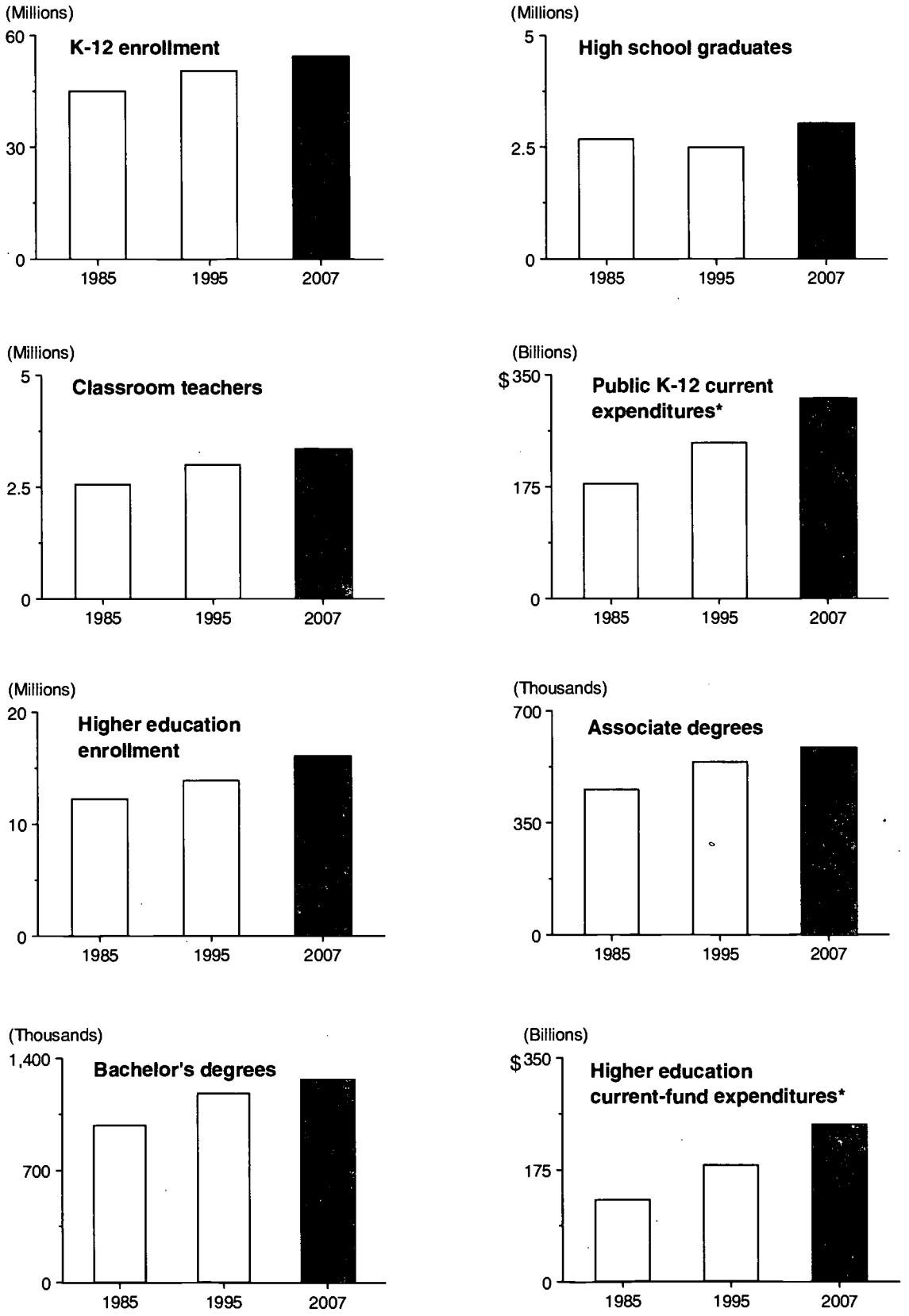
Debra E. Gerald prepared national projections of the following: elementary and secondary enrollment (chapter 1); higher education enrollment (chapter 2); high school graduates (chapter 3); earned degrees conferred (chapter 4); and classroom teachers (chapter 5). She also prepared state-level projections of public elementary and secondary enrollment (chapter 8) and public high school graduates (chapter 9). In addition, she prepared the appendixes explaining the methodologies used to develop these projections and the data sources. William J. Hussar prepared the projections of expenditures of public elementary and secondary schools, including public school teacher salaries (chapter 6) and expenditures of institutions of higher education (chapter 7). In addition, he prepared the appendixes explaining the methodologies used to obtain the expenditure projections, selected portions of the data sources, and glossary.

The technical review was done by Robert S. Burton of the National Center for Education Statistics. Valuable assistance was also provided by the following reviewers: Bill Arensdorf of the Nevada Department of Education; Barbara S. Clements of the Chief State School Officers; Paul Campbell of the Bureau of the Census; Vance Grant of the National Library of Education, Office of Educational Research and Improvement; F. Howard Nelson of the American Federation of Teachers; Dennis Powell of the Illinois State Board of Education; Patty Sullivan of the National Governors Association; and William J. Fowler, Claire Geddes, Charlene M. Hoffman, Frank H. Johnson, and Frank B. Morgan of the National Center for Education Statistics.

The cover was designed by Philip Carr, Media and Information Services, Office of Educational Research and Improvement.

Forecast Summary

Figure 1
Selected education statistics: 1985, 1995, and 2007



* In constant 1994-95 dollars.

Highlights

National

Total public and private elementary and secondary enrollment is projected to increase 7 percent over the projection period.

Total public and private elementary and secondary enrollment is projected to increase from 50.6 million in 1995 to 51.5 million by 1996, surpassing the peak level of 51.3 million attained in 1971. Total enrollment is projected to increase further to 54.3 million by the year 2007, an increase of 7 percent from 1995 (table 1).

Enrollment in institutions of higher education is projected to increase 16 percent over the projection period.

Higher education enrollment is projected to increase from an estimated 13.9 million in 1995 to 16.1 million by the year 2007, an increase of 16 percent. A 12-percent increase is projected under the low alternative and a 20-percent increase is projected under the high alternative (table 3).

The number of high school graduates is projected to increase 21 percent over the projection period.

High school graduates from public and private high schools are projected to increase from 2.5 million in 1994–95 to 3.0 million by 2006–07, an increase of 21 percent (table 26).

The number of associate degrees is projected to decrease and then increase over the projection period.

Associate degrees are expected to decrease from 541,000 in 1994–95 to 514,000 in 1997–98. Then this number is projected to increase to 587,000 by 2006–07 (table 27).

Over the projection period, the number of bachelor's degrees is projected to increase to 1.3 million.

The number of bachelor's degrees is expected to increase from 1,181,000 in 1994–95 to 1,268,000 by 2006–07, an increase of 7 percent (table 28).

The number of classroom teachers is projected to rise to 3.34 million over the projection period.

Under the middle alternative, the number of classroom teachers is expected to increase from 2.99 million in 1995 to 3.34 million by the year 2007, an increase of 12 percent. An 8-percent increase is projected under the low alternative and a 16-percent increase is projected under the high alternative (table 32).

Current expenditures for public elementary and secondary schools are forecast to increase 32 percent from 1993–94 to 2006–07 in constant dollars.

Under the middle alternative, a 32-percent increase in current expenditures for public elementary and secondary schools is projected for the period from 1993–94 to 2006–07. Under the low alternative, current expenditures are projected to increase by 26 percent; under the high alternative, current expenditures are projected to increase by 40 percent (table 34).

Current expenditures per pupil are also forecast to continue increasing in constant dollars for the period 1993–94 to 2006–07.

Under the middle alternative, current expenditures per pupil are forecast to increase 18 percent in constant dollars from 1993–94 to 2006–07. Under the low alternative, current expenditures per pupil are projected to increase 13 percent and under the high alternative, current expenditures per pupil are projected to increase 25 percent (table 34).

Teacher salaries are projected to increase 4 percent in constant dollars between 1995–96 and 2006–07.

Under the middle alternative, teacher salaries are projected to increase 4 percent in constant dollars between 1995–96 and 2006–07. A 2-percent increase is projected under the low alternative and a 7-percent increase is projected under the high alternative (table 36).

Current-fund expenditures are projected to increase in constant dollars in both public and private institutions.

Total current-fund expenditures are projected to increase 38 percent in constant dollars under the middle alternative from 1993–94 to 2006–07. Total current-fund expenditures are projected to increase at almost the same rate in public institutions and private institutions. A 38-percent increase is projected for public institutions and a 37-percent increase is projected for private institutions (table 37).

State-Level

Public elementary and secondary school enrollment (kindergarten through grade 12) is expected to increase between 1995 and the year 2007, but these increases will vary by region.

Enrollment will increase most rapidly in the West, where total enrollment is expected to rise 17 percent. Enrollment in the South is projected to increase by 9 percent. The Northeast is expected to rise by 3 percent, while the Midwest is projected to decrease by 1 percent (table 46).

Changes in public school enrollment are projected to vary by state between 1995 and the year 2007.

Public school enrollment is projected to increase 8 percent between 1995 and the year 2007. The most notable increases are expected in Arizona (20 percent), California (22 percent), Hawaii (17 percent), and Nevada (20 percent). The largest decreases are expected in District of Columbia (7 percent), Iowa (7 percent), Maine (8 percent), North Dakota (7 percent), and West Virginia (8 percent) (table 46).

Growth in the number of graduates from public schools will vary by region.

The number of public high school graduates is projected to increase 21 percent between 1994–95 and 2006–07. Across regions, the West is expected to rise by 29 percent. The Northeast is projected to grow by 23 percent. The South and Midwest are expected to increase by 20 percent and 14 percent, respectively, over the projection period (table 52).

Increases in the number of public high school graduates are projected for most states.

Between 1994–95 and 2006–07, sizable increases are expected in Arizona (65 percent), Florida (43 percent), Hawaii (45 percent), and Nevada (102 percent). Decreases are projected for District of Columbia (13 percent) and West Virginia (12 percent) (table 52).

Chart 1.—Summary of forecast assumptions to 2007

Variable	Middle alternative	Low alternative	High alternative
Demographic Assumptions			
Population	Projections are consistent with the Census Bureau middle series estimates, which assume a fertility rate of 2.10 births per woman by the year 2007, a net immigration of 820,000 per year, and a further reduction in the mortality rate.	Same as middle alternative	Same as middle alternative
18-24 year-old population	Average annual growth rate of 1.2%	Same as middle alternative	Same as middle alternative
25-29 year-old population	Average annual decline of 0.02%	Same as middle alternative	Same as middle alternative
30-34 year-old population	Average annual decline of 1.8%	Same as middle alternative	Same as middle alternative
35-44 year-old population	Average annual decline of 0.3%	Same as middle alternative	Same as middle alternative
Public Elementary Enrollment	Average annual growth rate of 0.2%	Same as middle alternative	Same as middle alternative
Public Secondary Enrollment	Average annual growth rate of 1.3%	Same as middle alternative	Same as middle alternative
Undergraduate Enrollment	Average annual growth rate of 1.3%	Average annual growth rate of 1.1%	Average annual growth rate of 1.6%
Graduate Enrollment	Average annual growth rate of 0.6%	Average annual growth rate of 0.3%	Average annual growth rate of 0.9%
First-professional Enrollment	Average annual growth rate of 0.7%	Average annual growth rate of 0.4%	Average annual growth rate of 1.1%
Full-time-equivalent Enrollment	Average annual growth rate of 1.5%	Average annual growth rate of 1.2%	Average annual growth rate of 1.7%
Economic Assumptions			
Disposable Income per Capita in Constant Dollars	Annual percent changes range between 0.8% and 1.4% with an annual compound growth rate of 1.1%.	Annual percent changes range between 0.2% and 1.0% with an annual compound growth rate of 0.6%.	Annual percent changes range between 1.3% and 2.1% with an annual compound growth rate of 1.6%.
Education Revenue Receipts from State Sources per Capita in Constant Dollars	Annual percent changes range between 0.9% and 2.0% with an annual compound growth rate of 1.2%.	Annual percent changes range between 0.3% and 1.6% with an annual compound growth rate of 0.9%.	Annual percent changes range between 1.2% and 2.5% with an annual compound growth rate of 1.6%.
Inflation Rate	Inflation rate ranges between 2.8% and 4.1%.	Inflation rate ranges between 3.9% and 5.2%.	Inflation rate ranges between 2.1% and 4.0%.
Personal Taxes and Nontax Receipts to State and Local Governments per Capita in Constant Dollars	Annual percent changes range between 1.6% and 2.5% with an annual compound growth rate of 2.0%.	Annual percent changes range between 1.2% and 1.9% with an annual compound growth rate of 1.5%.	Annual percent changes range between 1.8% and 3.5% with an annual compound growth rate of 2.6%.
Sum of Personal Taxes and Nontax Receipts and Indirect Business Taxes and Tax Accruals (Excluding Property Taxes) to State and Local Governments per Capita in Constant Dollars	Annual percent changes range between 1.1% and 2.4% with an annual compound growth rate of 1.5%.	Annual percent changes range between 0.6% and 1.5% with an annual compound growth rate of 1.0%.	Annual percent changes range between 1.6% and 3.5% with an annual compound growth rate of 2.1%.
Unemployment Rate (Men)			
Age 18 to 19	Remains between 15.8% and 17.8%.	Remains between 16.2% and 20.3%.	Remains between 12.8% and 15.7%
Age 20 to 24	Remains between 9.1% and 10.0%.	Remains between 9.3% and 12.0%.	Remains between 6.6% and 8.8%.
Age 25 & over	Remains between 4.0% and 4.8%.	Remains between 4.2% and 6.0%	Remains between 2.9% and 4.0%
Unemployment Rate (Women)			
Age 18 to 19	Remains between 12.8% and 14.1%.	Remains between 13.6% and 15.7%.	Remains between 11.1% and 13.2%
Age 20 to 24	Remains between 8.2% and 9.0%.	Remains between 8.7% and 10.2%.	Remains between 7.0% and 8.6%.
Age 25 & over	Remains between 4.1% and 4.7%.	Remains between 4.3% and 5.4%	Remains between 3.5% and 4.2%

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Introduction

Guide to This Edition

This edition of *Projections of Education Statistics to 2007* provides projections for key education statistics. This edition includes statistics on enrollment, graduates, classroom teachers, and expenditures in elementary and secondary schools and institutions of higher education. For the Nation, the tables, figures, and text contain data on enrollment, teachers, graduates, and expenditures for the past 14 years and projections to the year 2007. For the 50 States and the District of Columbia, the tables, figures, and text contain data on projections of public school elementary and secondary enrollment and public high school graduates to the year 2007. Similar methodologies were used to obtain a uniform set of projections for the 50 states and District of Columbia. These projections are further adjusted to agree with the national projections of public elementary and secondary school enrollment and public high school graduates appearing in this report. These projections reflect 1995 estimates and population projections based on the 1990 census. Appendix A describes the methodology and assumptions used to develop the projections. Appendix B contains tables of supplementary data. Data sources are presented in appendix C. Appendix D is a glossary of terms.

Limitations of Projections

Projections of time series usually differ from the final reported data due to errors from many sources. This is because of the inherent nature of the statistical universe from which the basic data are obtained and the properties of projection methodologies, which depend on the validity of many assumptions. Therefore, alternative projections are shown for most statistical series to denote the uncertainty involved in making projections. These alternatives are not statistical confidence limits, but instead represent judgments made by the authors as to reasonable upper and lower bounds. Alternative projections are presented for higher education enrollment, classroom teachers, and expenditures of public elementary and secondary schools and institutions of higher education.

Chapter 1

Elementary and Secondary Enrollment

Between 1995 and the year 2007, enrollment will increase in elementary and secondary schools. The primary reason for the increase is the rising number of annual births since 1977—sometimes referred to as the baby boom echo (table B1 and figure 2). The 3- to 5-year-old population is projected to decline slightly over the projection period (table B2 and figure 3.) However, increases in the school-age populations are expected over the next 12 years (table B3 and figures 4 and 5). In 1996 and beyond, increases in the 5- to 13-year-old population are expected to cause rises in elementary enrollment through the year 2002. The increase in the 14- to 17-year-old population, which started in 1991, will continue to influence the growth in secondary enrollment over the projection period.

Elementary and Secondary Enrollment

Reflecting the decline in the 5- to 17-year-old population, total enrollment in public and private elementary and secondary schools decreased from 45.2 million in 1982 to 44.9 million in 1984, a decrease of 1 percent (table 1 and figure 6). Then, total enrollment reversed its downward trend in response to an increase in the 5- to 17-year-old population and rose to 50.6 million in 1995, an increase of 13 percent from 1984. Total enrollment is projected to continue to increase to 51.5 million in 1996, surpassing the peak level of 51.3 million attained in 1971. Total enrollment is projected to increase further to 54.3 million by the year 2007, an increase of 7 percent from 1995.

Enrollment, by Grade Group

Following the decreasing trend since 1970, enrollment in grades K–8 continued to decline from 31.4 million in 1982 to 31.2 million in 1984, a decrease of 1 percent. Then, this number increased to 36.8 million in 1995, an increase of 18 percent from 1984. Enrollment in grades K–8 is projected to increase to 38.7 million in 2002. Then, it is expected to decline slightly to 38.0 million by the year 2007, still reflecting an increase of 3 percent from 1995. Enrollment in grades 9–12 decreased from 13.8 million in 1982 to 12.5 million in 1990, a decrease of 10 percent. It then increased to 13.8 million in 1995. By the year 2007, enrollment in grades 9–12 is projected to continue to rise to 16.4 million, an increase of 19 percent from 1995. Since enrollment rates for the school-age populations are nearly 100 percent for elementary grades and junior-high grades and close to 90 percent for high school grades, the historical and projected patterns of decline and growth in enrollment in grades K–8 and grades 9–12 reflect changes in the sizes of the 5- to 13-year-old population and the 14- to 17-year-old population.

Enrollment, by Control of School

Enrollment in public elementary and secondary schools decreased from 39.6 million in 1982 to 39.2 million in 1984, a decrease of 1 percent (figure 7). Since then, enrollment in public schools has increased to an estimated 44.9 million in 1995, an increase of 15 percent from 1984. Enrollment in public schools is projected to increase to 48.3 million by the year 2007, an increase of 7 percent from 1995.

Since the mid-1970s, enrollment in private elementary and secondary schools has fluctuated between 5.0 million and 5.7 million. In 1995, an estimated 5.7 million students were enrolled in private elementary and secondary schools. Enrollment in private schools is projected to increase to around 6.1 million by the year 2007, an increase of 7 percent from 1995.

Enrollment, by Grade Group and Control of School

Enrollment by grade group in public elementary and secondary schools shows trends similar to those of total enrollment. Enrollment in grades K–8 of public schools decreased from 27.2 million in 1982 to 26.9 million in 1984, a decrease of 1 percent. It then increased to 32.4 million in 1995. Enrollment in grades K–8 of public schools is projected to increase to 34.1 million in 2002. Then, it is expected to decrease to 33.4 million by the year 2007, still an increase of 3 percent from 1995. Enrollment in grades 9–12 of public schools decreased from 12.4 million in 1982 to 11.3 million in 1990, a decrease of 9 percent. Then, it increased to 12.5 million in 1995. Thereafter, 9–12 enrollment is expected to increase to 14.9 million by the year 2007, an increase of 19 percent from 1995.

Enrollment by grade group in private elementary and secondary schools will show patterns similar to trends in enrollment in public schools over the projection period

by virtue of the private school enrollment projection methodology. The methodology assumes that private school enrollment will reflect trends in public school enrollment. Enrollment in grades K–8 of private schools is projected to increase from an estimated 4.4 million in 1995 to 4.6 million by the year 2007, an increase of 3 percent. Enrollment in grades 9–12 of private schools is projected to increase from an estimated 1.3 million in 1995 to 1.5 million by the year 2007, an increase of 19 percent.

Enrollment, by Organizational Level

Enrollments may also be aggregated by the level of school attended by students. The reported enrollment in elementary schools is smaller than enrollment in kindergarten through grade 8 because it excludes enrollment in grades 7 and 8 in secondary schools. Enrollment in elementary schools increased from 28.0 million in 1982 to 33.7 million in 1995, an increase of 20 percent (table 2). Enrollment in elementary schools is expected to continue to increase to 35.4 million in the year 2001, before declining to 34.6 million by the year 2007, still an increase of 3 percent from 1995. Enrollment in secondary schools, including 7th and 8th graders in secondary schools, decreased from 17.1 million in 1982 to 15.3 million in 1990, a decrease of 11 percent. Then, this number increased by 10 percent to 16.9 million in 1995. Enrollment in secondary schools is projected to rise to 19.7 million by the year 2007, an increase of 17 percent from 1995.

General Assumptions

Projections of enrollments in public elementary and secondary schools are based on projected grade retention rates. The retention rates for grades 2 through 10 are all close to 100 percent. Rates for grade 6 to grade 7 and grade 8 to grade 9 are significantly over 100 percent. Traditionally, these are the grades in which large numbers of private elementary students transfer to public secondary schools. The retention rates for grades 11 to 12 are about 90 percent. The grade retention rates are assumed to be constant throughout the projection period.

Projections of private school enrollment were derived using public school enrollment data. From 1970 to 1994, the ratio of private school enrollment to public school enrollment was calculated for grades K–8 and grades 9–12. These ratios were projected using single exponential smoothing, yielding a constant value over the projection period. This constant was applied to projections of public school enrollment for grades K–8 and 9–12 to yield projections of private school enrollment by grade group. By organizational level, it was assumed that enrollment for grades K–8 was equal to elementary enrollment and enrollment for grades 9–12 was equal to secondary enrollment. This method assumes that the future pattern in the trend of private school enrollment will be the same as that in public school enrollment. However, a number of factors could alter the assumption of a constant ratio over the projection period.

Figure 2
Annual number of births, with projections: 1947 to 2007

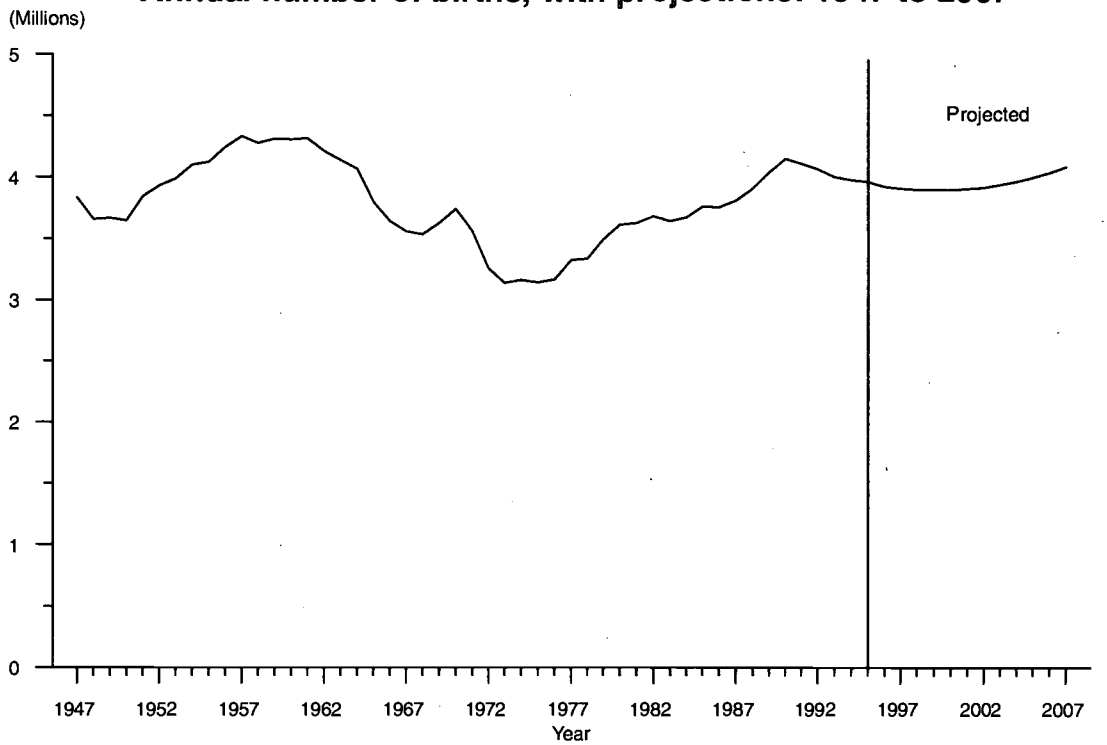


Figure 3
3- to 5-year-old population, with projections: 1982 to 2007

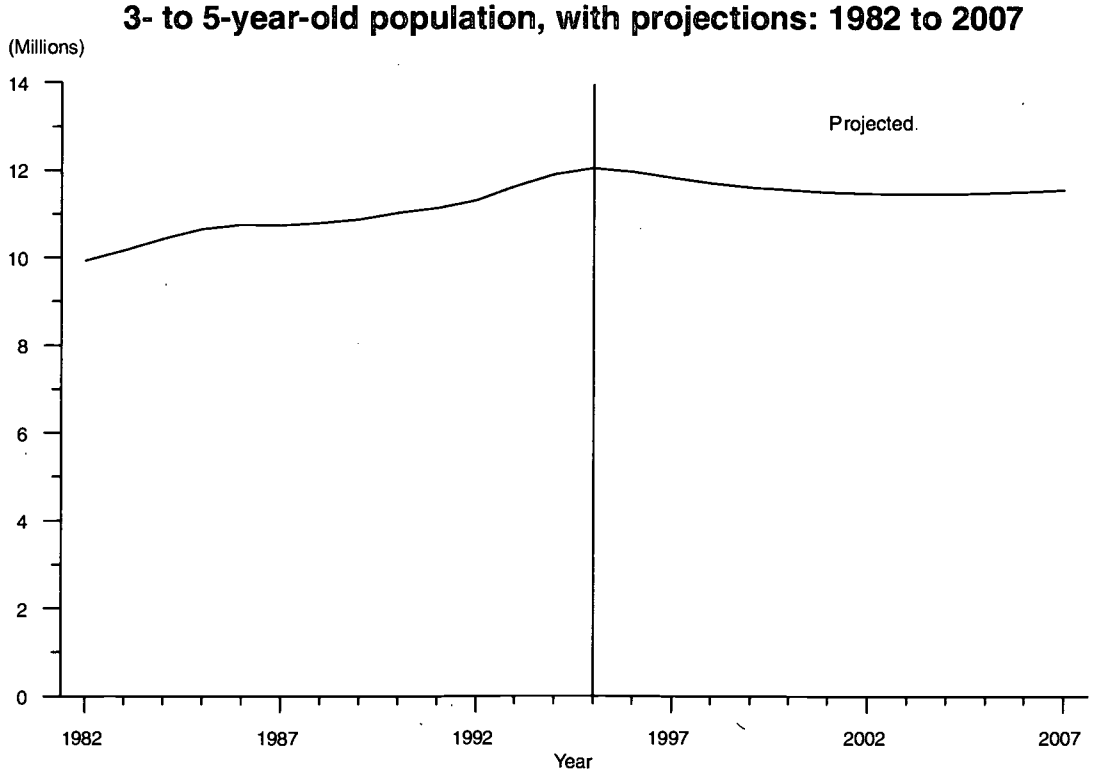


Figure 4
5- to 17-year-old population, with projections: 1982 to 2007

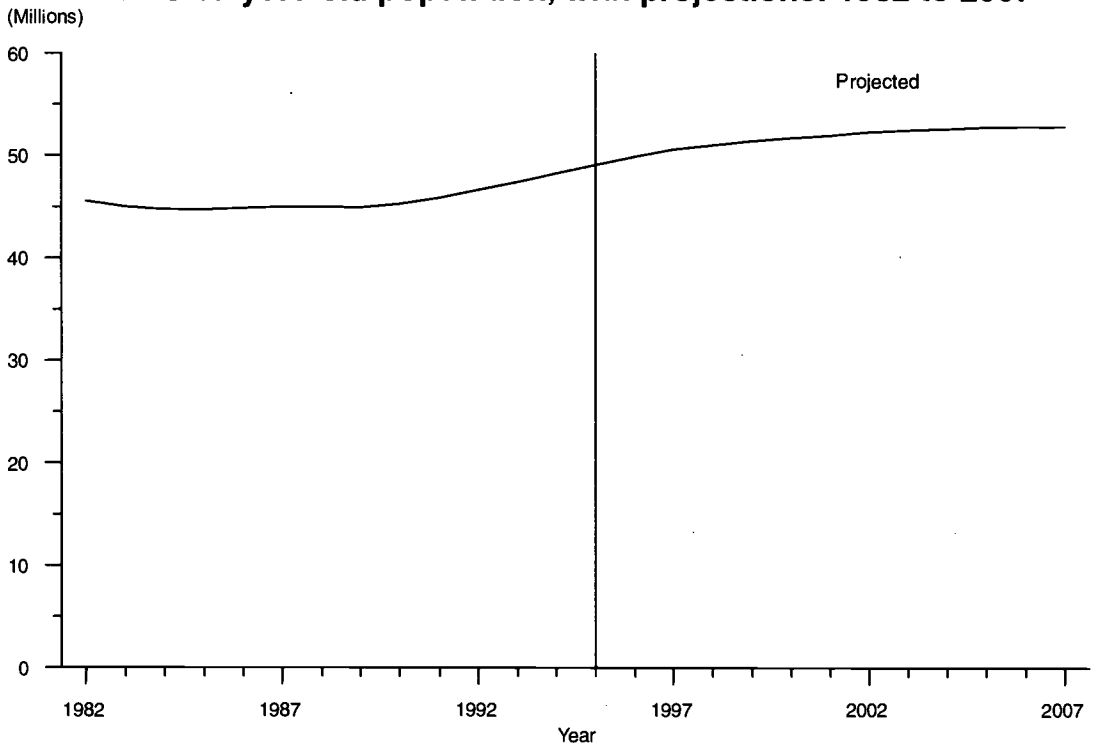


Figure 5
School-age populations, with projections: 1982 to 2007

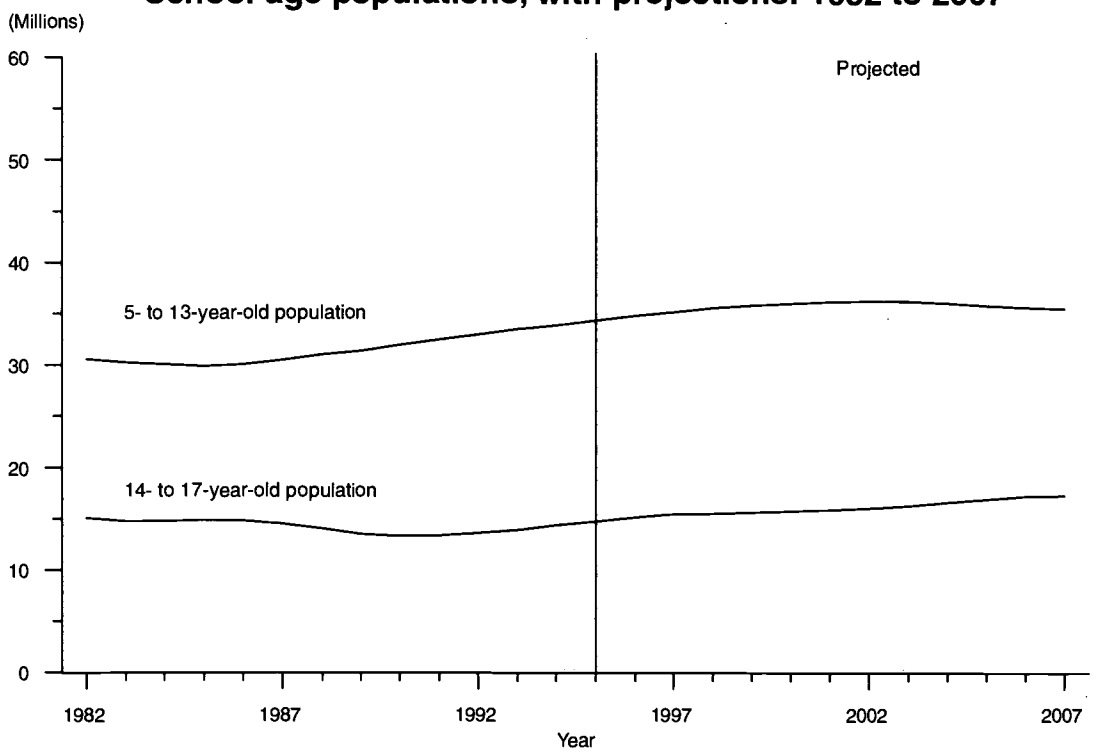


Figure 6
Enrollment in elementary and secondary schools, by grade level, with projections: Fall 1982 to fall 2007

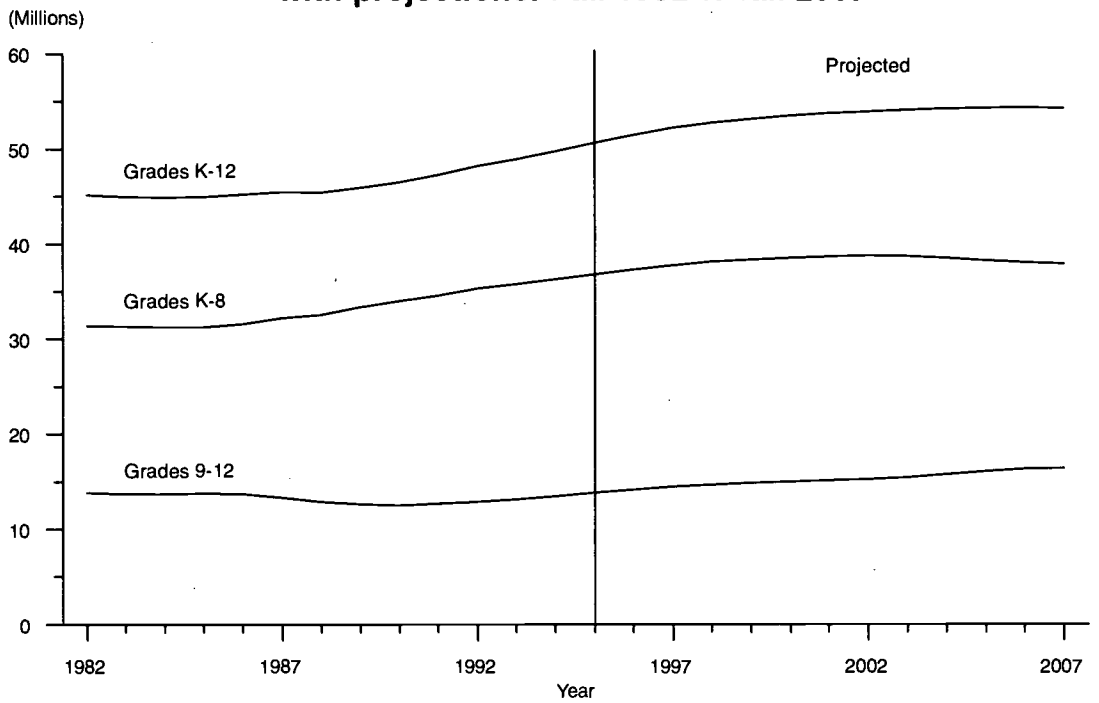


Figure 7
Enrollment in elementary and secondary schools, by control of institution, with projections: Fall 1982 to fall 2007

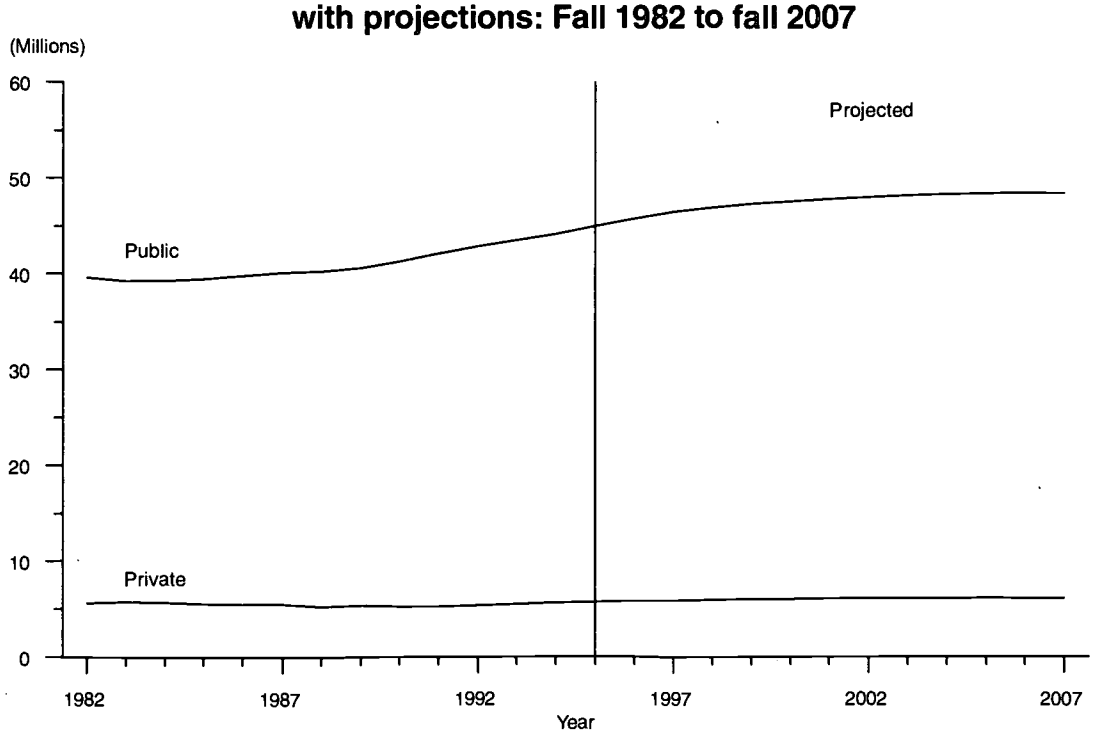


Table 1.—Enrollment in grades K–8[1] and 9–12 of elementary and secondary schools, by control of institution, with projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total			Public			Private		
	K–12[1]	K–8[1]	9–12	K–12[1]	K–8[1]	9–12	K–12[1]	K–8[1]	9–12
1982	45,166	31,361	13,805	39,566	27,161	12,405	[2]5,600	4,200	1,400
1983	44,967	31,296	13,671	39,252	26,981	12,271	5,715	4,315	1,400
1984	44,908	31,205	13,704	39,208	26,905	12,304	[2]5,700	4,300	1,400
1985	44,979	31,229	13,750	39,422	27,034	12,388	5,557	4,195	1,362
1986	45,205	31,536	13,669	39,753	27,420	12,333	[2]5,452	4,116	1,336
1987	45,488	32,165	13,323	40,008	27,933	12,076	[3]5,479	4,232	1,247
1988	45,430	32,537	12,893	40,189	28,501	11,687	[3]5,241	4,036	1,206
1989	45,898	33,314	12,583	40,543	29,152	11,390	[3]5,355	4,162	1,193
1990	46,448	33,973	12,475	41,217	29,878	11,338	[3]5,232	4,095	1,137
1991	47,246	34,580	12,666	42,047	30,506	11,541	[3]5,199	4,074	1,125
1992	48,198	35,300	12,898	42,823	31,088	11,735	[3]5,375	4,212	1,163
1993	48,936	35,784	13,152	43,465	31,504	11,961	[4]5,471	4,280	1,191
1994	49,705	36,254	13,450	44,109	31,894	12,214	[4]5,596	4,360	1,236
1995[4]	50,600	36,792	13,808	44,912	32,365	12,548	5,688	4,427	1,260
					Projected				
1996	51,484	37,316	14,167	45,700	32,826	12,874	5,784	4,490	1,293
1997	52,217	37,759	14,457	46,353	33,216	13,138	5,863	4,544	1,320
1998	52,725	38,096	14,629	46,806	33,512	13,294	5,920	4,584	1,335
1999	53,132	38,309	14,823	47,170	33,699	13,470	5,963	4,610	1,353
2000	53,465	38,490	14,976	47,467	33,858	13,609	5,998	4,631	1,367
2001	53,735	38,644	15,091	47,707	33,994	13,713	6,028	4,650	1,377
2002	53,962	38,740	15,222	47,911	34,078	13,832	6,051	4,662	1,389
2003	54,117	38,701	15,417	48,053	34,044	14,010	6,064	4,657	1,407
2004	54,250	38,493	15,757	48,180	33,861	14,319	6,070	4,632	1,438
2005	54,349	38,264	16,085	48,276	33,660	14,617	6,073	4,604	1,468
2006	54,388	38,068	16,320	48,318	33,488	14,830	6,070	4,581	1,490
2007	54,324	37,960	16,363	48,262	33,393	14,870	6,061	4,568	1,494

[1] Includes most kindergarten and some nursery school enrollment.

[2] Estimated on the basis of past data.

[3] Estimate is from the survey on *Early Estimates*.

[4] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; "Private Elementary and Secondary Education, 1983: Enrollment, Teachers, and Schools," *NCES Bulletin*, December 1984; 1985 Private School Survey; "Key Statistics for Private Elementary and Secondary Education: School Year 1988–89," *Early Estimates*; "Key Statistics for Private Elementary and Secondary Education: School Year 1990–91," *Early Estimates*; Public and Private Elementary and Secondary Education Statistics: School Year 1991–92," *Early Estimates*; and "Public and Private Elementary and Secondary Education Statistics: School Year 1992–93," *Early Estimates*. (This table was prepared August 1996.)

Table 2.—Enrollment in elementary and secondary schools, by organizational level and control of institution, with projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total			Public			Private		
	K-12[1]	Elementary	Secondary	K-12[1]	Elementary	Secondary	K-12[1]	Elementary	Secondary
1982	45,166	28,016	17,149	39,566	23,816	15,749	[2]5,600	4,200	1,400
1983	44,967	27,950	17,017	39,252	23,635	15,617	5,715	4,315	1,400
1984	44,908	28,042	16,866	39,208	23,742	15,466	[2]5,700	4,300	1,400
1985	44,979	28,330	16,649	39,422	24,135	15,287	5,557	4,195	1,362
1986	45,205	28,613	16,592	39,753	24,497	15,256	[2]5,452	4,116	1,336
1987	45,488	29,447	16,040	40,008	25,215	14,793	[3]5,479	4,232	1,247
1988	45,430	29,776	15,654	40,189	25,740	14,448	[3]5,241	4,036	1,206
1989	45,898	30,570	15,328	40,543	26,408	14,135	[3]5,355	4,162	1,193
1990	46,448	31,145	15,304	41,217	27,050	14,167	[3]5,232	4,095	1,137
1991	47,246	31,669	15,577	42,047	27,595	14,452	[3]5,199	4,074	1,125
1992	48,198	32,317	15,881	42,823	28,105	14,718	[3]5,375	4,212	1,163
1993	48,936	32,806	16,130	43,465	28,526	14,939	[4]5,471	4,280	1,191
1994	49,705	33,309	16,396	44,109	28,949	15,160	[4]5,596	4,360	1,236
1995[4]	50,600	33,716	16,884	44,912	29,289	15,624	5,688	4,427	1,260
					Projected				
1996	51,484	34,212	17,272	45,700	29,721	15,979	5,784	4,490	1,293
1997	52,217	34,613	17,604	46,353	30,069	16,284	5,863	4,544	1,320
1998	52,725	34,913	17,812	46,806	30,329	16,477	5,920	4,584	1,335
1999	53,132	35,117	18,015	47,170	30,507	16,662	5,963	4,610	1,353
2000	53,465	35,277	18,188	47,467	30,646	16,821	5,998	4,631	1,367
2001	53,735	35,366	18,369	47,707	30,716	16,991	6,028	4,650	1,377
2002	53,962	35,349	18,613	47,911	30,687	17,224	6,051	4,662	1,389
2003	54,117	35,237	18,881	48,053	30,580	17,473	6,064	4,657	1,407
2004	54,250	35,032	19,218	48,180	30,400	17,780	6,070	4,632	1,438
2005	54,349	34,844	19,505	48,276	30,240	18,036	6,073	4,604	1,468
2006	54,388	34,698	19,691	48,318	30,117	18,201	6,070	4,581	1,490
2007	54,324	34,617	19,706	48,262	30,050	18,213	6,061	4,568	1,494

[1] Includes most kindergarten and some nursery school enrollment.

[2] Estimated on the basis of past data.

[3] Estimate is from the survey on *Early Estimates*.

[4] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; "Private Elementary and Secondary Education, 1983: Enrollment, Teachers, and Schools," *NCES Bulletin*, December 1984; 1985 Private School Survey; "Key Statistics for Private Elementary and Secondary Education: School Year 1988–89," *Early Estimates*; "Key Statistics for Private Elementary and Secondary Education: School Year 1990–91," *Early Estimates*; Public and Private Elementary and Secondary Education Statistics: School Year 1991–92," *Early Estimates*; and "Public and Private Elementary and Secondary Education Statistics: School Year 1992–93," *Early Estimates*. (This table was prepared August 1996.)

Chapter 2

Higher Education Enrollment

Enrollment in institutions of higher education* is expected to rise between 1995 and the year 2007. Changes in age-specific enrollment rates and college-age populations will affect enrollment levels over the next 12 years (figures 8 and 9). Over the projection period, the 18- to 24-year-old population is projected to increase by 16 percent (table B4). The 25- to 29-year-old population is projected to decrease by 10 percent between 1995 and 2002, and then increase by 10 percent between 2002 and 2007. The 30- to 34-year-old population will decrease by 19 percent. The 35- to 44-year-old population will increase by 5 percent between 1995 and 1999, and then decrease by 8 percent between 1999 and 2007. The increases in the younger population are expected to offset the loss of students from the older populations, thereby contributing to the increases in college enrollment over the projection period.

Total Higher Education Enrollment

In 1982, there were 12.4 million students enrolled in institutions of higher education. In the late 1970s and early 1980s, older students, primarily women and part-time students, began to enroll in greater numbers. As a result, college enrollment increased to 12.5 million in 1983. In 1984 and 1985, enrollment declined to 12.2 million. Then it increased, reaching 14.5 million in 1992. By 1995, it had decreased to an estimated 13.9 million (table 3 and figure 10). Under the middle alternative, college enrollment is projected to rise to 16.1 million by the year 2007, an increase of 16 percent from 1995. This will represent an average annual growth rate of 1.2 percent over the projection period. Between 1995 and 2001, college enrollment is projected to increase at an average annual growth rate of 1.3 percent. Between 2001 and 2007, it will grow at an average annual growth rate of 1.1 percent (figure 11). The 18- to 24-year-old population is projected to increase 16 percent by the year 2007. This increase in the younger population is expected to offset somewhat the decline in the number of 25- to 34-year-olds enrolled in college.

The following tabulations show key enrollment statistics: (1) the average annual rate of growth (in percent) for 1982–95 and alternative projected rates of change for 1995–2007 and (2) average annual rates of change for 1982–89 and 1989–95 and the middle alternative projected rates of change for 1995–2001 and 2001–2007. (Calculations are based on unrounded numbers.)

Average annual rate of change (in percent)

	1982–95	Projected 1995–2007		
		Low	Middle	High
Total	0.9	1.0	1.2	1.5
Men	0.2	0.8	1.0	1.1
Women	1.5	1.1	1.4	1.8
Full-time	0.6	1.4	1.7	2.0
Part-time	1.2	0.4	0.6	0.9
Public	0.9	1.0	1.2	1.5
Private	0.8	1.0	1.3	1.6
4-year	0.8	1.0	1.3	1.6
2-year	1.0	0.9	1.1	1.4
Undergraduate	0.8	1.1	1.3	1.6
Graduate	1.8	0.3	0.6	0.9
First-professional	0.1	0.4	0.7	1.1
Full-time-equivalent	0.8	1.2	1.5	1.7

Average annual rate of change (in percent)
(Middle alternative projections)

	1982–89	1989–95	Projected	
			1995–2001	2001–2007
Total	1.2	0.5	1.3	1.1
Men	0.4	-0.0	1.0	1.0
Women	2.0	0.8	1.6	1.3
Full-time	0.9	0.4	1.7	1.6
Part-time	1.7	0.6	0.8	0.5
Public	1.3	0.5	1.3	1.1
Private	1.2	0.4	1.3	1.3
4-year	1.3	0.2	1.3	1.3
2-year	1.1	0.8	1.3	0.9
Undergraduate	1.2	0.3	1.5	1.2
Graduate	2.0	1.5	0.4	0.8
First-professional	-0.1	0.2	-0.1	1.6
Full-time-equivalent	1.1	0.4	1.5	1.4

Under the low alternative, college enrollment is projected to increase from an estimated 13.9 million in 1995 to 15.6 million by the year 2007. This will represent an average annual growth rate of 1.0 percent, for an increase of 12 percent over the projection period.

Under the high alternative, college enrollment is expected to increase from an estimated 13.9 million in 1995 to 16.6 million by the year 2007. This will represent an average annual growth rate of 1.5 percent, for an increase of 20 percent over the projection period.

*This term applies mainly to those institutions that provide study beyond secondary school and that offer programs terminating in an associate, baccalaureate, or higher degree.

Enrollment, by Sex of Student

Women played a major role in the increase of enrollment between 1982 and 1995. The enrollment of women in college increased from 6.4 million in 1982 to an estimated 7.7 million in 1995, representing an average annual growth rate of 1.5 percent, for a 21-percent increase over the period (figure 12). Under the middle alternative, enrollment of women is expected to increase to 9.2 million by the year 2007, an increase of 19 percent from 1995. This will represent a growth rate of 1.4 percent per year. The rate of growth will be higher during the first half of the projection period (1995–2001) than during the second half (2001–2007), 1.6 percent per year versus 1.3 percent per year (figure 13). As a share of total college enrollment, women were 56 percent of all college students in 1995 compared with 51 percent in 1982. Women are expected to increase their share to 57 percent of college enrollment in the year 2007. Under the low alternative, enrollment of women is expected to increase from 7.7 million in 1995 to 8.8 million by the year 2007, representing a growth rate of 1.1 percent per year. Under the high alternative, enrollment of women is expected to increase from 7.7 million in 1995 to 9.6 million by the year 2007, representing a growth rate of 1.8 percent per year.

The enrollment of men in college decreased from 6.0 million in 1982 to 5.8 million in 1985. Then it increased to 6.5 million in 1992, before decreasing to an estimated 6.2 million in 1995. Under the middle alternative, enrollment of men is expected to increase to 6.9 million by the year 2007, a 12-percent increase from 1995, for an average annual growth rate of 1.0 percent. Over the projection period, the growth rate of enrollment of men will be 1.0 percent per year. Under the low alternative, enrollment of men is expected to increase from 6.2 million in 1995 to 6.8 million by the year 2007, representing a growth rate of 0.8 percent per year. Under the high alternative, enrollment of men is expected to increase from 6.2 million in 1995 to 7.1 million by the year 2007, representing a growth rate of 1.1 percent per year.

Enrollment, by Attendance Status

Full-time enrollment increased from 7.2 million in 1982 to an estimated 7.8 million in 1995 (figure 14). This is an average annual growth rate of 0.6 percent, for an increase of 8 percent over the period. Under the middle alternative, full-time enrollment is expected to increase another 22 percent to 9.6 million by the year 2007, representing an average annual growth rate of 1.7 percent. Over the projection period, the growth rate for the 1995–2001 period will be higher than the growth rate for the 2001–2007 period, 1.7 percent per year versus 1.6 percent per year (figure 15). Under the low alternative, full-time enrollment is expected to increase from 7.8 million in 1995 to 9.2 million by the year 2007, representing a growth rate of 1.4 percent per year. Under the high alternative, full-time enrollment is expected to increase from 7.8 million in 1995 to 9.9 million by the year 2007, representing a growth rate of 2.0 percent per year.

Part-time enrollment increased from 5.2 million in 1982 to an estimated 6.1 million in 1995. This is an average annual growth rate of 1.2 percent, for an increase of 17 percent over the period. Under the middle alternative, part-time enrollment is expected to increase at an average annual growth rate of 0.6 percent and reach 6.6 million by the year 2007, for an increase of 8 percent over the projection period. The growth rate for part-time enrollment during the 1995–2001 period will be more than the growth rate for the 2001–2007 period, 0.8 percent versus 0.5 percent. Under the low alternative, part-time enrollment is expected to increase from 6.1 million in 1995 to 6.4 million by the year 2007, representing a growth rate of 0.4 percent per year. Under the high alternative, part-time enrollment is expected to increase from 6.1 million in 1995 to 6.7 million by the year 2007, representing a growth rate of 0.9 percent per year.

Enrollment, by Control of Institution

Enrollment in public institutions grew from 9.7 million in 1982 to an estimated 10.9 million in 1995, increasing at an average annual rate of 0.9 percent, for an increase of 12 percent over the period (figure 16). Under the middle alternative, public enrollment is expected to increase to 12.6 million by 2007, rising by an average annual growth rate of 1.2 percent, for an increase of 16 percent over the projection period. During the projection period, enrollment in public institutions is projected to increase at an average annual growth rate of 1.3 percent during the 1995–2001 period and 1.1 percent during the 2001–2007 period (figure 17).

Under the low alternative, public enrollment is expected to increase from 10.9 million in 1995 to 12.2 million by the year 2007, representing a growth rate of 1.0 percent per year. Under the high alternative, public enrollment is expected to increase from 10.9 million in 1995 to 13.0 million by the year 2007, representing a growth rate of 1.5 percent per year.

Enrollment in private institutions, which include nonprofit and proprietary, increased from 2.7 million in 1982 to an estimated 3.0 million in 1995, increasing at an average annual growth rate of 0.8 percent, for an increase of 11 percent over the period. Under the middle alternative, private enrollment is expected to increase to 3.5 million by 2007, rising by an average annual growth rate of 1.3 percent, for an increase of 17 percent over the projection period. During the projection period, enrollment in private institutions is projected to increase at an annual growth rate of 1.3 percent during both the 1995–2001 period and the 2001–2007 period.

Under the low alternative, private enrollment is expected to increase from 3.0 million in 1995 to 3.4 million by the year 2007, representing a growth rate of 1.0 percent per year. Under the high alternative, private enrollment is expected to increase from 3.0 million in 1995 to 3.7

million by the year 2007, representing a growth rate of 1.6 percent per year.

Enrollment, by Type of Institution

Enrollment in 4-year institutions increased from 7.7 million in 1982 to an estimated 8.5 million in 1995, increasing at an average annual growth rate of 0.8 percent, for an 11-percent increase over the period (table 4 and figure 18). Under the middle alternative, enrollment in 4-year institutions is expected to rise to 9.9 million by the year 2007, increasing at an average annual growth rate of 1.3 percent, for a 17-percent increase over the projection period. During the projection period, enrollment in 4-year institutions is projected to increase at an annual growth rate of 1.3 percent during both the 1995–2001 and the 2001–2007 periods (figure 19).

Under the low alternative, enrollment in 4-year institutions is expected to increase from 8.5 million in 1995 to 9.6 million by the year 2007, representing a growth rate of 1.0 percent per year. Under the high alternative, enrollment in 4-year institutions is expected to increase from 8.5 million in 1995 to 10.3 million by the year 2007, representing a growth rate of 1.6 percent per year.

Enrollment in 2-year institutions rose from 4.8 million in 1982 to an estimated 5.4 million in 1995, increasing at an average annual growth rate of 1.0 percent per year, for a 13-percent increase over the period (table 5). Under the middle alternative, enrollment in 2-year institutions is expected to rise to 6.2 million by the year 2007, increasing at an average annual growth rate of 1.1 percent, for a 14-percent increase over the projection period. During the projection period, enrollment in 2-year institutions is projected to increase at an annual growth rate of 1.3 percent during the 1995–2001 period and 0.9 percent during the 2001–2007 period.

Under the low alternative, enrollment in 2-year institutions is expected to increase from 5.4 million in 1995 to 6.0 million by the year 2007, representing a growth rate of 0.9 percent per year. Under the high alternative, enrollment in 2-year institutions is expected to increase from 5.4 million in 1995 to 6.4 million by the year 2007, representing a growth rate of 1.4 percent per year.

Enrollment, by Level

Undergraduate enrollment increased from 10.8 million in 1982 to an estimated 12.0 million in 1995, increasing at an average annual growth rate of 0.8 percent, for an 11-percent increase over the period (table 14 and figure 20). Under the middle alternative, undergraduate enrollment is expected to increase to 14.0 million by the year 2007, at a growth rate of 1.3 percent per year, for a 17-percent increase over the projection period. During the projection period, undergraduate enrollment is projected to increase at an annual growth rate of 1.5 percent during the 1995–2001 period and 1.2 percent during the 2001–2007 period (figure 21).

Under the low alternative, undergraduate enrollment is expected to increase from 12.0 million in 1995 to 13.6 million by the year 2007, representing a growth rate of 1.1 percent per year. Under the high alternative, undergraduate enrollment is expected to increase from 12.0 million in 1995 to 14.5 million by the year 2007, representing a growth rate of 1.6 percent per year.

Graduate enrollment rose from 1.3 million in 1982 to an estimated 1.7 million in 1995, at an average annual growth rate of 1.8 percent, for a 26-percent increase over the period (table 17 and figure 22). Under the middle alternative, graduate enrollment is expected to increase to 1.8 million by the year 2007, increasing at an average annual growth rate of 0.6 percent, for a 7-percent increase over the projection period. During the projection period, graduate enrollment is projected to increase at an annual growth rate of 0.4 percent during the 1995–2001 period and 0.8 percent during the 2001–2007 period (figure 23).

Under the low alternative, graduate enrollment is expected to increase from 1.67 million in 1995 to 1.72 million by the year 2007, representing a growth rate of 0.3 percent per year. Under the high alternative, graduate enrollment is expected to increase from 1.7 million in 1995 to 1.9 million by the year 2007, representing a growth rate of 0.9 percent per year.

First-professional enrollment increased from 278,000 in 1982 to an estimated 280,000 in 1995, an average annual growth rate of 0.1 percent, for a 1-percent increase over the period (table 20 and figure 22). Under the middle alternative, first-professional enrollment is expected to increase to 306,000 by 2007. This represents a growth rate of 0.7 percent over the projection period, a 9-percent increase from 1995. During the projection period, first-professional enrollment is projected to decrease at a rate of 0.1 percent during the 1995–2001 period and increase at a growth rate of 1.6 percent during the 2001–2007 period (figure 23).

Under the low alternative, first-professional enrollment is expected to increase from 280,000 in 1995 to 292,000 by the year 2007, representing a growth rate of 0.4 percent per year. Under the high alternative, first-professional enrollment is expected to increase from 280,000 in 1995 to 321,000 by the year 2007, representing a growth rate of 1.1 percent per year.

Full-Time-Equivalent Enrollment

Full-time-equivalent enrollment increased from 9.1 million in 1982 to an estimated 10.0 million in 1995, increasing at an average annual rate of growth of 0.8 percent, for a 10-percent increase over the period (table 23 and figure 24). Under the middle alternative, full-time-equivalent enrollment is expected to increase to 11.9 million by the year 2007, increasing at an average annual growth rate of 1.5 percent, for a 19-percent increase over the projection period. During the projection period, full-time-equivalent

enrollment is projected to increase at an annual growth rate of 1.5 percent during the 1995–2001 period and 1.4 percent during the 2001–2007 period (figure 25).

In public institutions, full-time-equivalent enrollment, which was an estimated 7.6 million in 1995, will be 9.0 million by the year 2007 (table 24). In private institutions, full-time-equivalent enrollment, which was an estimated 2.5 million in 1995, will be 2.9 million by the year 2007 (table 25).

Under the low alternative, full-time-equivalent enrollment is expected to increase from 10.0 million in 1995 to 11.5 million by the year 2007, representing a growth rate of 1.2 percent per year. Under the high alternative, full-time-equivalent enrollment is expected to increase from 10.0 million in 1995 to 12.3 million by the year 2007, representing a growth rate of 1.7 percent per year.

Enrollment, by Age

The alternative projections of higher education enrollment by age, sex, and attendance status are shown in table 6 (middle alternative), table 7 (low alternative), and table 8 (high alternative). These projections are based on age-specific enrollment data from the Bureau of the Census and enrollment data from NCES.

Under the middle alternative, the period from 1987 to 2007 will be one of change in the age distribution of college students. The enrollment of students who are 18- to 24-years old increased from 7.64 million in 1987 to an estimated 7.65 million in 1995, an increase of 0.1 percent (table 6 and figure 26). This number is expected to increase to 9.4 million by the year 2007, an increase of 23 percent from 1995. As a result, the proportion of students who are 18- to 24-years old, which fell from 59.9 percent in 1987 to 55.0 percent in 1995, is projected to be 58.2 percent by the year 2007.

On the other hand, the enrollment of students who are 25 years old and over increased from 4.9 million in 1987 to an estimated 6.1 million in 1995, an increase of 25 percent. This number is projected to increase to 6.4 million by the year 2007, an increase of 6 percent. Over the projection period, the proportion of students 25 years old and over rose from 38.0 percent in 1987 to 43.8 percent in 1995. This proportion is projected to be 40.0 percent by the year 2007.

Projection Model

Higher education enrollment projections were based on projected enrollment rates, by age and sex, which were then applied to population projections by age and sex developed by the Bureau of the Census. The middle series population projections, which assume middle fertility and net immigration, were used. The age-specific enrollment rates by sex and attendance status were projected based on an econometric estimation of relationships to relevant macroeconomic variables such as income and unemployment rates, proxies for relative earnings, by age group.

Three alternative projections of enrollment in institutions of higher education were developed to indicate the range of possible outcomes. The middle alternative assumes that the age-specific enrollment rates of men and women enrolled full-time are a function of dummy variables by age, log of four-period weighted average of real disposable income per capita, and log unemployment rate by age group. The middle alternative assumes that the age-specific enrollment rates of men and women enrolled part-time are a function of dummy variables by age and log of four-period weighted average of real disposable income per capita. These relationships will continue through 2007. The low and high alternatives were developed using the DRI/McGraw-Hill pessimistic (low) and optimistic (high) scenarios for the projections of disposable income and unemployment rates.

Figure 8
College-age populations (18-24 years and 25-29 years), with projections: 1982 to 2007

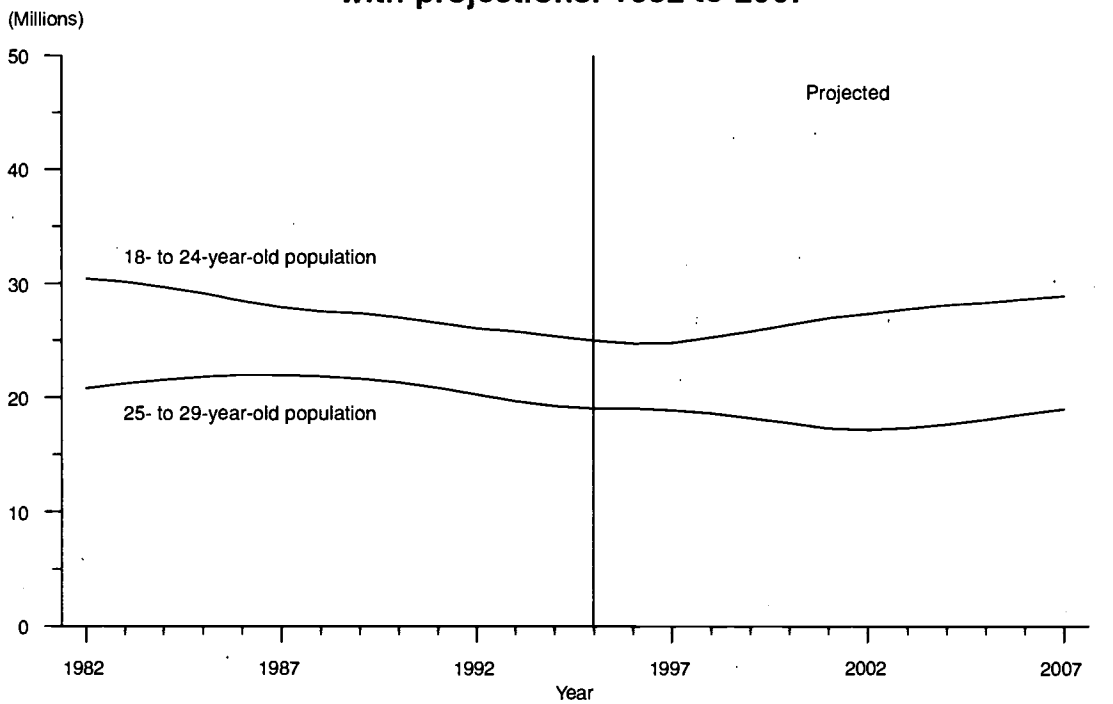


Figure 9
College-age populations (30-34 years and 35-44 years), with projections: 1982 to 2007

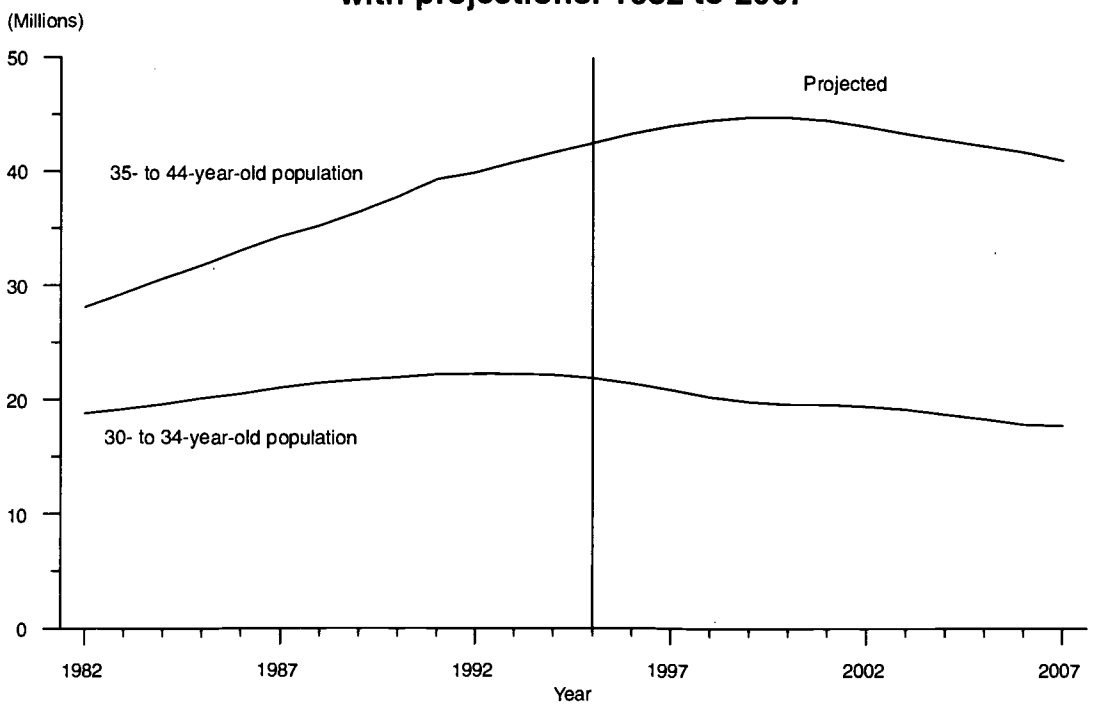


Figure 10
Enrollment in institutions of higher education, with alternative projections: Fall 1982 to fall 2007

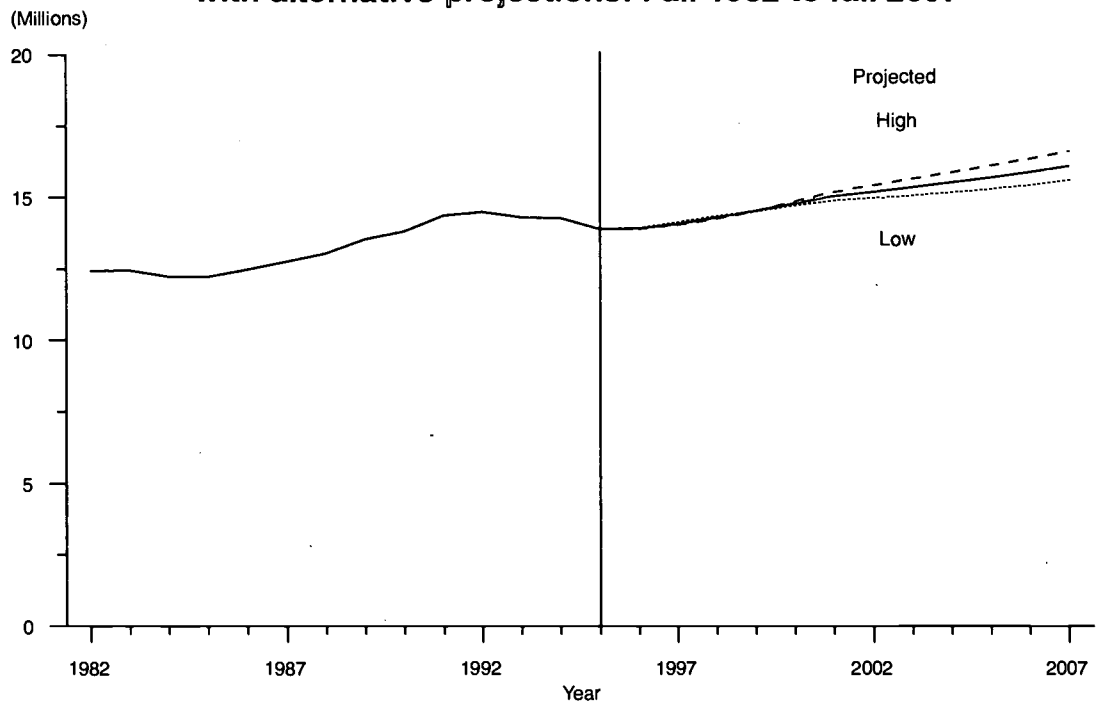


Figure 11
Average annual growth rates for total higher education enrollment

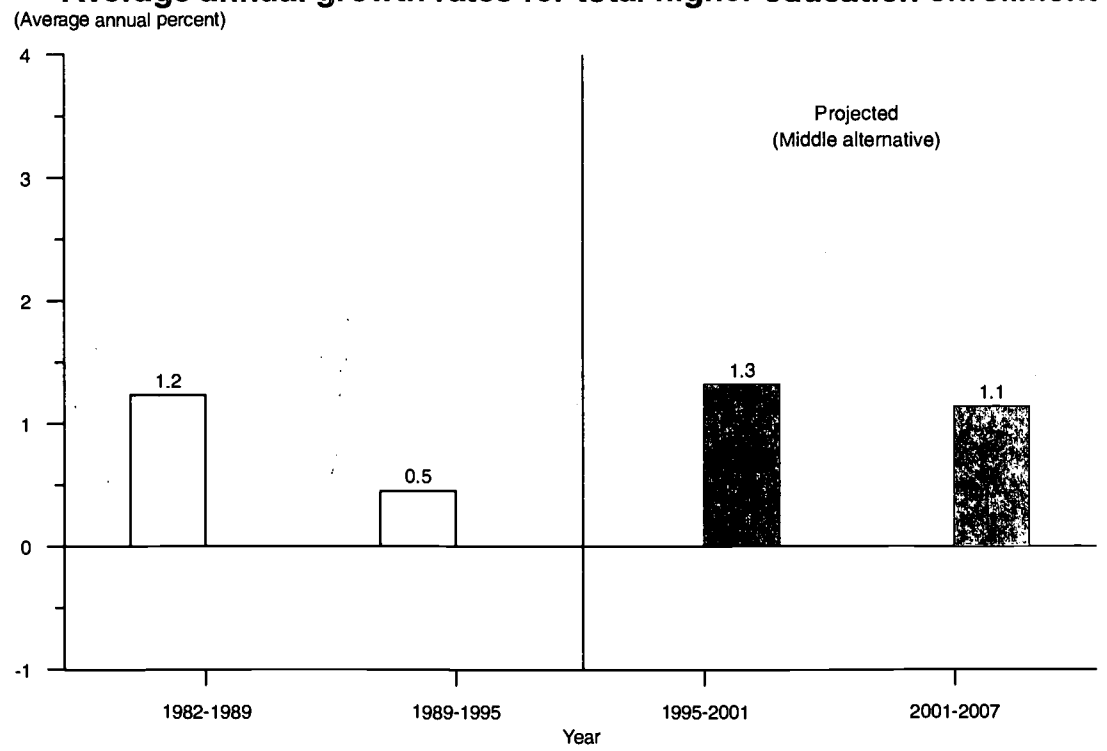


Figure 12
Enrollment in institutions of higher education, by sex, with middle alternative projections: Fall 1982 to fall 2007

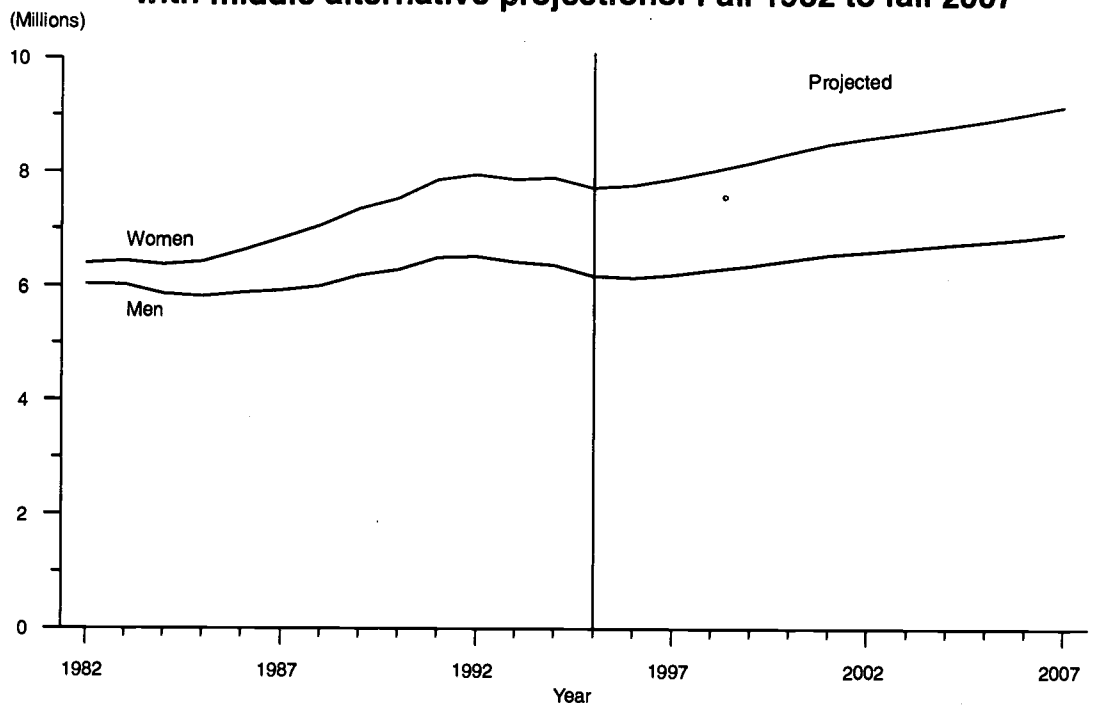


Figure 13
Average annual growth rates for total higher education enrollment, by sex
(Average annual percent)

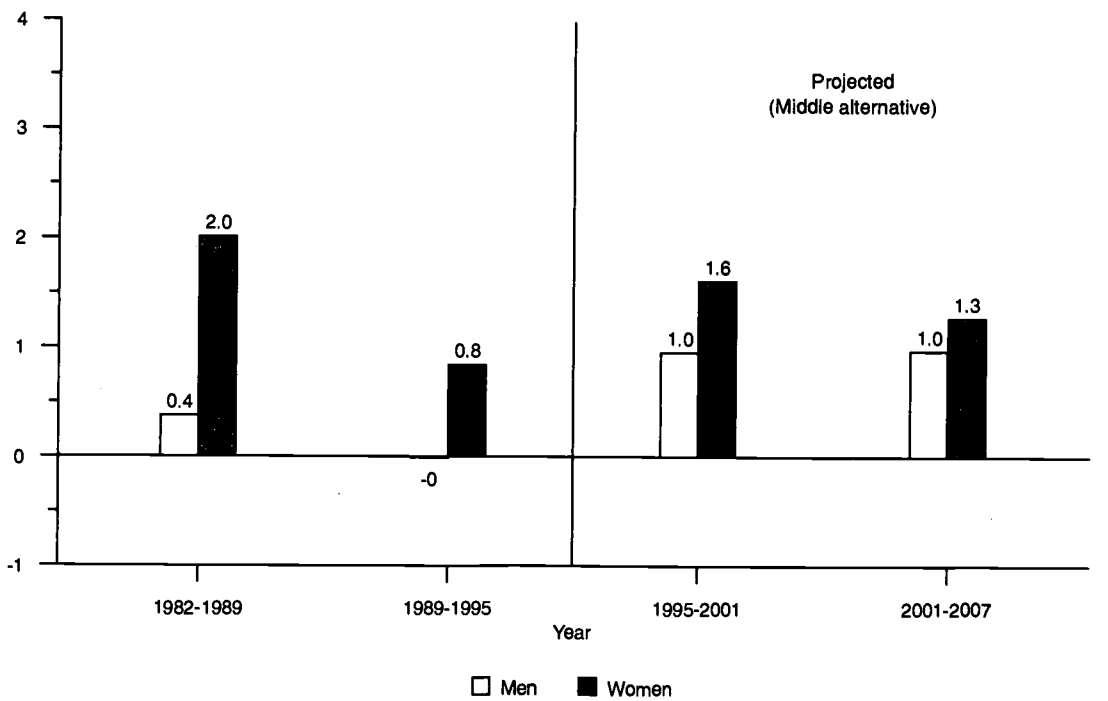


Figure 14
Enrollment in institutions of higher education, by attendance status, with middle alternative projections: Fall 1982 to fall 2007

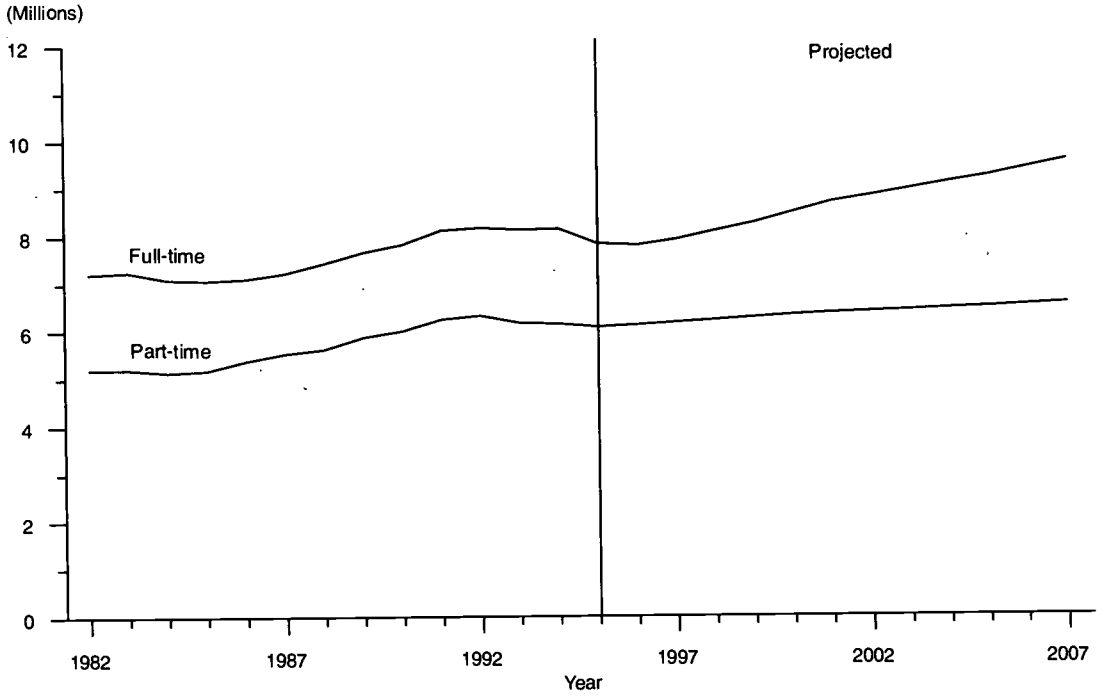


Figure 15
Average annual growth rates for total higher education enrollment, by attendance status

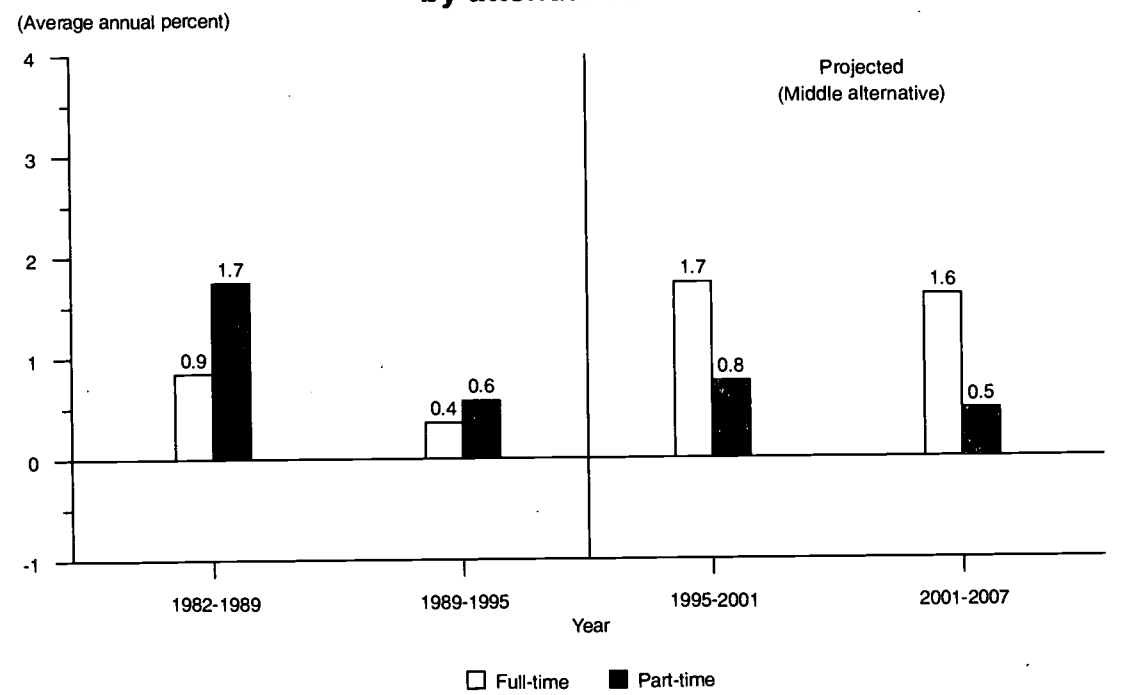


Figure 16
Enrollment in institutions of higher education, by control of institution, with alternative projections: Fall 1982 to fall 2007

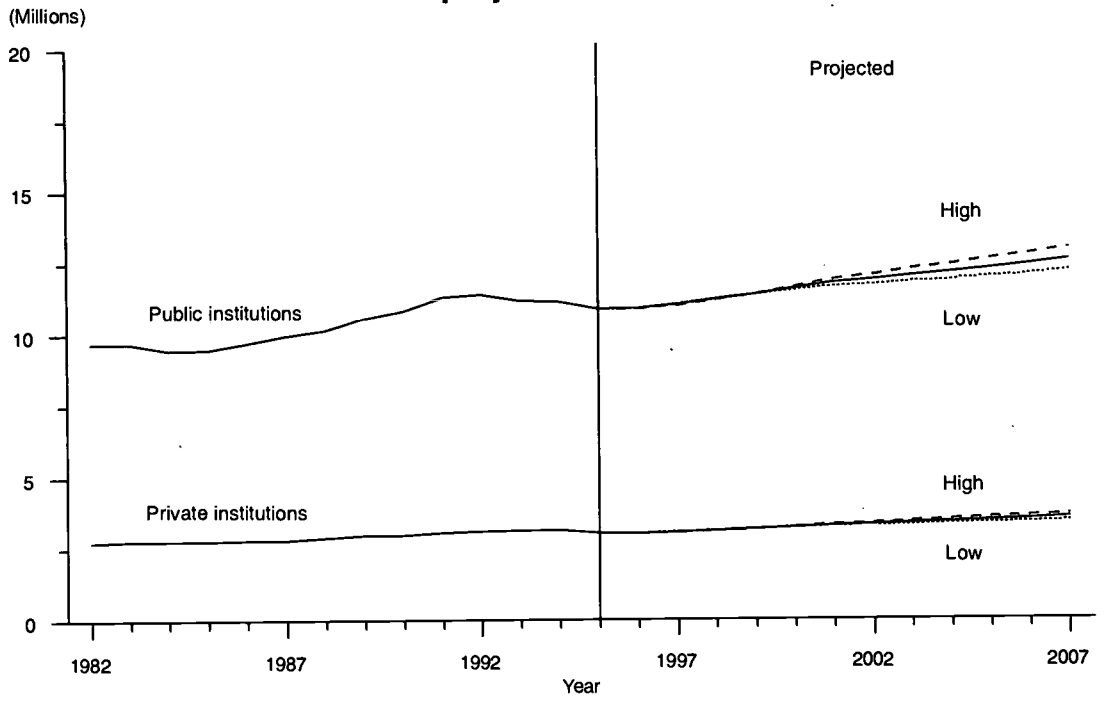


Figure 17
Average annual growth rates for total higher education enrollment, by control of institution

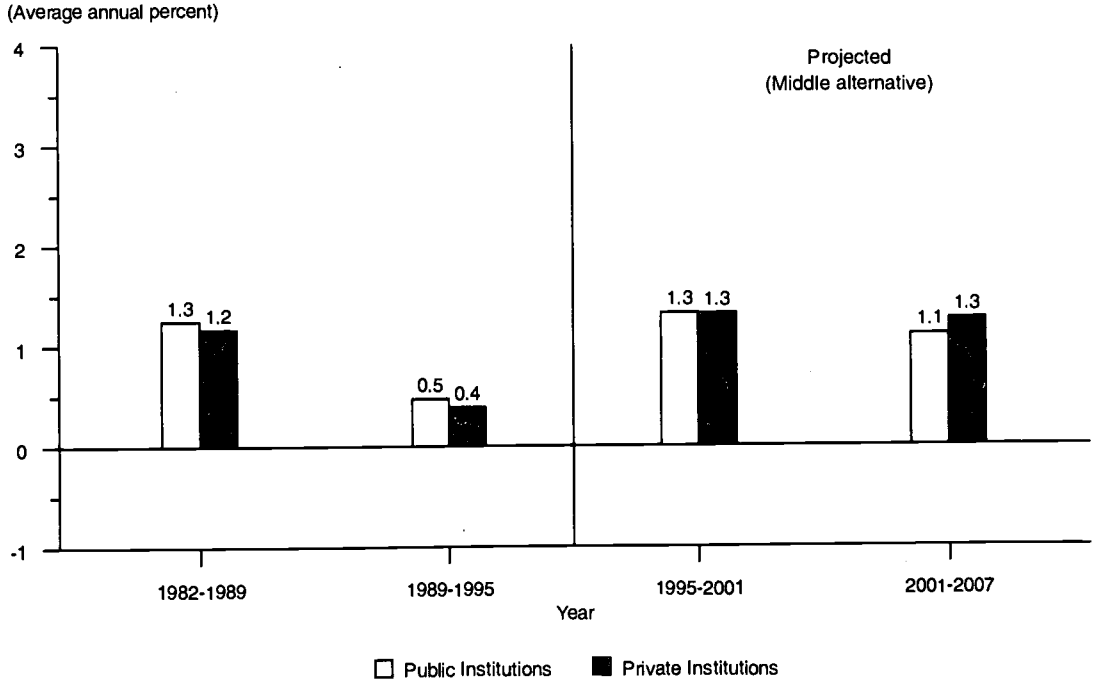


Figure 18
Enrollment in institutions of higher education, by type of institution, with alternative projections: Fall 1982 to fall 2007

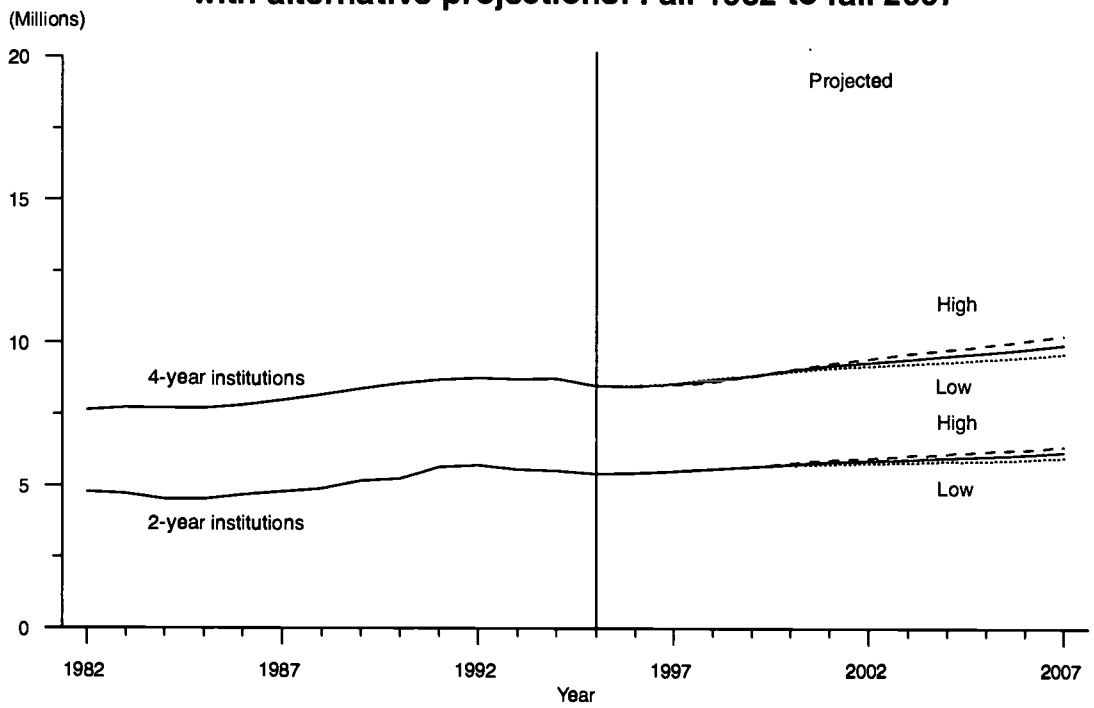


Figure 19
Average annual growth rates for total higher education enrollment, by type of institution

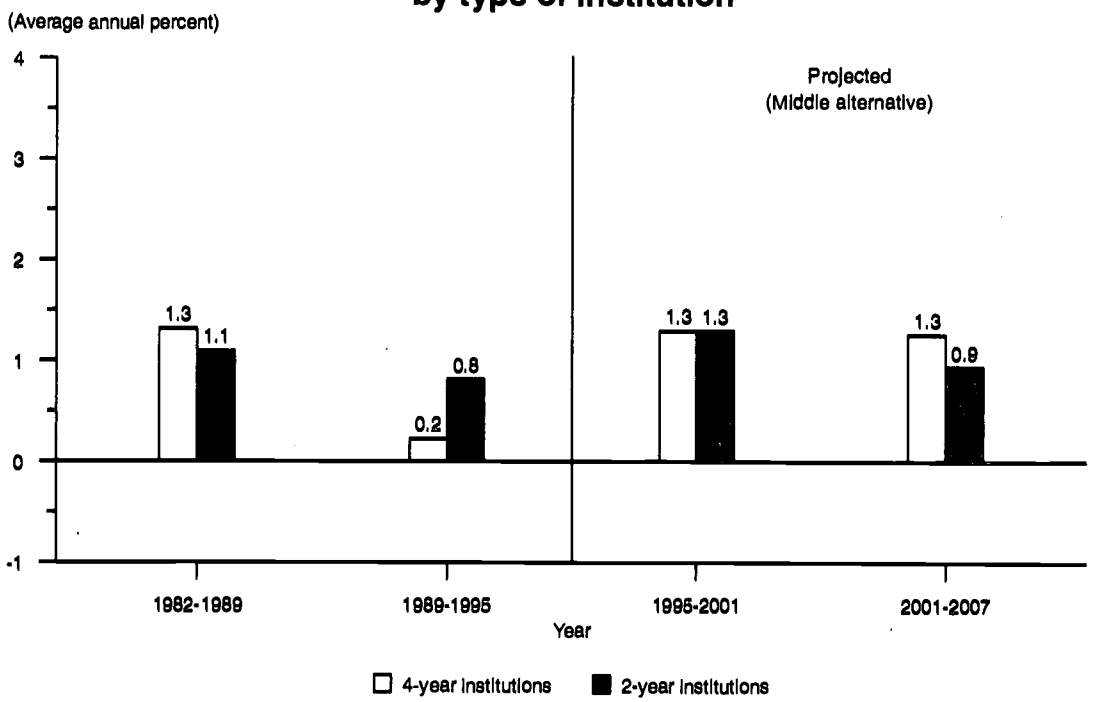


Figure 20
Undergraduate enrollment in institutions of higher education, with alternative projections: Fall 1982 to fall 2007

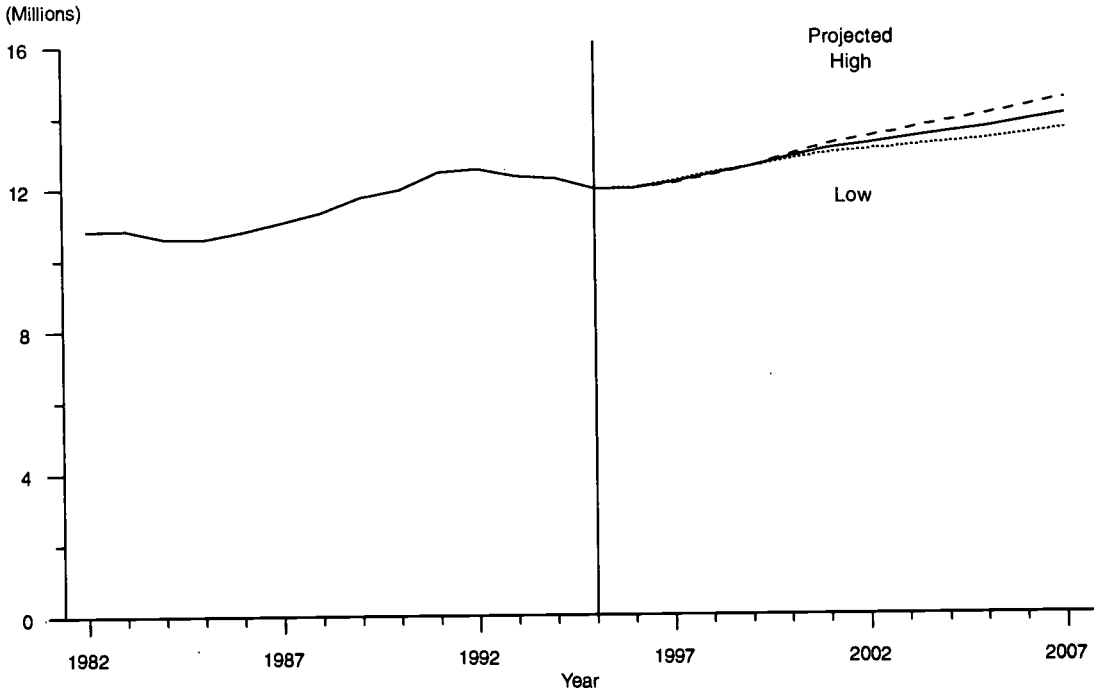


Figure 21
Average annual growth rates for undergraduate enrollment

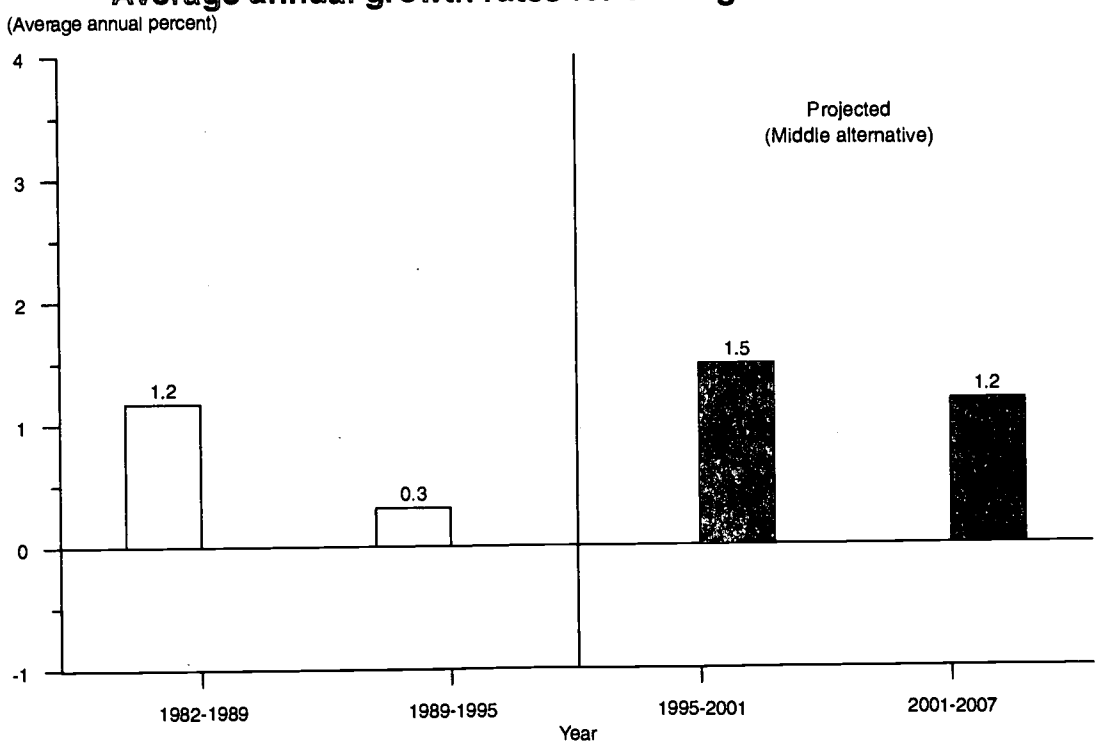


Figure 22
Postbaccalaureate enrollment in institutions of higher education, with alternative projections: Fall 1982 to fall 2007

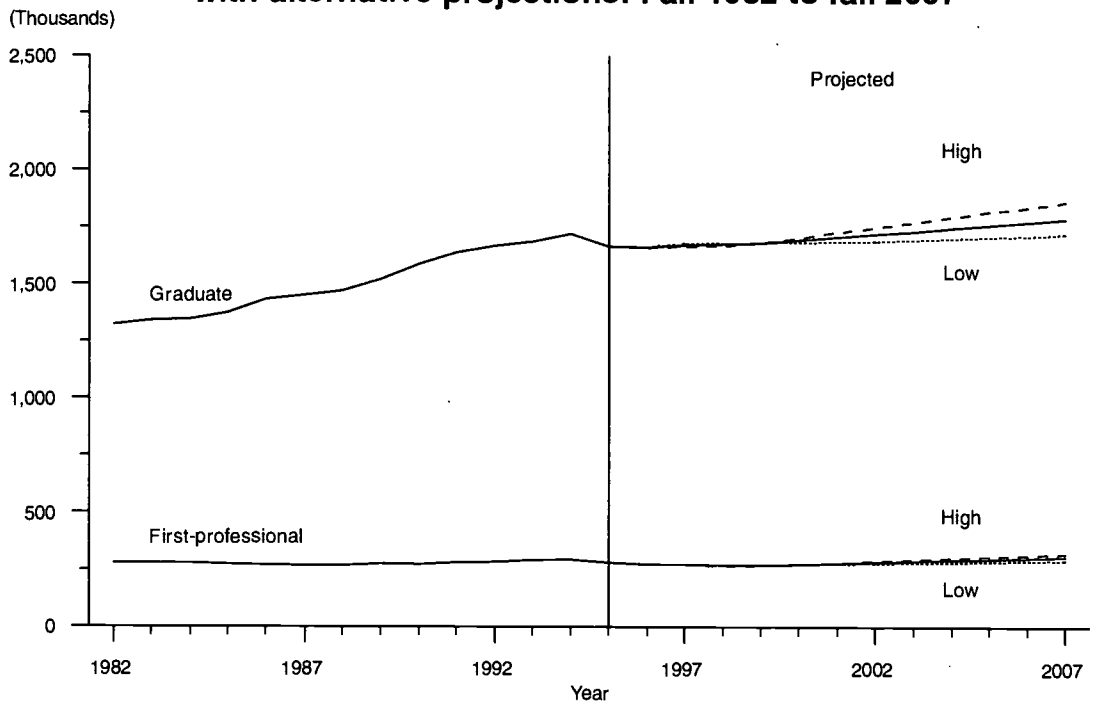


Figure 23
Average annual rates of change for postbaccalaureate enrollment

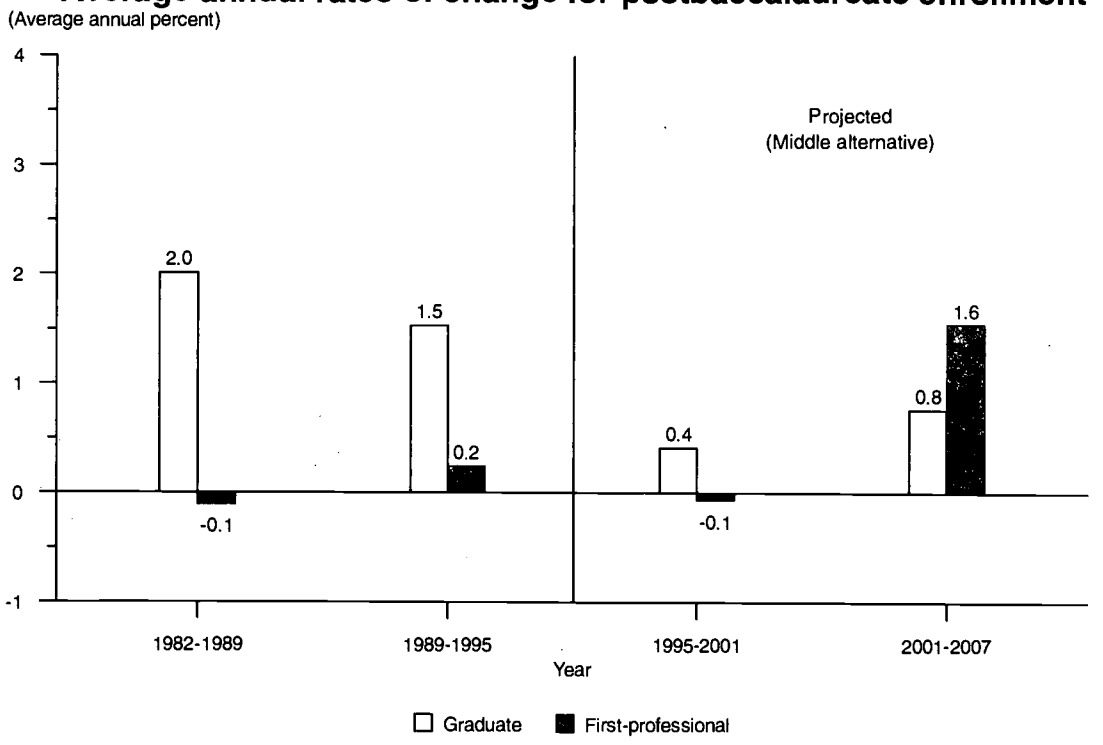


Figure 24
Full-time-equivalent enrollment in institutions of higher education, with alternative projections: Fall 1982 to fall 2007

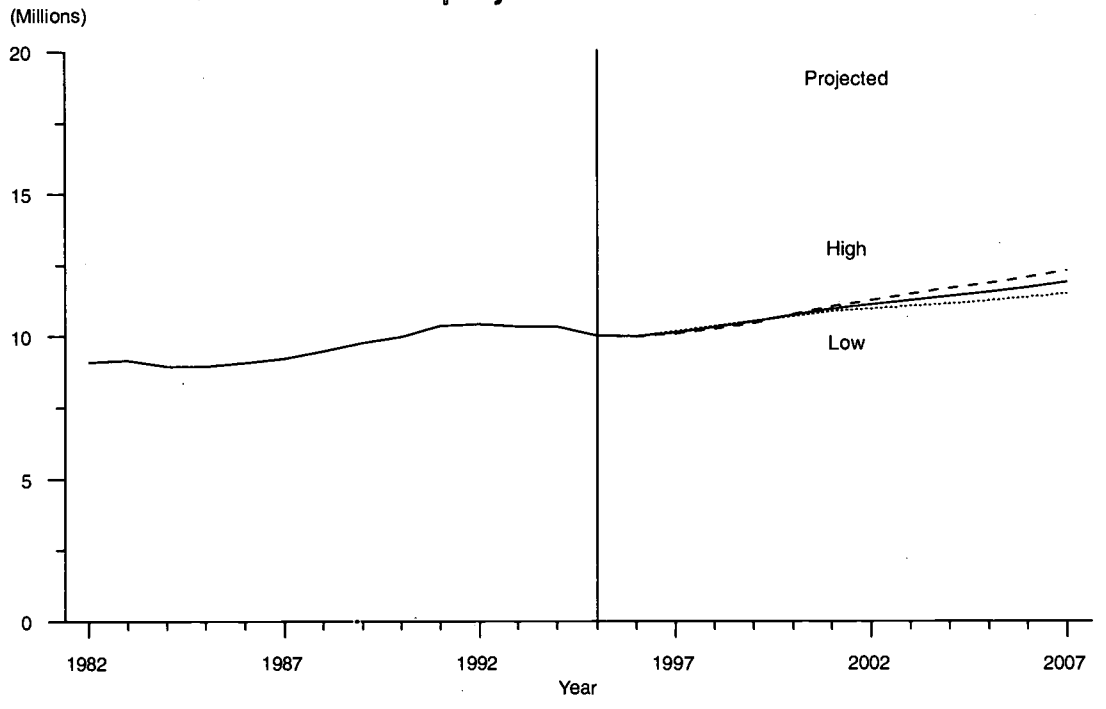


Figure 25
Average annual growth rates for full-time-equivalent enrollment

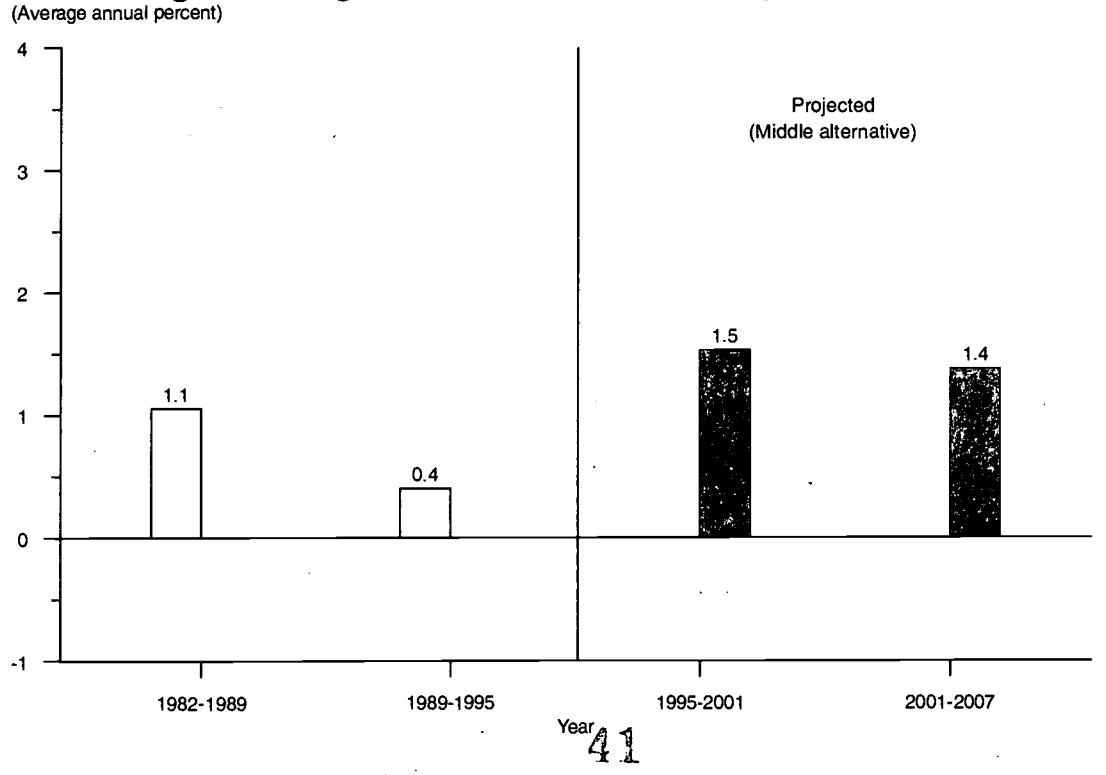


Figure 26
Enrollment in institutions of higher education, by age group, with middle alternative projections: Fall 1987, 1995, and 2007

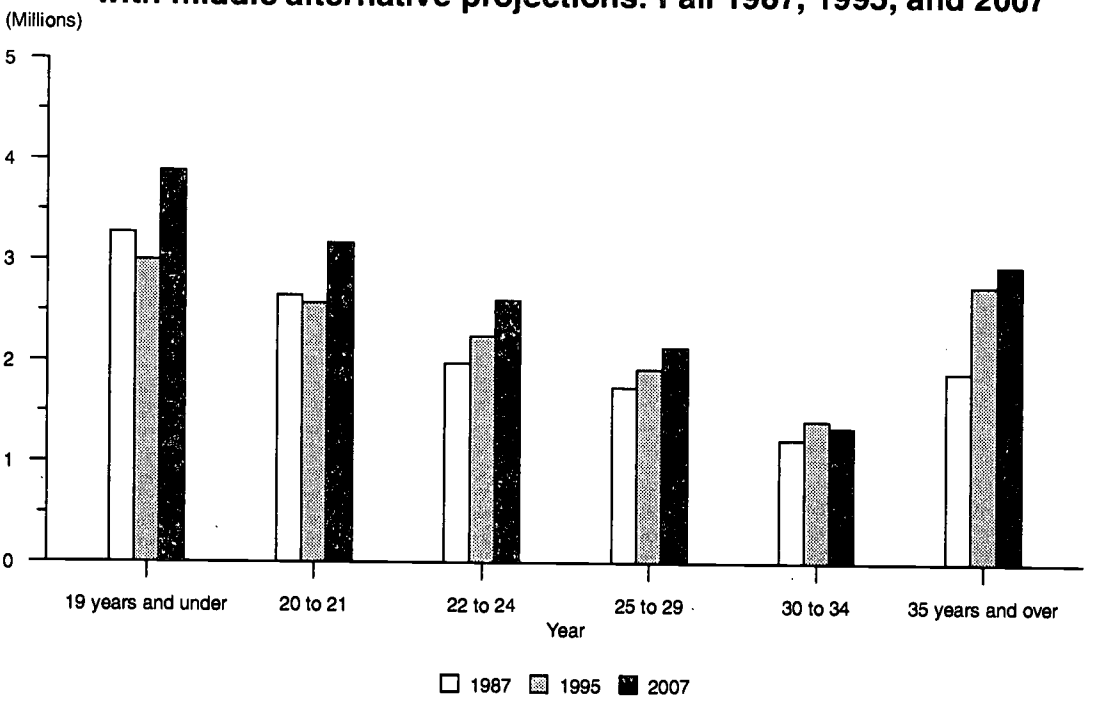


Figure 27
Enrollment of men in institutions of higher education, by age group, with middle alternative projections: Fall 1987, 1995, and 2007

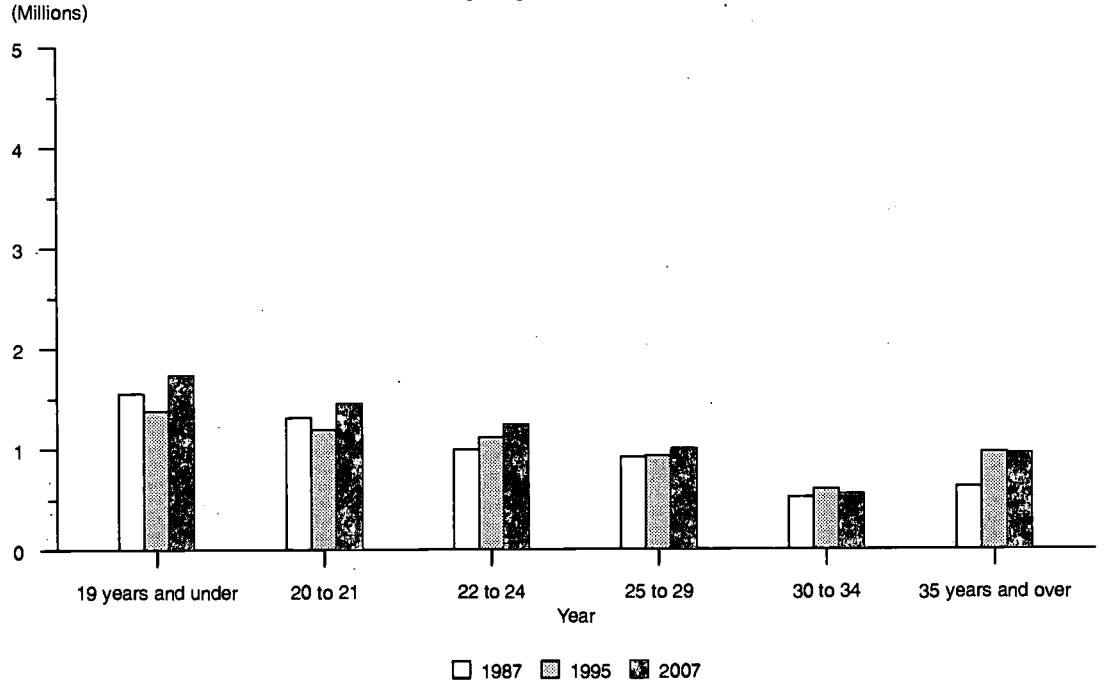


Figure 28
Enrollment of women in institutions of higher education, by age group, with middle alternative projections: Fall 1987, 1995, and 2007

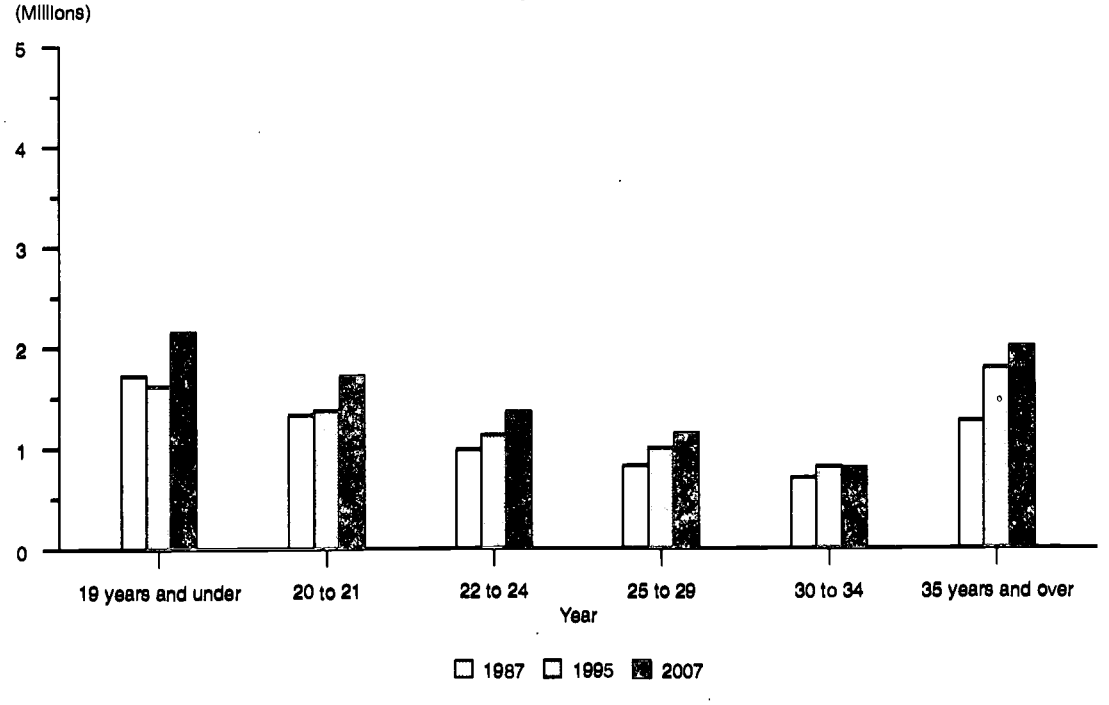


Table 3.—Total enrollment in all institutions of higher education, by sex, attendance status, and control of institution, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1982	12,426	6,031	6,394	7,221	5,205	9,696	2,730
1983	12,465	6,024	6,441	7,261	5,204	9,683	2,782
1984	12,242	5,864	6,378	7,098	5,144	9,477	2,765
1985	12,247	5,818	6,429	7,075	5,172	9,479	2,768
1986	12,504	5,885	6,619	7,120	5,384	9,714	2,790
1987	12,767	5,932	6,835	7,231	5,536	9,973	2,793
1988	13,055	6,002	7,053	7,437	5,619	10,161	2,894
1989	13,539	6,190	7,349	7,661	5,878	10,578	2,961
1990	13,819	6,284	7,535	7,821	5,998	10,845	2,974
1991	14,359	6,502	7,857	8,115	6,244	11,310	3,049
1992	14,487	6,524	7,963	8,162	6,325	11,385	3,103
1993	14,305	6,427	7,877	8,128	6,177	11,189	3,116
1994	14,279	6,372	7,907	8,138	6,141	11,134	3,145
1995*	13,913	6,186	7,727	7,828	6,085	10,883	3,030
				Middle alternative projections			
1996	13,917	6,154	7,763	7,798	6,119	10,894	3,023
1997	14,085	6,205	7,880	7,911	6,174	11,028	3,057
1998	14,310	6,283	8,027	8,083	6,227	11,205	3,105
1999	14,532	6,365	8,167	8,249	6,282	11,378	3,154
2000	14,800	6,459	8,341	8,469	6,331	11,583	3,217
2001	15,051	6,549	8,502	8,681	6,370	11,774	3,277
2002	15,206	6,605	8,601	8,811	6,394	11,889	3,316
2003	15,372	6,668	8,704	8,954	6,418	12,015	3,357
2004	15,543	6,732	8,811	9,095	6,448	12,145	3,398
2005	15,705	6,789	8,916	9,225	6,480	12,268	3,437
2006	15,896	6,857	9,040	9,382	6,515	12,414	3,483
2007	16,111	6,939	9,172	9,555	6,556	12,578	3,533
				Low alternative projections			
1996	13,932	6,160	7,772	7,813	6,119	10,905	3,027
1997	14,131	6,221	7,909	7,960	6,171	11,060	3,070
1998	14,350	6,301	8,049	8,139	6,211	11,232	3,118
1999	14,526	6,372	8,155	8,282	6,245	11,369	3,157
2000	14,722	6,447	8,275	8,453	6,270	11,519	3,203
2001	14,903	6,519	8,384	8,615	6,288	11,656	3,247
2002	14,994	6,558	8,436	8,701	6,293	11,723	3,271
2003	15,097	6,605	8,493	8,798	6,300	11,800	3,297
2004	15,207	6,652	8,555	8,894	6,313	11,884	3,323
2005	15,315	6,695	8,620	8,984	6,331	11,965	3,349
2006	15,454	6,749	8,705	9,102	6,352	12,072	3,382
2007	15,615	6,818	8,797	9,235	6,380	12,195	3,420
				High alternative projections			
1996	13,905	6,150	7,755	7,785	6,120	10,886	3,019
1997	14,043	6,188	7,854	7,862	6,181	10,998	3,045
1998	14,264	6,262	8,002	8,015	6,249	11,174	3,090
1999	14,517	6,349	8,168	8,190	6,328	11,373	3,144
2000	14,862	6,464	8,398	8,461	6,401	11,637	3,225
2001	15,197	6,577	8,620	8,735	6,462	11,892	3,305
2002	15,425	6,652	8,773	8,919	6,506	12,063	3,363
2003	15,664	6,735	8,930	9,117	6,547	12,243	3,421
2004	15,905	6,817	9,088	9,312	6,593	12,426	3,479
2005	16,128	6,891	9,237	9,489	6,639	12,595	3,533
2006	16,373	6,973	9,401	9,687	6,686	12,782	3,592
2007	16,644	7,069	9,574	9,904	6,740	12,988	3,656

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 4.—Total enrollment in 4-year institutions of higher education, by sex, attendance status, and control of institution, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1982	7,654	3,861	3,793	5,381	2,273	5,176	2,478
1983	7,741	3,893	3,849	5,434	2,307	5,223	2,518
1984	7,711	3,847	3,864	5,395	2,317	5,198	2,513
1985	7,716	3,816	3,900	5,385	2,331	5,210	2,506
1986	7,824	3,824	4,000	5,423	2,401	5,300	2,524
1987	7,990	3,859	4,131	5,522	2,468	5,432	2,558
1988	8,180	3,912	4,268	5,693	2,487	5,546	2,634
1989	8,388	3,973	4,414	5,805	2,582	5,694	2,693
1990	8,579	4,051	4,527	5,937	2,642	5,848	2,730
1991	8,707	4,100	4,607	6,041	2,666	5,905	2,802
1992	8,765	4,111	4,654	6,082	2,683	5,900	2,865
1993	8,739	4,082	4,657	6,084	2,655	5,852	2,887
1994	8,749	4,049	4,700	6,106	2,643	5,825	2,924
1995*	8,505	3,923	4,582	5,863	2,642	5,702	2,802
			Middle alternative projections				
1996	8,483	3,886	4,597	5,821	2,662	5,689	2,794
1997	8,582	3,909	4,674	5,897	2,686	5,757	2,825
1998	8,721	3,952	4,769	6,017	2,704	5,854	2,868
1999	8,862	3,999	4,863	6,138	2,724	5,950	2,912
2000	9,045	4,061	4,983	6,305	2,740	6,074	2,970
2001	9,216	4,121	5,095	6,465	2,752	6,190	3,026
2002	9,328	4,160	5,168	6,568	2,760	6,265	3,062
2003	9,444	4,202	5,242	6,678	2,766	6,344	3,100
2004	9,558	4,241	5,316	6,782	2,776	6,420	3,138
2005	9,668	4,278	5,390	6,881	2,787	6,494	3,174
2006	9,797	4,321	5,476	6,999	2,798	6,581	3,216
2007	9,938	4,372	5,565	7,127	2,811	6,676	3,262
			Low alternative projections				
1996	8,494	3,890	4,604	5,832	2,662	5,697	2,797
1997	8,617	3,922	4,695	5,933	2,684	5,781	2,837
1998	8,756	3,968	4,788	6,059	2,697	5,876	2,880
1999	8,870	4,011	4,859	6,163	2,707	5,955	2,915
2000	9,006	4,061	4,945	6,293	2,713	6,048	2,958
2001	9,132	4,110	5,022	6,416	2,716	6,134	2,998
2002	9,203	4,139	5,064	6,487	2,716	6,182	3,021
2003	9,278	4,170	5,108	6,563	2,715	6,233	3,045
2004	9,352	4,200	5,151	6,634	2,718	6,283	3,069
2005	9,426	4,228	5,198	6,704	2,722	6,333	3,093
2006	9,521	4,263	5,259	6,794	2,727	6,398	3,123
2007	9,627	4,305	5,322	6,892	2,735	6,469	3,158
			High alternative projections				
1996	8,473	3,882	4,591	5,811	2,663	5,683	2,790
1997	8,549	3,895	4,654	5,860	2,688	5,735	2,813
1998	8,680	3,933	4,747	5,966	2,714	5,827	2,853
1999	8,837	3,981	4,856	6,094	2,743	5,934	2,903
2000	9,068	4,054	5,014	6,298	2,770	6,091	2,978
2001	9,295	4,128	5,167	6,503	2,791	6,243	3,052
2002	9,455	4,179	5,275	6,647	2,808	6,350	3,105
2003	9,619	4,234	5,386	6,797	2,822	6,460	3,159
2004	9,779	4,286	5,494	6,941	2,839	6,567	3,212
2005	9,930	4,333	5,597	7,075	2,855	6,668	3,262
2006	10,095	4,385	5,710	7,224	2,871	6,779	3,316
2007	10,273	4,445	5,828	7,383	2,890	6,898	3,375

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 5.—Total enrollment in 2-year institutions of higher education, by sex, attendance status, and control of institution, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1982	4,772	2,170	2,602	1,840	2,932	4,520	252
1983	4,723	2,131	2,592	1,827	2,897	4,459	264
1984	4,531	2,017	2,514	1,704	2,827	4,279	252
1985	4,531	2,002	2,529	1,691	2,840	4,270	261
1986	4,680	2,061	2,619	1,696	2,983	4,414	266
1987	4,776	2,073	2,703	1,709	3,068	4,541	235
1988	4,875	2,090	2,785	1,744	3,132	4,615	260
1989	5,151	2,217	2,934	1,856	3,295	4,884	267
1990	5,240	2,233	3,007	1,884	3,356	4,996	244
1991	5,652	2,402	3,250	2,075	3,577	5,405	247
1992	5,722	2,413	3,309	2,080	3,642	5,485	238
1993	5,566	2,345	3,220	2,043	3,523	5,337	229
1994	5,530	2,323	3,207	2,032	3,498	5,308	221
1995 *	5,408	2,263	3,146	1,965	3,443	5,180	228
			Middle alternative projections				
1996	5,434	2,269	3,166	1,977	3,457	5,205	229
1997	5,503	2,296	3,207	2,014	3,489	5,270	233
1998	5,589	2,331	3,258	2,066	3,523	5,351	238
1999	5,670	2,365	3,304	2,111	3,559	5,428	242
2000	5,756	2,398	3,358	2,164	3,592	5,509	247
2001	5,835	2,429	3,407	2,216	3,619	5,584	252
2002	5,878	2,445	3,433	2,243	3,635	5,624	254
2003	5,928	2,466	3,462	2,276	3,652	5,671	257
2004	5,985	2,490	3,495	2,313	3,672	5,725	260
2005	6,037	2,511	3,526	2,344	3,693	5,774	263
2006	6,100	2,536	3,564	2,382	3,717	5,833	267
2007	6,173	2,567	3,606	2,428	3,746	5,902	271
			Low alternative projections				
1996	5,438	2,270	3,168	1,981	3,457	5,209	229
1997	5,514	2,299	3,214	2,027	3,487	5,280	234
1998	5,594	2,332	3,262	2,080	3,514	5,356	238
1999	5,656	2,361	3,295	2,119	3,537	5,414	242
2000	5,716	2,386	3,330	2,159	3,557	5,470	246
2001	5,770	2,409	3,361	2,198	3,572	5,521	249
2002	5,791	2,419	3,372	2,214	3,577	5,541	250
2003	5,819	2,434	3,385	2,234	3,585	5,567	252
2004	5,855	2,452	3,403	2,260	3,595	5,601	254
2005	5,889	2,467	3,422	2,280	3,608	5,632	256
2006	5,933	2,487	3,446	2,308	3,625	5,674	259
2007	5,988	2,512	3,476	2,343	3,645	5,726	262
			High alternative projections				
1996	5,431	2,268	3,164	1,974	3,458	5,203	229
1997	5,494	2,294	3,201	2,001	3,493	5,262	232
1998	5,584	2,330	3,254	2,048	3,536	5,347	236
1999	5,680	2,369	3,312	2,096	3,584	5,439	241
2000	5,794	2,409	3,385	2,163	3,631	5,546	248
2001	5,902	2,449	3,454	2,231	3,671	5,648	254
2002	5,971	2,473	3,498	2,273	3,698	5,713	258
2003	6,045	2,501	3,544	2,320	3,725	5,783	262
2004	6,126	2,531	3,594	2,371	3,754	5,859	267
2005	6,198	2,558	3,640	2,414	3,783	5,927	271
2006	6,278	2,588	3,690	2,463	3,815	6,003	276
2007	6,371	2,624	3,746	2,520	3,851	6,090	281

* Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 6.—Enrollment in all institutions of higher education, by age, sex, and attendance status, with middle alternative projections: 50 States and D.C., fall 1987, 1992, 1995, 2002, and 2007

(In thousands)

Age	1987 (Estimated)			1992 (Estimated)			1995 (Projected)			2002 (Projected)			2007 (Projected)		
	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time
Total	**12,767**	**7,231**	**5,536**	**14,487**	**8,162**	**6,325**	**13,913**	**7,828**	**6,085**	**15,206**	**8,811**	**6,394**	**16,111**	**9,555**	**6,556**
14 to 17 years	264	146	117	186	179	7	171	146	25	244	212	32	290	254	36
18 to 19 years	3,012	2,568	443	2,784	2,382	402	2,828	2,403	425	3,321	2,845	476	3,597	3,077	520
20 to 21 years	2,651	2,060	591	2,883	2,268	616	2,572	2,073	499	2,983	2,404	579	3,174	2,557	617
22 to 24 years	1,979	1,185	794	2,527	1,594	933	2,247	1,429	818	2,351	1,505	845	2,604	1,680	924
25 to 29 years	1,745	649	1,095	1,986	732	1,254	1,928	810	1,118	1,856	769	1,087	2,143	907	1,237
30 to 34 years	1,223	278	945	1,456	410	1,046	1,411	412	999	1,412	427	985	1,348	421	927
35 years and over	1,892	344	1,548	2,666	598	2,068	2,756	555	2,201	3,039	648	2,390	2,954	659	2,295
Men	5,932	3,611	2,321	6,524	3,927	2,597	6,186	3,695	2,491	6,605	3,940	2,665	6,939	4,181	2,758
14 to 17 years	127	70	57	89	86	4	86	69	17	103	85	18	115	95	20
18 to 19 years	1,427	1,227	199	1,305	1,130	176	1,294	1,101	192	1,505	1,290	215	1,620	1,385	235
20 to 21 years	1,318	1,039	279	1,342	1,084	258	1,194	961	233	1,380	1,100	280	1,454	1,155	299
22 to 24 years	995	649	346	1,272	855	417	1,116	743	373	1,148	747	402	1,245	806	440
25 to 29 years	920	353	567	955	378	577	929	428	501	884	372	513	1,003	418	584
30 to 34 years	520	139	381	628	175	453	601	182	419	586	167	419	550	155	394
35 years and over	624	132	492	933	220	713	965	211	755	999	179	820	953	168	785
Women	6,835	3,620	3,214	7,963	4,235	3,728	7,727	4,133	3,595	8,601	4,871	3,729	9,172	5,373	3,798
14 to 17 years	136	76	61	97	93	3	85	77	8	141	127	14	175	159	16
18 to 19 years	1,585	1,341	244	1,479	1,253	226	1,534	1,302	232	1,816	1,555	261	1,977	1,693	284
20 to 21 years	1,333	1,021	312	1,541	1,183	358	1,378	1,112	265	1,603	1,304	299	1,721	1,403	318
22 to 24 years	984	536	448	1,255	740	515	1,131	686	445	1,202	758	444	1,359	874	485
25 to 29 years	825	296	528	1,030	353	677	999	382	617	972	398	575	1,141	488	653
30 to 34 years	703	139	564	828	235	593	810	230	580	826	260	566	799	266	533
35 years and over	1,267	211	1,056	1,732	377	1,355	1,791	344	1,447	2,040	469	1,570	2,001	491	1,510

NOTE: Historical numbers may differ from those in previous editions. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys; and U.S. Department of Commerce, Bureau of the Census, unpublished tabulations. (This table was prepared August 1996.)

Table 7.—Enrollment in all institutions of higher education, by age, sex, and attendance status, with low alternative projections: 50 States and D.C., fall 1987, 1992, 1995, 2002, and 2007

(In thousands)

Age	1987 (Estimated)			1992 (Estimated)			1995 (Projected)			2002 (Projected)			2007 (Projected)		
	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time
Total	**12,767**	**7,231**	**5,536**	**14,487**	**8,162**	**6,325**	**13,913**	**7,828**	**6,085**	**14,994**	**8,701**	**6,293**	**15,615**	**9,235**	**6,380**
14 to 17 years	264	146	117	186	179	7	171	146	25	237	205	32	273	238	35
18 to 19 years	3,012	2,568	443	2,784	2,382	402	2,828	2,403	425	3,295	2,827	468	3,536	3,030	505
20 to 21 years	2,651	2,060	591	2,883	2,268	616	2,572	2,073	499	2,953	2,383	570	3,100	2,499	601
22 to 24 years	1,979	1,185	794	2,527	1,594	933	2,247	1,429	818	2,312	1,480	832	2,506	1,606	900
25 to 29 years	1,745	649	1,095	1,986	732	1,254	1,928	810	1,118	1,826	756	1,070	2,061	858	1,203
30 to 34 years	1,223	278	945	1,456	410	1,046	1,411	412	999	1,387	418	969	1,296	394	902
35 years and over	1,892	344	1,548	2,666	598	2,068	2,756	555	2,201	2,984	632	2,352	2,844	610	2,233
Men	5,932	3,611	2,321	6,524	3,927	2,597	6,186	3,695	2,491	6,558	3,938	2,620	6,818	4,139	2,678
14 to 17 years	127	70	57	89	86	4	86	69	17	102	84	17	113	93	20
18 to 19 years	1,427	1,227	199	1,305	1,130	176	1,294	1,101	192	1,499	1,288	211	1,603	1,374	228
20 to 21 years	1,318	1,039	279	1,342	1,084	258	1,194	961	233	1,375	1,100	275	1,436	1,145	290
22 to 24 years	995	649	346	1,272	855	417	1,116	743	373	1,141	746	395	1,223	795	428
25 to 29 years	920	353	567	955	378	577	929	428	501	877	373	504	980	413	568
30 to 34 years	520	139	381	628	175	453	601	182	419	579	167	412	536	153	383
35 years and over	624	132	492	933	220	713	965	211	755	985	180	806	927	165	762
Women	6,835	3,620	3,214	7,963	4,235	3,728	7,727	4,133	3,595	8,436	4,763	3,673	8,797	5,096	3,701
14 to 17 years	136	76	61	97	93	3	85	77	8	135	121	14	160	145	16
18 to 19 years	1,585	1,341	244	1,479	1,253	226	1,534	1,302	232	1,796	1,539	257	1,933	1,656	277
20 to 21 years	1,333	1,021	312	1,541	1,183	358	1,378	1,112	265	1,578	1,283	295	1,664	1,354	310
22 to 24 years	984	536	448	1,255	740	515	1,131	686	445	1,171	733	437	1,283	810	473
25 to 29 years	825	296	528	1,030	353	677	999	382	617	950	384	566	1,081	445	636
30 to 34 years	703	139	564	828	235	593	810	230	580	808	251	558	760	241	519
35 years and over	1,267	211	1,056	1,732	377	1,355	1,791	344	1,447	1,999	452	1,547	1,916	445	1,471

NOTE: Historical numbers may differ from those in previous editions. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys; and U.S. Department of Commerce, Bureau of the Census, unpublished tabulations. (This table was prepared August 1996.)

Table 8.—Enrollment in all institutions of higher education, by age, sex, and attendance status, with high alternative projections: 50 States and D.C., fall 1987, 1992, 1995, 2002, and 2007

(In thousands)

Age	1987 (Estimated)			1992 (Estimated)			1995 (Projected)			2002 (Projected)			2007 (Projected)		
	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time
Total	**12,767**	**7,231**	**5,536**	**14,487**	**8,162**	**6,325**	**13,913**	**7,828**	**6,085**	**15,425**	**8,919**	**6,506**	**16,644**	**9,904**	**6,740**
14 to 17 years	264	146	117	186	179	7	171	146	25	251	219	33	310	273	37
18 to 19 years	3,012	2,568	443	2,784	2,382	402	2,828	2,403	425	3,347	2,863	484	3,658	3,124	534
20 to 21 years	2,651	2,060	591	2,883	2,268	616	2,572	2,073	499	3,014	2,425	589	3,251	2,617	634
22 to 24 years	1,979	1,185	794	2,527	1,594	933	2,247	1,429	818	2,390	1,531	860	2,710	1,761	949
25 to 29 years	1,745	649	1,095	1,986	732	1,254	1,928	810	1,118	1,888	782	1,106	2,234	963	1,272
30 to 34 years	1,223	278	945	1,456	410	1,046	1,411	412	999	1,438	436	1,003	1,406	452	954
35 years and over	1,892	344	1,548	2,666	598	2,068	2,756	555	2,201	3,097	665	2,432	3,074	715	2,360
Men	5,932	3,611	2,321	6,524	3,927	2,597	6,186	3,695	2,491	6,652	3,937	2,715	7,069	4,229	2,841
14 to 17 years	127	70	57	89	86	4	86	69	17	104	86	18	118	97	21
18 to 19 years	1,427	1,227	199	1,305	1,130	176	1,294	1,101	192	1,511	1,292	219	1,638	1,396	242
20 to 21 years	1,318	1,039	279	1,342	1,084	258	1,194	961	233	1,384	1,100	285	1,473	1,165	308
22 to 24 years	995	649	346	1,272	855	417	1,116	743	373	1,155	746	409	1,269	817	452
25 to 29 years	920	353	567	955	378	577	929	428	501	892	370	522	1,027	425	602
30 to 34 years	520	139	381	628	175	453	601	182	419	593	166	427	564	158	406
35 years and over	624	132	492	933	220	713	965	211	755	1,014	178	836	980	171	810
Women	6,835	3,620	3,214	7,963	4,235	3,728	7,727	4,133	3,595	8,773	4,982	3,791	9,574	5,675	3,900
14 to 17 years	136	76	61	97	93	3	85	77	8	148	133	15	192	176	16
18 to 19 years	1,585	1,341	244	1,479	1,253	226	1,534	1,302	232	1,836	1,571	265	2,020	1,728	292
20 to 21 years	1,333	1,021	312	1,541	1,183	358	1,378	1,112	265	1,629	1,325	304	1,778	1,452	327
22 to 24 years	984	536	448	1,255	740	515	1,131	686	445	1,235	784	451	1,441	943	497
25 to 29 years	825	296	528	1,030	353	677	999	382	617	996	412	584	1,208	538	670
30 to 34 years	703	139	564	828	235	593	810	230	580	846	270	576	842	294	548
35 years and over	1,267	211	1,056	1,732	377	1,355	1,791	344	1,447	2,083	487	1,596	2,094	544	1,550

NOTE: Historical numbers may differ from those in previous editions. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys; and U.S. Department of Commerce, Bureau of the Census, unpublished tabulations. (This table was prepared August 1996)

Table 9.—Total enrollment in all institutions of higher education, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	12,426	3,753	2,278	3,468	2,927
1983	12,465	3,760	2,264	3,501	2,940
1984	12,242	3,648	2,216	3,451	2,927
1985	12,247	3,608	2,211	3,468	2,961
1986	12,504	3,599	2,285	3,521	3,098
1987	12,767	3,611	2,321	3,620	3,214
1988	13,055	3,662	2,340	3,775	3,278
1989	13,539	3,740	2,450	3,921	3,428
1990	13,819	3,808	2,476	4,013	3,521
1991	14,359	3,929	2,572	4,186	3,671
1992	14,487	3,927	2,597	4,235	3,728
1993	14,305	3,891	2,537	4,237	3,640
1994	14,279	3,855	2,517	4,283	3,624
1995*	13,913	3,695	2,491	4,133	3,595
		Middle alternative projections			
1996	13,917	3,637	2,517	4,160	3,602
1997	14,085	3,654	2,551	4,257	3,623
1998	14,310	3,705	2,578	4,377	3,649
1999	14,532	3,758	2,606	4,491	3,676
2000	14,800	3,829	2,630	4,640	3,701
2001	15,051	3,899	2,650	4,782	3,720
2002	15,206	3,940	2,665	4,871	3,729
2003	15,372	3,988	2,680	4,966	3,738
2004	15,543	4,034	2,697	5,060	3,751
2005	15,705	4,074	2,715	5,152	3,765
2006	15,896	4,123	2,734	5,259	3,780
2007	16,111	4,181	2,758	5,373	3,798
		Low alternative projections			
1996	13,932	3,643	2,517	4,170	3,602
1997	14,131	3,672	2,549	4,288	3,621
1998	14,350	3,730	2,571	4,409	3,640
1999	14,526	3,782	2,589	4,499	3,655
2000	14,722	3,845	2,603	4,608	3,667
2001	14,903	3,905	2,614	4,709	3,674
2002	14,994	3,938	2,620	4,763	3,673
2003	15,097	3,977	2,627	4,820	3,672
2004	15,207	4,015	2,637	4,879	3,676
2005	15,315	4,047	2,649	4,938	3,682
2006	15,454	4,088	2,661	5,014	3,691
2007	15,615	4,139	2,678	5,096	3,701
		High alternative projections			
1996	13,905	3,632	2,517	4,152	3,603
1997	14,043	3,634	2,554	4,227	3,627
1998	14,264	3,675	2,588	4,340	3,662
1999	14,517	3,723	2,626	4,467	3,701
2000	14,862	3,803	2,661	4,659	3,740
2001	15,197	3,885	2,691	4,849	3,771
2002	15,425	3,937	2,715	4,982	3,791
2003	15,664	3,996	2,738	5,120	3,809
2004	15,905	4,055	2,762	5,257	3,831
2005	16,128	4,104	2,787	5,385	3,852
2006	16,373	4,161	2,811	5,526	3,875
2007	16,644	4,229	2,841	5,675	3,900

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 10.—Total enrollment in public 4-year institutions of higher education, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	5,176	1,889	698	1,734	855
1983	5,223	1,910	698	1,755	860
1984	5,198	1,880	694	1,749	874
1985	5,210	1,864	693	1,760	893
1986	5,300	1,865	706	1,792	937
1987	5,432	1,882	723	1,854	973
1988	5,546	1,910	722	1,932	982
1989	5,694	1,938	743	1,997	1,017
1990	5,848	1,982	764	2,051	1,050
1991	5,905	2,006	765	2,083	1,051
1992	5,900	2,005	760	2,090	1,045
1993	5,852	1,989	750	2,085	1,027
1994	5,825	1,966	738	2,100	1,022
1995*	5,702	1,885	746	2,045	1,027
		Middle alternative projections			
1996	5,689	1,851	756	2,053	1,030
1997	5,757	1,858	765	2,098	1,036
1998	5,854	1,883	772	2,157	1,042
1999	5,950	1,910	779	2,213	1,049
2000	6,074	1,948	784	2,289	1,054
2001	6,190	1,984	788	2,360	1,058
2002	6,265	2,007	791	2,406	1,061
2003	6,344	2,033	795	2,454	1,062
2004	6,420	2,056	799	2,500	1,065
2005	6,494	2,077	803	2,546	1,069
2006	6,581	2,102	807	2,600	1,072
2007	6,676	2,132	813	2,656	1,075
		Low alternative projections			
1996	5,697	1,854	756	2,057	1,030
1997	5,781	1,867	765	2,113	1,035
1998	5,876	1,896	770	2,172	1,039
1999	5,955	1,922	773	2,217	1,043
2000	6,048	1,956	776	2,273	1,045
2001	6,134	1,988	777	2,324	1,045
2002	6,182	2,007	778	2,353	1,045
2003	6,233	2,028	779	2,383	1,044
2004	6,283	2,046	781	2,412	1,044
2005	6,333	2,063	783	2,442	1,045
2006	6,398	2,085	785	2,481	1,046
2007	6,469	2,110	789	2,522	1,048
		High alternative projections			
1996	5,683	1,848	756	2,049	1,030
1997	5,735	1,848	766	2,084	1,037
1998	5,827	1,867	775	2,139	1,045
1999	5,934	1,891	785	2,202	1,056
2000	6,091	1,934	793	2,298	1,065
2001	6,243	1,977	800	2,393	1,073
2002	6,350	2,006	806	2,460	1,078
2003	6,460	2,037	812	2,529	1,083
2004	6,567	2,066	818	2,595	1,088
2005	6,668	2,092	824	2,658	1,093
2006	6,779	2,122	830	2,728	1,099
2007	6,898	2,156	837	2,801	1,104

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 11.—Total enrollment in public 2-year institutions of higher education, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	4,520	851	1,195	810	1,664
1983	4,459	827	1,175	807	1,650
1984	4,279	762	1,138	756	1,623
1985	4,270	743	1,138	754	1,635
1986	4,414	742	1,193	764	1,715
1987	4,541	744	1,225	787	1,785
1988	4,615	746	1,231	822	1,817
1989	4,884	793	1,302	881	1,907
1990	4,996	811	1,318	906	1,962
1991	5,405	882	1,414	1,004	2,105
1992	5,485	878	1,431	1,037	2,138
1993	5,337	859	1,386	1,030	2,063
1994	5,308	848	1,379	1,038	2,044
1995*	5,180	819	1,345	991	2,026
		Middle alternative projections			
1996	5,205	815	1,355	1,006	2,029
1997	5,270	823	1,374	1,033	2,041
1998	5,351	839	1,391	1,064	2,058
1999	5,428	853	1,409	1,091	2,074
2000	5,509	868	1,425	1,125	2,090
2001	5,584	883	1,439	1,158	2,103
2002	5,624	889	1,449	1,177	2,109
2003	5,671	899	1,460	1,198	2,115
2004	5,725	910	1,471	1,220	2,123
2005	5,774	918	1,483	1,241	2,132
2006	5,833	929	1,496	1,265	2,143
2007	5,902	943	1,511	1,293	2,155
		Low alternative projections			
1996	5,209	816	1,355	1,009	2,029
1997	5,280	826	1,373	1,041	2,040
1998	5,356	844	1,387	1,072	2,053
1999	5,414	858	1,400	1,094	2,062
2000	5,470	871	1,410	1,118	2,071
2001	5,521	884	1,419	1,141	2,077
2002	5,541	889	1,425	1,150	2,077
2003	5,567	896	1,431	1,162	2,078
2004	5,601	906	1,438	1,176	2,081
2005	5,632	912	1,446	1,188	2,086
2006	5,674	921	1,456	1,205	2,092
2007	5,726	934	1,467	1,224	2,100
		High alternative projections			
1996	5,203	814	1,355	1,004	2,029
1997	5,262	819	1,376	1,025	2,043
1998	5,347	832	1,396	1,054	2,065
1999	5,439	846	1,420	1,085	2,088
2000	5,546	863	1,442	1,129	2,112
2001	5,648	881	1,461	1,175	2,132
2002	5,713	889	1,476	1,204	2,144
2003	5,783	901	1,491	1,235	2,156
2004	5,859	915	1,506	1,269	2,169
2005	5,927	925	1,521	1,299	2,182
2006	6,003	937	1,538	1,331	2,196
2007	6,090	953	1,556	1,367	2,213

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 12.—Total enrollment in private 4-year institutions of higher education, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	2,478	933	341	824	380
1983	2,518	935	350	834	399
1984	2,513	926	346	839	401
1985	2,506	918	342	844	403
1986	2,524	910	343	856	414
1987	2,558	909	346	878	426
1988	2,634	933	347	918	436
1989	2,693	933	360	938	463
1990	2,730	944	361	959	466
1991	2,802	962	367	990	483
1992	2,865	970	375	1,017	503
1993	2,887	973	369	1,037	508
1994	2,924	978	367	1,063	516
1995*	2,802	924	369	1,009	500
		Middle alternative projections			
1996	2,794	904	374	1,013	502
1997	2,825	906	379	1,035	505
1998	2,868	915	382	1,062	508
1999	2,912	926	385	1,090	511
2000	2,970	942	388	1,126	514
2001	3,026	959	389	1,161	516
2002	3,062	970	391	1,185	517
2003	3,100	982	392	1,209	517
2004	3,138	993	393	1,232	519
2005	3,174	1,003	395	1,255	520
2006	3,216	1,015	397	1,282	522
2007	3,262	1,029	399	1,310	524
		Low alternative projections			
1996	2,797	906	374	1,015	502
1997	2,837	911	379	1,042	505
1998	2,880	921	381	1,070	507
1999	2,915	932	383	1,092	508
2000	2,958	947	384	1,118	509
2001	2,998	961	384	1,143	509
2002	3,021	970	384	1,158	509
2003	3,045	980	384	1,173	508
2004	3,069	989	385	1,187	508
2005	3,093	997	385	1,202	509
2006	3,123	1,006	386	1,221	510
2007	3,158	1,018	388	1,242	510
		High alternative projections			
1996	2,790	903	374	1,011	502
1997	2,813	901	380	1,027	506
1998	2,853	907	384	1,053	510
1999	2,903	916	388	1,084	515
2000	2,978	935	392	1,131	519
2001	3,052	955	395	1,178	523
2002	3,105	969	398	1,212	525
2003	3,159	984	400	1,247	527
2004	3,212	999	403	1,281	530
2005	3,262	1,011	406	1,313	532
2006	3,316	1,025	408	1,348	535
2007	3,375	1,041	411	1,385	537

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 13.—Total enrollment in private 2-year institutions of higher education, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	252	80	45	99	28
1983	264	88	41	105	30
1984	252	79	37	106	29
1985	261	84	38	110	30
1986	266	83	43	108	32
1987	235	76	28	102	29
1988	260	73	40	103	44
1989	267	76	45	105	41
1990	244	71	34	96	43
1991	247	80	27	109	32
1992	238	74	30	91	43
1993	229	70	31	85	43
1994	221	64	33	82	43
1995*	228	67	32	88	41
Middle alternative projections					
1996	229	67	32	89	41
1997	233	67	32	91	42
1998	238	69	33	94	42
1999	242	70	33	97	42
2000	247	71	33	100	43
2001	252	72	34	103	43
2002	254	73	34	104	43
2003	257	74	34	106	43
2004	260	75	34	108	43
2005	263	75	35	110	43
2006	267	76	35	112	44
2007	271	77	35	114	44
Low alternative projections					
1996	229	67	32	89	41
1997	234	68	32	92	42
1998	238	69	33	95	42
1999	242	70	33	97	42
2000	246	71	33	99	42
2001	249	72	33	101	42
2002	250	73	33	102	42
2003	252	73	34	103	42
2004	254	74	34	104	42
2005	256	75	34	105	43
2006	259	76	34	107	43
2007	262	77	34	108	43
High alternative projections					
1996	229	67	32	89	41
1997	232	67	32	91	42
1998	236	68	33	93	42
1999	241	69	33	96	43
2000	248	71	34	100	43
2001	254	72	34	104	43
2002	258	73	35	107	44
2003	262	74	35	109	44
2004	267	75	35	112	44
2005	271	76	36	115	44
2006	276	77	36	118	45
2007	281	78	36	121	45

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 14.—Undergraduate enrollment in all institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	10,825	3,299	1,871	3,184	2,470
1983	10,846	3,304	1,854	3,210	2,478
1984	10,618	3,195	1,812	3,153	2,459
1985	10,597	3,156	1,806	3,163	2,471
1986	10,798	3,146	1,871	3,206	2,575
1987	11,046	3,164	1,905	3,299	2,679
1988	11,317	3,206	1,931	3,436	2,743
1989	11,743	3,279	2,032	3,562	2,869
1990	11,959	3,337	2,043	3,639	2,940
1991	12,439	3,436	2,135	3,786	3,082
1992	12,538	3,425	2,158	3,820	3,135
1993	12,324	3,382	2,102	3,797	3,043
1994	12,263	3,342	2,081	3,827	3,013
1995*	11,966	3,212	2,045	3,719	2,990
		Middle alternative projections			
1996	11,980	3,177	2,063	3,748	2,992
1997	12,141	3,203	2,090	3,838	3,009
1998	12,364	3,264	2,114	3,954	3,032
1999	12,578	3,321	2,140	4,061	3,056
2000	12,832	3,392	2,162	4,198	3,080
2001	13,065	3,458	2,182	4,326	3,098
2002	13,201	3,494	2,197	4,402	3,108
2003	13,352	3,538	2,212	4,485	3,117
2004	13,503	3,579	2,229	4,565	3,129
2005	13,647	3,615	2,246	4,644	3,142
2006	13,822	3,661	2,265	4,739	3,157
2007	14,017	3,714	2,287	4,840	3,174
		Low alternative projections			
1996	11,992	3,182	2,063	3,756	2,992
1997	12,178	3,218	2,089	3,864	3,007
1998	12,396	3,283	2,109	3,980	3,025
1999	12,572	3,340	2,126	4,067	3,039
2000	12,765	3,404	2,140	4,170	3,051
2001	12,938	3,463	2,152	4,264	3,060
2002	13,022	3,492	2,160	4,309	3,061
2003	13,121	3,528	2,169	4,361	3,062
2004	13,220	3,562	2,179	4,412	3,067
2005	13,319	3,591	2,191	4,463	3,073
2006	13,451	3,631	2,205	4,533	3,082
2007	13,601	3,678	2,222	4,608	3,093
		High alternative projections			
1996	11,970	3,174	2,063	3,741	2,992
1997	12,107	3,188	2,093	3,814	3,012
1998	12,328	3,239	2,122	3,924	3,042
1999	12,568	3,292	2,156	4,042	3,077
2000	12,886	3,371	2,188	4,215	3,112
2001	13,189	3,448	2,216	4,384	3,141
2002	13,386	3,493	2,238	4,496	3,159
2003	13,598	3,546	2,260	4,615	3,177
2004	13,806	3,597	2,283	4,731	3,196
2005	14,000	3,641	2,305	4,839	3,215
2006	14,220	3,694	2,329	4,962	3,236
2007	14,461	3,755	2,356	5,091	3,259

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 15.—Undergraduate enrollment in public institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	8,713	2,487	1,653	2,373	2,201
1983	8,697	2,482	1,635	2,385	2,195
1984	8,493	2,390	1,600	2,325	2,179
1985	8,477	2,357	1,596	2,331	2,193
1986	8,661	2,351	1,652	2,367	2,291
1987	8,919	2,375	1,701	2,449	2,393
1988	9,103	2,399	1,714	2,550	2,439
1989	9,488	2,470	1,801	2,663	2,553
1990	9,710	2,527	1,826	2,734	2,623
1991	10,148	2,610	1,921	2,851	2,766
1992	10,216	2,602	1,935	2,883	2,797
1993	10,012	2,566	1,882	2,860	2,704
1994	9,945	2,532	1,863	2,875	2,676
1995*	9,721	2,436	1,830	2,794	2,661
		Middle alternative projections			
1996	9,737	2,411	1,845	2,818	2,663
1997	9,866	2,431	1,870	2,887	2,678
1998	10,042	2,476	1,892	2,974	2,699
1999	10,210	2,520	1,915	3,054	2,721
2000	10,406	2,573	1,935	3,157	2,742
2001	10,587	2,623	1,953	3,252	2,758
2002	10,691	2,649	1,966	3,309	2,766
2003	10,808	2,682	1,981	3,371	2,775
2004	10,927	2,714	1,996	3,432	2,785
2005	11,039	2,740	2,011	3,491	2,797
2006	11,176	2,775	2,028	3,562	2,811
2007	11,328	2,816	2,048	3,638	2,826
		Low alternative projections			
1996	9,747	2,414	1,845	2,824	2,663
1997	9,894	2,442	1,869	2,906	2,677
1998	10,064	2,491	1,887	2,994	2,692
1999	10,201	2,534	1,903	3,059	2,705
2000	10,349	2,582	1,915	3,135	2,716
2001	10,482	2,626	1,926	3,205	2,724
2002	10,545	2,648	1,933	3,239	2,725
2003	10,620	2,675	1,941	3,277	2,726
2004	10,697	2,701	1,951	3,315	2,730
2005	10,774	2,722	1,962	3,354	2,736
2006	10,876	2,753	1,974	3,406	2,744
2007	10,993	2,788	1,989	3,462	2,754
		High alternative projections			
1996	9,730	2,408	1,846	2,813	2,663
1997	9,840	2,419	1,872	2,868	2,681
1998	10,016	2,458	1,899	2,951	2,708
1999	10,207	2,498	1,930	3,040	2,739
2000	10,455	2,557	1,958	3,169	2,770
2001	10,691	2,615	1,983	3,296	2,796
2002	10,844	2,649	2,003	3,380	2,812
2003	11,009	2,688	2,023	3,470	2,828
2004	11,173	2,727	2,043	3,557	2,845
2005	11,325	2,760	2,064	3,639	2,862
2006	11,497	2,800	2,085	3,731	2,881
2007	11,686	2,846	2,109	3,829	2,902

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 16.—Undergraduate enrollment in private institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	2,112	812	219	811	270
1983	2,149	823	219	824	283
1984	2,125	805	212	827	280
1985	2,120	800	210	832	278
1986	2,137	796	219	839	284
1987	2,128	788	204	850	286
1988	2,213	807	217	886	304
1989	2,255	808	231	899	316
1990	2,250	810	217	905	317
1991	2,291	825	215	935	316
1992	2,321	823	223	936	338
1993	2,312	816	220	937	338
1994	2,317	810	218	952	338
1995*	2,245	776	215	924	329
Middle alternative projections					
1996	2,243	767	218	929	329
1997	2,275	773	220	951	331
1998	2,323	787	223	980	333
1999	2,368	801	225	1,007	336
2000	2,425	819	227	1,042	338
2001	2,478	835	229	1,074	340
2002	2,509	845	230	1,093	341
2003	2,544	856	232	1,114	342
2004	2,576	866	233	1,134	344
2005	2,608	874	235	1,153	345
2006	2,647	886	237	1,177	347
2007	2,688	899	239	1,202	348
Low alternative projections					
1996	2,246	768	218	931	329
1997	2,284	776	220	957	330
1998	2,332	792	222	986	332
1999	2,371	806	223	1,008	334
2000	2,416	822	225	1,035	335
2001	2,456	837	226	1,058	336
2002	2,477	844	226	1,070	336
2003	2,501	854	227	1,084	336
2004	2,523	861	228	1,096	337
2005	2,545	869	229	1,109	338
2006	2,575	879	231	1,127	338
2007	2,607	890	232	1,146	339
High alternative projections					
1996	2,240	766	218	928	329
1997	2,266	769	221	946	331
1998	2,312	781	223	973	334
1999	2,361	794	227	1,003	338
2000	2,431	814	230	1,046	342
2001	2,498	833	232	1,088	345
2002	2,542	845	234	1,116	347
2003	2,589	858	237	1,145	349
2004	2,633	870	239	1,174	351
2005	2,675	881	241	1,200	353
2006	2,723	894	244	1,231	355
2007	2,775	908	246	1,263	358

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 17.—Graduate enrollment in all institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	1,322	280	390	205	447
1983	1,340	286	391	211	452
1984	1,345	286	386	215	459
1985	1,376	289	388	220	479
1986	1,435	294	399	228	514
1987	1,452	294	400	233	525
1988	1,472	304	393	249	526
1989	1,522	309	401	263	548
1990	1,586	321	416	278	571
1991	1,639	341	419	300	578
1992	1,669	351	421	314	582
1993	1,688	355	416	334	584
1994	1,721	359	417	347	598
1995*	1,667	334	426	313	593
Middle alternative projections					
1996	1,663	319	435	312	598
1997	1,672	312	441	317	602
1998	1,675	306	444	320	605
1999	1,682	303	446	325	608
2000	1,694	303	448	334	609
2001	1,708	305	448	345	610
2002	1,722	309	448	355	609
2003	1,732	312	448	364	609
2004	1,747	315	448	374	609
2005	1,761	318	449	384	610
2006	1,773	320	449	393	611
2007	1,789	323	450	403	612
Low alternative projections					
1996	1,665	319	435	313	598
1997	1,678	315	441	321	602
1998	1,680	310	443	324	604
1999	1,681	307	443	327	604
2000	1,683	306	443	331	604
2001	1,688	307	442	337	602
2002	1,693	309	441	343	600
2003	1,695	311	439	347	598
2004	1,702	314	438	353	597
2005	1,709	315	438	359	597
2006	1,714	317	437	364	596
2007	1,722	319	437	370	596
High alternative projections					
1996	1,662	318	435	311	598
1997	1,666	309	441	313	603
1998	1,669	302	446	315	607
1999	1,681	298	450	321	612
2000	1,703	299	453	335	616
2001	1,728	303	455	352	618
2002	1,752	308	457	368	620
2003	1,772	312	458	382	620
2004	1,797	317	459	398	622
2005	1,819	321	461	413	624
2006	1,839	324	462	426	626
2007	1,862	328	464	441	628

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 18.—Graduate enrollment in public institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	870	180	237	136	317
1983	872	184	235	140	313
1984	870	182	229	142	317
1985	890	181	232	144	333
1986	941	188	244	150	358
1987	945	185	244	152	364
1988	949	193	236	163	357
1989	978	195	242	171	369
1990	1,023	203	253	180	388
1991	1,050	215	255	192	388
1992	1,058	221	253	200	384
1993	1,064	221	252	207	383
1994	1,075	220	251	214	388
1995*	1,052	208	257	196	390
Middle alternative projections					
1996	1,050	198	262	196	394
1997	1,056	194	266	199	397
1998	1,058	191	268	201	398
1999	1,062	189	270	204	400
2000	1,070	189	270	209	401
2001	1,078	190	271	216	401
2002	1,087	192	271	223	401
2003	1,093	194	271	228	401
2004	1,103	196	271	235	401
2005	1,112	198	271	241	402
2006	1,119	199	271	247	402
2007	1,129	201	272	253	403
Low alternative projections					
1996	1,051	199	262	196	394
1997	1,059	196	266	201	396
1998	1,061	193	267	203	397
1999	1,061	191	268	205	398
2000	1,063	190	267	208	397
2001	1,065	191	267	211	396
2002	1,069	193	266	215	395
2003	1,070	194	265	218	394
2004	1,074	195	265	221	393
2005	1,079	196	264	225	393
2006	1,082	197	264	228	393
2007	1,087	199	264	232	392
High alternative projections					
1996	1,049	198	263	195	394
1997	1,052	193	267	196	397
1998	1,054	188	269	197	400
1999	1,061	186	272	201	403
2000	1,075	186	274	210	405
2001	1,091	189	275	221	407
2002	1,106	192	276	230	408
2003	1,119	194	276	240	408
2004	1,134	197	277	250	410
2005	1,148	200	278	259	411
2006	1,160	202	279	267	412
2007	1,175	205	280	277	413

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 19.—Graduate enrollment in private institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	453	100	153	69	131
1983	468	103	156	71	138
1984	475	104	156	75	142
1985	486	108	156	76	147
1986	494	106	155	78	156
1987	507	108	156	82	161
1988	522	111	157	86	168
1989	544	114	159	92	179
1990	563	118	163	98	184
1991	589	126	164	109	190
1992	611	130	168	114	198
1993	625	133	164	126	201
1994	647	138	166	133	210
1995*	614	126	169	117	203
Middle alternative projections					
1996	613	120	172	116	204
1997	616	118	175	118	206
1998	617	115	176	119	207
1999	620	114	177	121	208
2000	625	114	177	125	208
2001	630	115	178	129	208
2002	635	116	178	132	208
2003	639	118	178	136	208
2004	644	119	178	140	208
2005	650	120	178	143	209
2006	654	121	178	147	209
2007	660	122	178	150	209
Low alternative projections					
1996	614	120	172	117	204
1997	619	119	175	120	206
1998	619	117	175	121	206
1999	620	116	176	122	207
2000	621	115	176	123	206
2001	622	116	175	126	206
2002	624	117	175	128	205
2003	625	117	174	129	204
2004	628	118	174	132	204
2005	630	119	173	134	204
2006	632	119	173	136	204
2007	635	120	173	138	204
High alternative projections					
1996	613	120	172	116	204
1997	614	117	175	117	206
1998	615	114	177	117	208
1999	620	112	178	120	209
2000	628	113	179	125	210
2001	637	114	180	131	211
2002	646	116	181	137	212
2003	654	118	181	142	212
2004	663	120	182	148	213
2005	671	121	183	154	213
2006	678	122	183	159	214
2007	687	124	184	164	215

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 20.—First-professional enrollment in all institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	278	174	17	78	9
1983	279	169	19	81	10
1984	279	166	19	83	10
1985	274	162	17	84	10
1986	270	159	15	87	9
1987	268	154	16	88	10
1988	267	151	16	90	10
1989	274	153	16	95	10
1990	273	150	17	96	11
1991	281	152	18	100	11
1992	281	151	18	101	11
1993	292	154	19	106	14
1994	295	155	19	108	12
1995*	280	148	19	101	12
		Middle alternative projections			
1996	273	141	19	101	12
1997	272	138	20	102	12
1998	271	136	20	103	12
1999	271	135	20	105	12
2000	274	134	20	108	12
2001	279	135	20	111	12
2002	284	137	20	114	12
2003	288	138	20	117	12
2004	293	140	20	121	12
2005	297	141	20	124	12
2006	301	142	20	127	12
2007	306	143	20	130	12
		Low alternative projections			
1996	274	142	19	101	12
1997	275	140	20	103	12
1998	274	137	20	105	12
1999	273	136	20	105	12
2000	274	136	20	107	12
2001	276	136	20	109	12
2002	279	137	20	110	12
2003	281	138	20	112	12
2004	284	139	20	114	12
2005	287	140	19	116	12
2006	289	140	19	117	12
2007	292	142	19	119	12
		High alternative projections			
1996	273	141	19	100	12
1997	270	137	20	101	12
1998	267	134	20	101	12
1999	268	132	20	104	12
2000	273	133	20	108	12
2001	280	134	20	113	12
2002	288	136	20	118	12
2003	294	138	20	123	12
2004	302	141	20	128	13
2005	309	142	21	133	13
2006	314	144	21	137	13
2007	321	146	21	142	13

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 21.—First-professional enrollment in public institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	113	73	3	35	2
1983	113	71	3	37	2
1984	114	70	3	38	2
1985	112	69	3	38	2
1986	112	67	3	39	2
1987	110	65	3	40	2
1988	109	64	2	41	2
1989	113	65	2	43	2
1990	112	63	3	44	2
1991	111	62	3	45	2
1992	111	61	3	45	2
1993	114	61	3	47	3
1994	114	61	3	48	2
1995*	110	60	3	45	2
Middle alternative projections					
1996	107	57	3	45	2
1997	106	56	3	45	2
1998	106	55	3	46	2
1999	106	54	3	47	2
2000	107	54	3	48	2
2001	109	54	3	49	2
2002	111	55	3	51	2
2003	113	56	3	52	2
2004	115	56	3	54	2
2005	117	57	3	55	2
2006	119	57	3	56	2
2007	121	58	3	58	2
Low alternative projections					
1996	107	57	3	45	2
1997	107	56	3	46	2
1998	107	55	3	46	2
1999	107	55	3	47	2
2000	107	55	3	47	2
2001	108	55	3	48	2
2002	109	55	3	49	2
2003	110	55	3	50	2
2004	112	56	3	51	2
2005	113	56	3	51	2
2006	114	56	3	52	2
2007	115	57	3	53	2
High alternative projections					
1996	106	57	3	45	2
1997	105	55	3	45	2
1998	104	54	3	45	2
1999	105	53	3	46	2
2000	107	53	3	48	2
2001	110	54	3	50	2
2002	113	55	3	53	2
2003	116	56	3	55	2
2004	119	57	3	57	2
2005	122	57	3	59	2
2006	124	58	3	61	2
2007	127	59	3	63	2

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 22.—First-professional enrollment in private institutions, by sex and attendance status, with alternative projections: 50 states and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1982	165	101	14	43	7
1983	165	97	16	44	8
1984	165	96	16	43	8
1985	162	93	14	46	8
1986	158	91	12	48	7
1987	158	88	14	48	8
1988	158	87	14	49	8
1989	162	87	14	52	9
1990	162	86	15	52	9
1991	169	90	15	55	9
1992	170	90	15	56	9
1993	179	93	16	59	11
1994	181	94	16	60	10
1995*	171	89	16	56	10
Middle alternative projections					
1996	167	84	16	56	10
1997	166	83	16	57	10
1998	165	81	17	57	10
1999	165	80	17	58	10
2000	167	80	17	60	10
2001	170	81	17	62	10
2002	172	82	17	64	10
2003	175	83	17	65	10
2004	178	84	17	67	10
2005	180	84	17	69	10
2006	182	85	17	70	10
2007	185	86	17	72	10
Low alternative projections					
1996	167	85	16	56	10
1997	167	83	16	57	10
1998	167	82	17	58	10
1999	166	81	17	58	10
2000	167	81	17	59	10
2001	168	81	17	60	10
2002	170	82	16	61	10
2003	171	82	16	62	10
2004	173	83	16	63	10
2005	174	84	16	64	10
2006	175	84	16	65	10
2007	177	85	16	66	10
High alternative projections					
1996	166	84	16	56	10
1997	165	82	17	56	10
1998	163	80	17	56	10
1999	164	79	17	57	10
2000	167	79	17	60	10
2001	171	80	17	63	10
2002	175	82	17	66	10
2003	179	83	17	68	10
2004	183	84	17	71	10
2005	187	85	17	74	10
2006	190	86	17	76	10
2007	194	87	17	79	10

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 23.—Full-time-equivalent enrollment in all institutions of higher education, by level of student and type of institution, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Undergraduate		Graduate	First-professional
		4-year	2-year	4-year	4-year
1982	9,092	5,194	2,843	790	266
1983	9,166	5,254	2,841	805	266
1984	8,952	5,215	2,659	814	263
1985	8,943	5,204	2,649	829	261
1986	9,064	5,241	2,704	859	259
1987	9,230	5,363	2,743	868	256
1988	9,464	5,517	2,800	892	256
1989	9,781	5,628	2,967	922	265
1990	9,983	5,744	3,016	963	261
1991	10,361	5,804	3,280	1,010	267
1992	10,437	5,822	3,308	1,036	270
1993	10,351	5,787	3,231	1,056	278
1994	10,348	5,776	3,211	1,080	282
1995*	10,020	5,604	3,125	1,024	267
		Middle alternative projections			
1996	10,002	5,589	3,142	1,012	260
1997	10,135	5,673	3,190	1,014	258
1998	10,326	5,803	3,253	1,013	257
1999	10,512	5,927	3,310	1,017	257
2000	10,750	6,087	3,375	1,027	260
2001	10,975	6,234	3,436	1,040	265
2002	11,114	6,322	3,468	1,054	270
2003	11,265	6,419	3,507	1,066	274
2004	11,417	6,507	3,551	1,080	279
2005	11,559	6,594	3,589	1,093	283
2006	11,728	6,701	3,635	1,104	287
2007	11,916	6,815	3,690	1,119	292
		Low alternative projections			
1996	10,018	5,597	3,146	1,014	260
1997	10,183	5,700	3,202	1,020	261
1998	10,377	5,832	3,264	1,020	260
1999	10,531	5,940	3,311	1,020	259
2000	10,711	6,070	3,358	1,023	260
2001	10,879	6,186	3,402	1,029	263
2002	10,967	6,246	3,419	1,036	266
2003	11,066	6,315	3,442	1,041	268
2004	11,167	6,376	3,472	1,049	271
2005	11,264	6,438	3,496	1,056	273
2006	11,390	6,522	3,530	1,062	275
2007	11,533	6,612	3,572	1,070	279
		High alternative projections			
1996	9,990	5,582	3,139	1,010	259
1997	10,089	5,647	3,178	1,007	256
1998	10,266	5,768	3,240	1,005	253
1999	10,469	5,900	3,304	1,011	254
2000	10,767	6,092	3,386	1,029	259
2001	11,062	6,277	3,468	1,051	266
2002	11,263	6,398	3,519	1,072	273
2003	11,475	6,528	3,575	1,092	280
2004	11,686	6,648	3,636	1,114	288
2005	11,880	6,762	3,689	1,134	294
2006	12,095	6,894	3,749	1,152	300
2007	12,331	7,034	3,818	1,173	307

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 24.—Full-time-equivalent enrollment in public institutions of higher education, by level of student and type of institution, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Undergraduate		Graduate	First-professional
		4-year	2-year	4-year	4-year
1982	6,851	3,597	2,630	514	110
1983	6,881	3,635	2,616	520	111
1984	6,685	3,605	2,447	521	111
1985	6,668	3,601	2,428	529	110
1986	6,778	3,629	2,483	556	110
1987	6,938	3,731	2,542	557	108
1988	7,097	3,827	2,592	571	107
1989	7,372	3,921	2,752	587	112
1990	7,558	4,015	2,819	615	109
1991	7,863	4,046	3,068	640	109
1992	7,912	4,037	3,114	652	109
1993	7,812	3,996	3,047	658	111
1994	7,784	3,971	3,035	665	113
1995*	7,560	3,872	2,942	639	108
		Middle alternative projections			
1996	7,555	3,861	2,957	631	105
1997	7,658	3,919	3,002	633	104
1998	7,805	4,009	3,061	632	104
1999	7,947	4,094	3,114	635	104
2000	8,124	4,204	3,174	641	105
2001	8,293	4,305	3,231	649	107
2002	8,394	4,366	3,261	658	109
2003	8,505	4,433	3,297	665	111
2004	8,618	4,493	3,337	674	113
2005	8,723	4,553	3,373	682	115
2006	8,849	4,627	3,416	689	117
2007	8,989	4,705	3,467	698	119
		Low alternative projections			
1996	7,566	3,867	2,961	633	105
1997	7,693	3,938	3,013	637	105
1998	7,841	4,029	3,071	637	105
1999	7,959	4,103	3,114	637	105
2000	8,093	4,192	3,158	638	105
2001	8,219	4,272	3,199	642	106
2002	8,283	4,314	3,215	647	107
2003	8,356	4,361	3,236	650	108
2004	8,431	4,403	3,263	655	110
2005	8,502	4,446	3,286	659	111
2006	8,596	4,504	3,318	663	112
2007	8,703	4,566	3,356	668	113
		High alternative projections			
1996	7,545	3,856	2,954	630	104
1997	7,624	3,901	2,991	629	103
1998	7,762	3,985	3,049	627	102
1999	7,917	4,075	3,108	631	102
2000	8,140	4,208	3,185	642	105
2001	8,360	4,335	3,262	656	108
2002	8,507	4,418	3,308	669	111
2003	8,663	4,507	3,361	682	114
2004	8,820	4,590	3,418	696	117
2005	8,963	4,668	3,467	708	120
2006	9,123	4,759	3,522	719	122
2007	9,299	4,855	3,586	732	125

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Table 25.—Full-time-equivalent enrollment in private institutions of higher education, by level of student and type of institution, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total	Undergraduate		Graduate	First-professional
		4-year	2-year	4-year	4-year
1982	2,241	1,596	213	276	156
1983	2,285	1,619	226	285	155
1984	2,267	1,610	212	293	152
1985	2,276	1,603	221	300	151
1986	2,286	1,613	221	303	149
1987	2,292	1,632	201	311	148
1988	2,367	1,690	209	321	149
1989	2,409	1,707	216	335	153
1990	2,425	1,729	197	348	152
1991	2,498	1,758	212	370	158
1992	2,525	1,785	194	384	161
1993	2,539	1,791	184	398	167
1994	2,564	1,805	176	415	169
1995*	2,460	1,732	184	385	159
		Middle alternative projections			
1996	2,448	1,728	185	380	155
1997	2,477	1,754	188	381	154
1998	2,521	1,794	192	381	153
1999	2,565	1,833	196	382	154
2000	2,625	1,883	201	386	155
2001	2,683	1,929	205	391	158
2002	2,720	1,956	207	396	160
2003	2,760	1,987	210	401	163
2004	2,799	2,014	213	406	166
2005	2,836	2,041	216	411	168
2006	2,879	2,074	219	415	170
2007	2,926	2,110	223	420	173
		Low alternative projections			
1996	2,452	1,730	185	381	155
1997	2,491	1,762	189	384	156
1998	2,535	1,804	193	384	155
1999	2,572	1,837	197	384	155
2000	2,617	1,877	200	385	155
2001	2,660	1,914	203	387	156
2002	2,685	1,933	205	389	158
2003	2,711	1,954	206	391	159
2004	2,737	1,973	208	394	161
2005	2,762	1,992	210	397	163
2006	2,794	2,018	212	399	164
2007	2,830	2,046	215	402	166
		High alternative projections			
1996	2,444	1,725	184	380	155
1997	2,464	1,746	187	379	153
1998	2,504	1,783	191	378	151
1999	2,552	1,825	195	380	152
2000	2,627	1,885	201	387	155
2001	2,703	1,942	207	395	159
2002	2,756	1,980	210	403	163
2003	2,812	2,020	214	410	166
2004	2,866	2,058	219	419	171
2005	2,917	2,093	222	426	175
2006	2,972	2,135	227	433	178
2007	3,032	2,178	231	441	182

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fall Enrollment in Colleges and Universities surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared August 1996.)

Chapter 3

High School Graduates

The number of high school graduates is projected to increase over the projection period. This increase in the number of high school graduates reflects the overall change in the 18-year-old population during the same period (figure 29). Increases in the number of graduates are expected for both public and private schools. However, projections of graduates could be impacted by changes in policies affecting graduation requirements.

The tabulations below provide the following information about trends in the number of high school graduates: (1) the average annual rate of change (in percent) for 1981–82 to 1994–95 and the projected growth rate for 1994–95 to 2006–07 and (2) the rates of change for 1981–82 to 1988–89 and 1988–89 to 1994–95 and the projected growth rates for 1994–95 to 2000–01 and 2000–01 to 2006–07.

Average annual rate of change (in percent)

	1981–82 to 1994–95	Projected 1994–95 to 2006–07
Total	-1.4	1.6
Public	-1.5	1.6
Private	-0.9	1.6

Average annual rate of change (in percent)

	1981–82 to 1988–89	1988–89 to 1994–95	Projected 1994–95 to 2000–01	Projected 2000–01 to 2006–07
Total	-1.3	-1.5	2.3	0.9
Public	-1.4	-1.6	2.3	0.9
Private	-1.1	-0.7	2.4	0.9

Total High School Graduates

The number of high school graduates from public and private schools decreased from 3.0 million in 1981–82 to 2.6 million in 1985–86 (table 26 and figure 30). After 1985–86, this number increased to 2.8 million in 1987–88. Then, it decreased to around 2.5 million in 1994–95, a decrease of 17 percent from 1981–82, or an average annual rate of decline of 1.4 percent. Then, the total number of high school graduates is projected to rise to 3.0 million by 2006–07, an increase of 21 percent from 1994–95, or an average annual growth rate of 1.6 percent. During the projection period, the growth rate will be higher in the first half of the projection period (1994–95 to 2000–01) than the growth rate in the second half (2000–01 to 2006–07), 2.3 percent per year versus 0.9 percent per year.

High School Graduates, by Control of Institution

The number of graduates of public high schools decreased from 2.7 million in 1981–82 to 2.4 million in 1985–86 (figure 31). Then, it increased to 2.5 million in 1987–88 before declining to about 2.2 million in 1994–95, a decrease of 18 percent from 1981–82, or an average annual rate of decline of 1.5 percent. Over the projection period, public high school graduates are projected to increase to 2.7 million by 2006–07, an increase of 21 percent from 1994–95, or an average annual growth rate of 1.6 percent. During the projection period, the growth rate will be higher in the first half of the projection period (1994–95 to 2000–01) than the growth rate in the second half (2000–01 to 2006–07), 2.3 percent per year versus 0.9 percent per year (figure 32).

The number of graduates of private high schools is projected to increase from an estimated 257,000 in 1994–95 to 312,000 by 2006–07, an increase of 21 percent, or an average annual growth rate of 1.6 percent. During the projection period, the growth rate will be higher in the first half of the projection period (1994–95 to 2000–01) than the growth rate in the second half (2000–01 to 2006–07), 2.4 percent per year versus 0.9 percent per year.

Figure 29
18-year-old population, with projections: 1982 to 2007

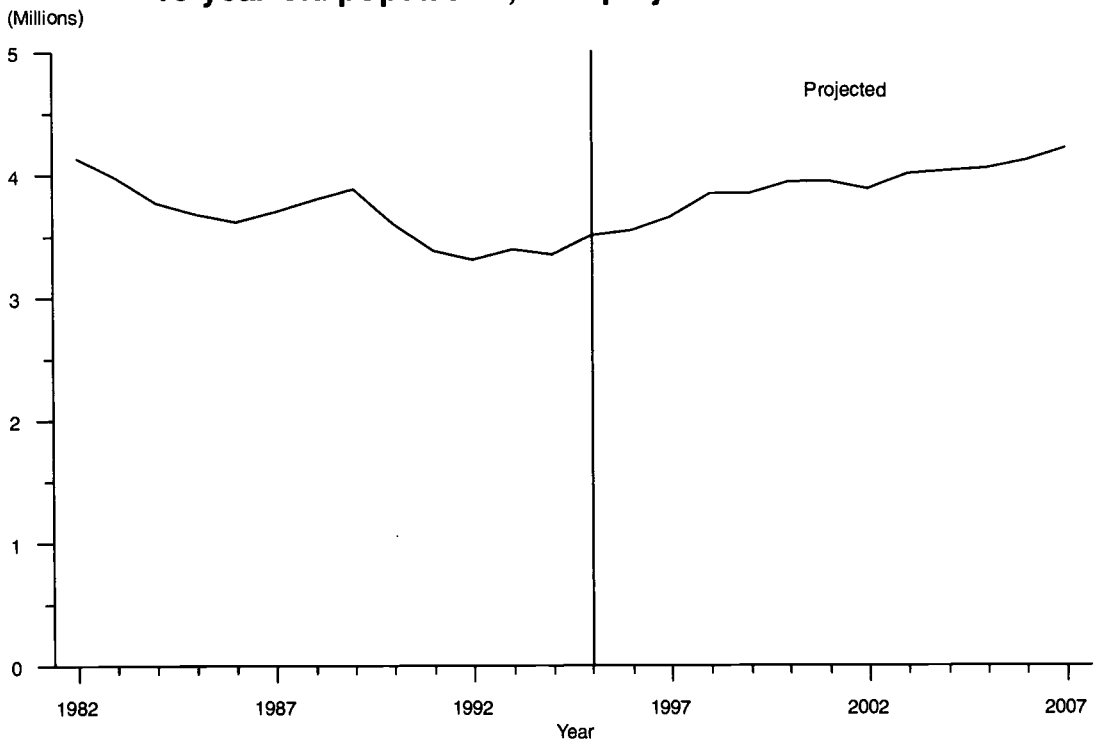


Figure 30
High school graduates, with projections: 1981-82 to 2006-07

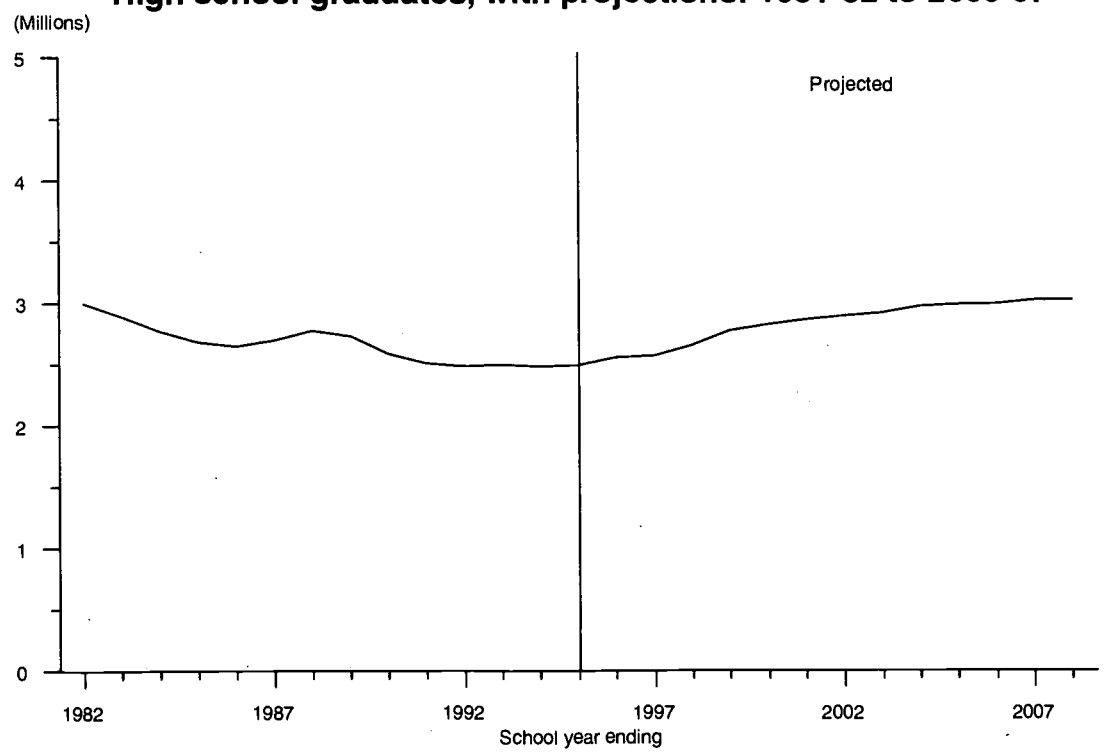


Figure 31
High school graduates, by control of institution, with projections: 1981-82 to 2006-07

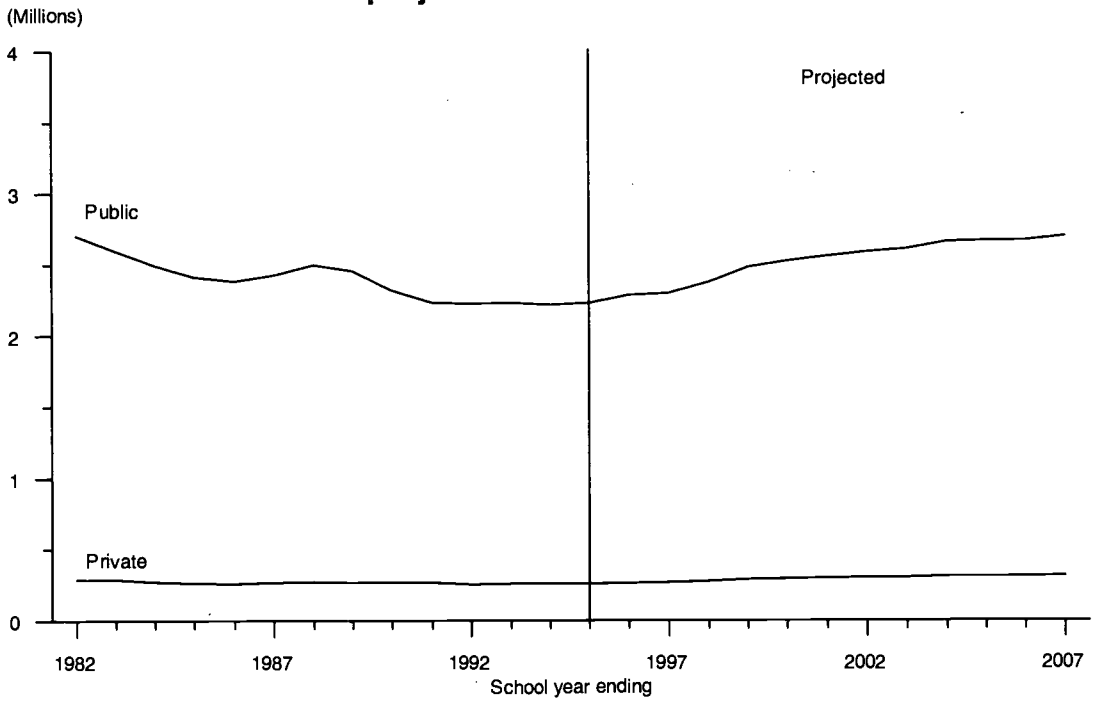


Figure 32
Average annual rates of change for high school graduates

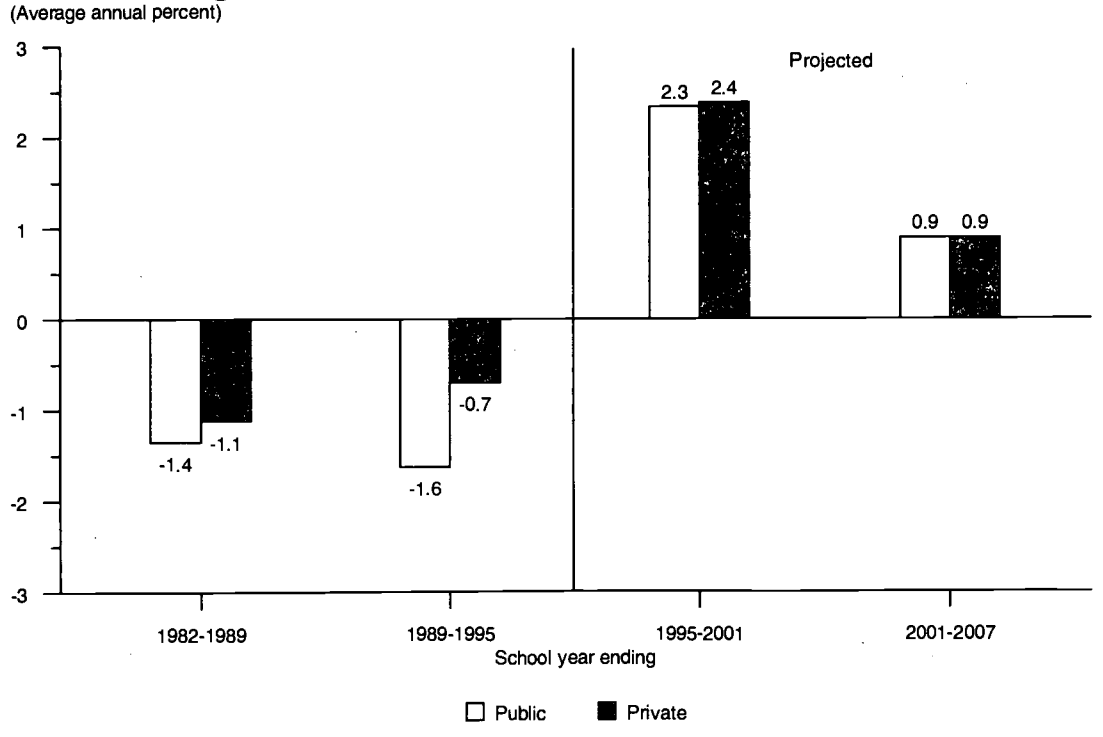


Table 26.—High school graduates, by control of institution, with projections: 50 States and D.C., 1981–82 to 2006–07

(In thousands)

Year ending	Total	Public	Private
1982	2,995	2,705	290
1983	2,888	2,598	290
1984	2,767	2,495	272
1985	2,677	2,414	263
1986	2,643	2,383	260
1987	2,694	2,429	265
1988	2,773	2,500	273
1989	2,727	2,459	268
1990	2,586	2,320	266
1991	2,503	2,235	268
1992	2,482	2,226	256
1993	2,490	2,233	[1]257
1994	2,479	2,221	[1]258
1995[1]	2,486	2,229	257
		Projected	
1996	2,552	2,287	264
1997	2,564	2,298	265
1998	2,648	2,374	274
1999	2,769	2,482	287
2000	2,816	2,524	292
2001	2,856	2,560	296
2002	2,889	2,589	299
2003	2,910	2,609	301
2004	2,967	2,659	307
2005	2,978	2,669	308
2006	2,984	2,675	309
2007	3,015	2,703	312

[1] Projected.

NOTE: Historical numbers may differ from those in previous editions. Prior to 1989–90, numbers for private high school graduates were estimated by NCES. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; "Private Elementary and Secondary Education, 1983: Enrollment, Teachers, and Schools," *NCES Bulletin*, December 1984; 1985 Private School Survey; "Key Statistics for Private Elementary and Secondary Education: School Year 1988–89," *Early Estimates*; "Key Statistics for Private Elementary and Secondary Education: School Year 1990–91," *Early Estimates*; Public and Private Elementary and Secondary Education Statistics: School Year 1991–92," *Early Estimates*; and "Public and Private Elementary and Secondary Education Statistics: School Year 1992–93," *Early Estimates*. (This table was prepared August 1996.)

Chapter 4

Earned Degrees Conferred

The historical growth in enrollment of women in institutions of higher education has led to a substantial increase in the number of earned degrees conferred. Between 1981–82 and 1994–95, the number of degrees awarded to women rose at all levels. In 1994–95, women earned the majority of associate, bachelor's, and master's degrees, and around two-fifths of doctor's and first-professional degrees. Over the projection period, the number of degrees awarded to men and women will continue to rise at most levels.

Projections of earned degrees by level and sex were developed. In general, the number of degrees was related to college-age populations and higher education enrollment by level enrolled and attendance status.

Associate Degrees

Between 1981–82 and 1984–85, the number of associate degrees increased from 434,526 to 454,712. Thereafter, it decreased to 435,085 in 1987–88. Since then, it increased to an estimated 541,000 in 1994–95 (table 27 and figure 33). This number is expected to decrease to 514,000 in 1997–98. Then, it is projected to increase to 587,000 by 2006–07, an increase of 9 percent from 1994–95. The number of associate degrees awarded to men increased from 196,944 in 1981–82 to 203,991 in 1982–83 and then decreased to 186,316 in 1988–89, before rising to an estimated 218,000 in 1994–95 (figure 34). This number is projected to decrease to 207,000 by 1998–99 and then increase to 217,000 by 2006–07, a decrease of 0.5 percent from 1994–95. The number of associate degrees awarded to women increased from 237,582 in 1981–82 to an estimated 323,000 in 1994–95, an increase of 36 percent. This number is projected to decrease to 307,000 by 1997–98. Thereafter, it will increase to 369,000 by 2006–07, an increase of 14 percent from 1994–95.

Bachelor's Degrees

The number of bachelor's degrees increased from 952,998 in 1981–82 to an estimated 1,181,000 in 1994–95, an increase of 24 percent (table 28 and figure 35). This number is expected to rise to 1,186,000 in 1995–96, decrease to 1,138,000 in 1999–2000, and then increase to 1,268,000 by 2006–07, an increase of 7 percent from 1994–95. The number of bachelor's degrees awarded to men increased from 473,364 in 1981–82 to 485,923 in 1985–86 and then declined for two years, before rising to an estimated 533,000 in 1994–95 (figure 36). This number is expected to decrease to 500,000 by 1999–2000 and then increase to 532,000 by 2006–07, a decrease of 0.2 percent from 1994–95. The number of bachelor's degrees awarded to women increased from 479,634 in 1981–82 to an estimated 648,000 in 1994–95, an increase of 35 percent. This number is expected to increase to 660,000 by 1997–98 and then decrease to 637,000 by 1999–2000. Thereafter, it is projected to increase to 735,000 by 2006–07, an increase of 13 percent from 1994–95.

Master's Degrees

The number of master's degrees decreased from 295,546 in 1981–82 to 284,263 in 1983–84, before rising to an estimated 400,000 in 1994–95, an increase of 41 percent from 1983–84 (table 29 and figure 37). This number is expected to increase to 450,000 by 2006–07. The number of master's degrees awarded to men decreased from 145,532 in 1981–82 to 141,269 in 1986–87. Then, it increased to an estimated 188,000 in 1994–95 (figure 38). This number is projected to increase to 214,000 by 2006–07. The number of master's degrees awarded to women decreased from 150,014 in 1981–82 to 140,668 in 1983–84. Since then, it increased to an estimated 212,000 in 1994–95. This number is expected to increase to 236,000 by 2006–07.

Doctor's Degrees

The number of doctor's degrees increased from 32,707 in 1981–82 to about 43,300 in 1994–95, an increase of 32 percent (table 30 and figure 39). This number is expected to increase to 47,900 by 2006–07. The number of doctor's degrees awarded to men decreased from 22,224 in 1981–82 to 21,902 in 1982–83. Then, it increased to 22,064 in 1983–84 before decreasing to 21,700 in 1984–85. Thereafter, it increased to an estimated 26,600 in 1994–95. This number is expected to increase to 26,800 in 1996–97. Then it will decrease to 25,800 by 2006–07 (figure 40). The number of doctor's degrees awarded to women rose from 10,483 in 1981–82 to an estimated 16,700 in 1994–95, an increase of 59 percent. Over the projection period, this pattern is expected to continue. The number of doctor's degrees awarded to women is projected to climb to 22,100 by 2006–07, an increase of 32 percent from 1994–95. The share of doctor's degrees awarded to women, which was 32 percent in 1981–82 and 39

percent in 1994–95, is projected to climb to 46 percent by 2006–07.

First-Professional Degrees

The number of first-professional degrees awarded rose from 72,032 in 1981–82 to 75,063 in 1984–85. Then, it decreased to 70,735 in 1987–88. Thereafter, it increased to about 76,800 in 1994–95 (table 31 and figure 41). This number is expected to increase to 78,700 in 1995–96 and then decrease to 72,900 in 2000–01. Thereafter, it will increase to 79,300 by 2006–07. The number of first-professional degrees awarded to men decreased from 52,223 in 1981–82 to 43,846 in 1990–91 (figure 42). Then, it increased to an estimated 45,000 in 1994–95. This number is projected to increase to 46,200 in 1996-97 and then decrease to 40,700 by 2002–03. Thereafter, it is projected to increase to 42,100 by 2006–07. The number of first-professional degrees awarded to women increased from 19,809 in 1981–82 to an estimated 31,800 in 1994–95, an increase of 61 percent. This number is expected to increase to 37,200 by 2006–07, an increase of 17 percent from 1994–95. The women's proportion of first-professional degrees rose from 28 percent in 1981–82 to 41 percent in 1994–95. By 2006–07, this proportion is expected to rise to 47 percent.

Figure 33
Associate degrees, with projections: 1981-82 to 2006-07

Figure 34
Associate degrees, by sex of recipient, with projections: 1981-82 to 2006-07

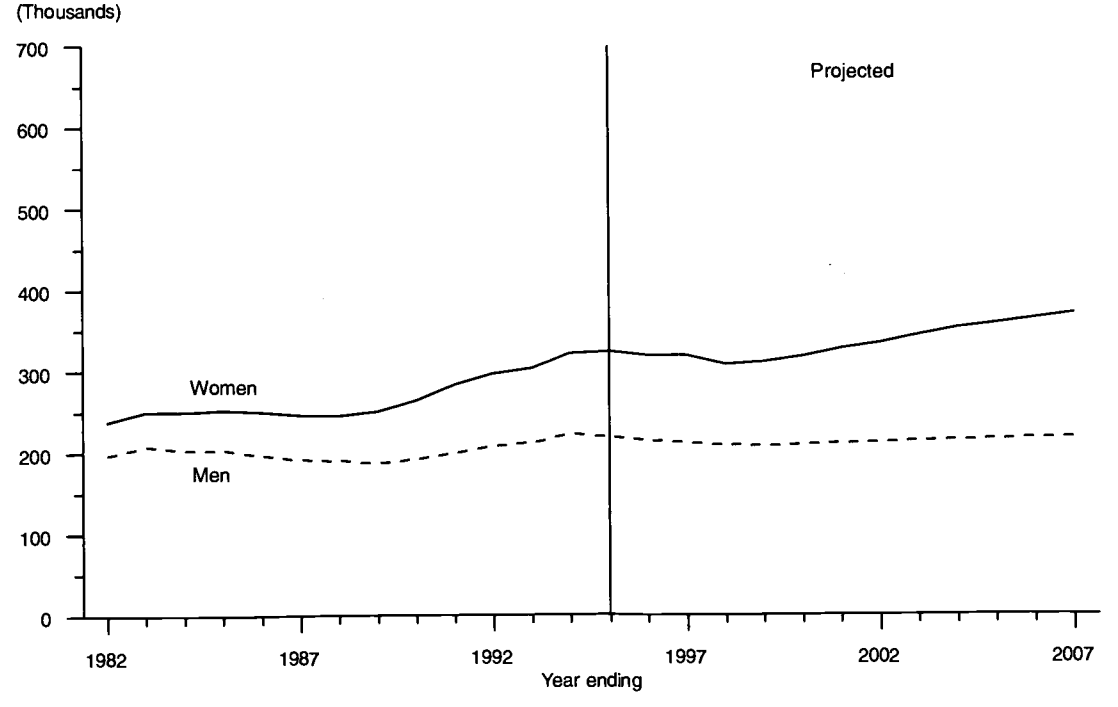


Figure 35
Bachelor's degrees, with projections: 1981-82 to 2006-07

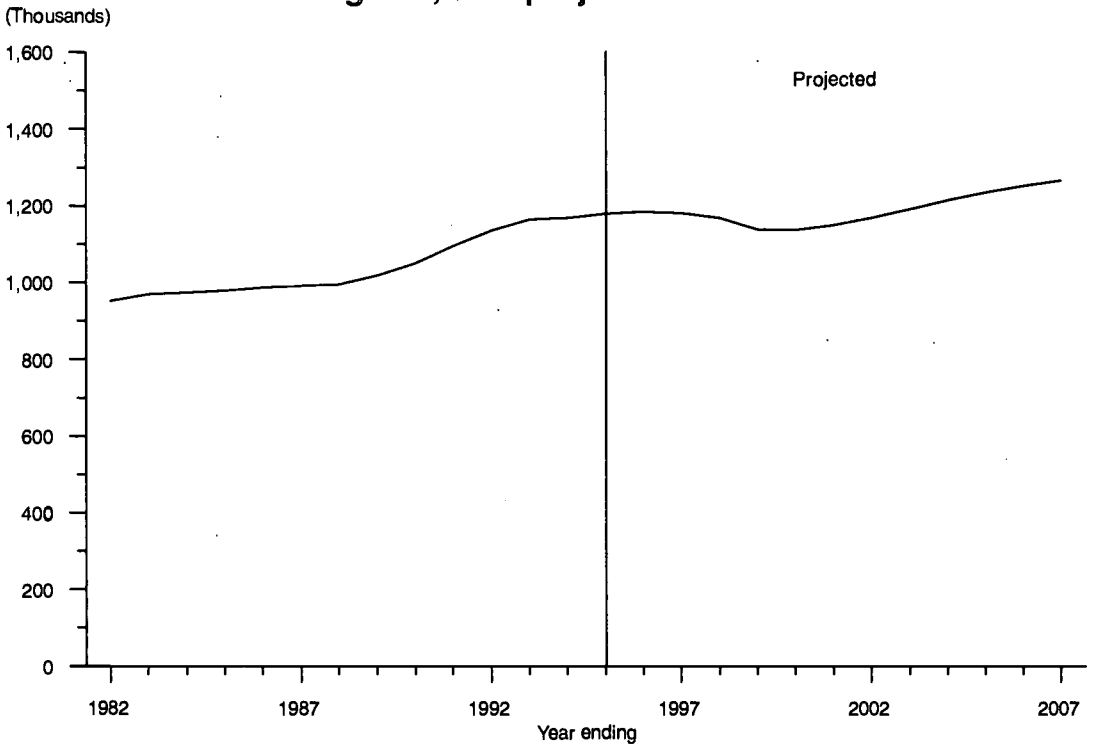


Figure 36
Bachelor's degrees, by sex of recipient, with projections: 1981-82 to 2006-07

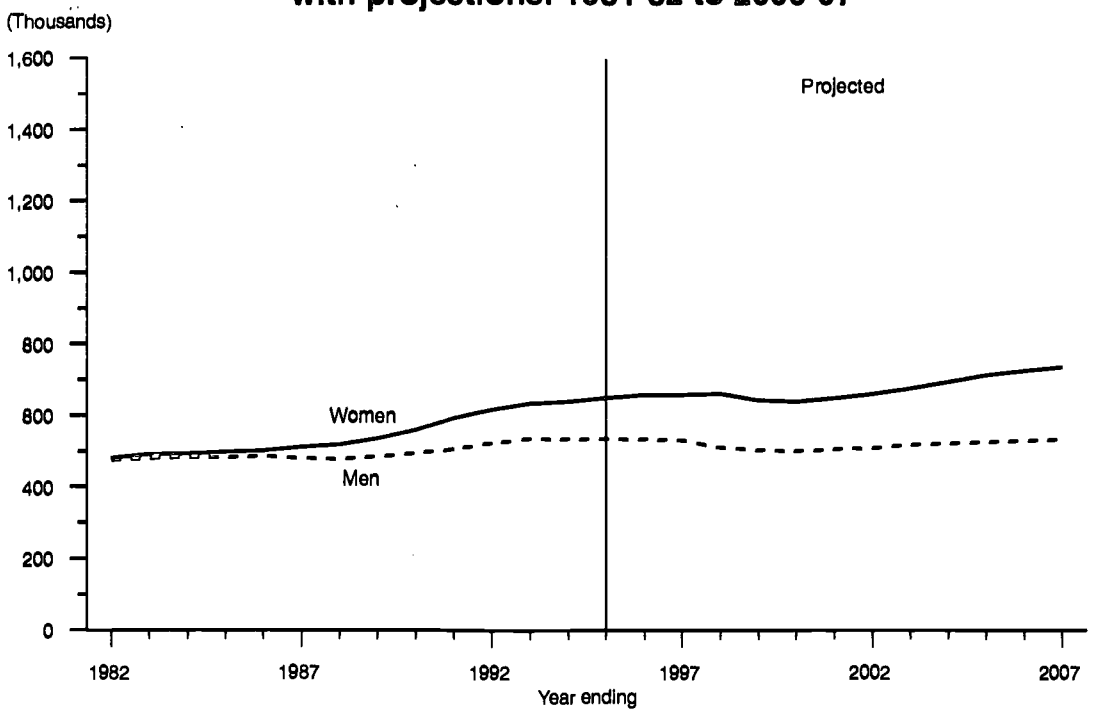


Figure 37
Master's degrees, with projections: 1981-82 to 2006-07

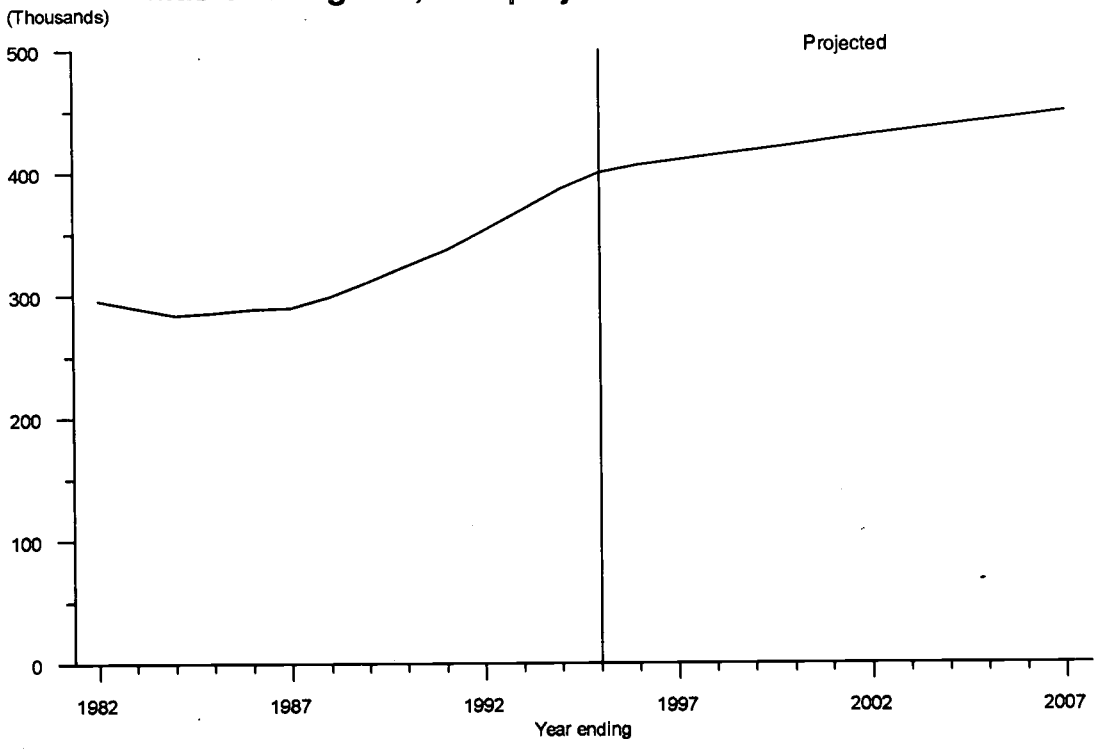


Figure 38
Master's degrees, by sex of recipient, with projections: 1981-82 to 2006-07

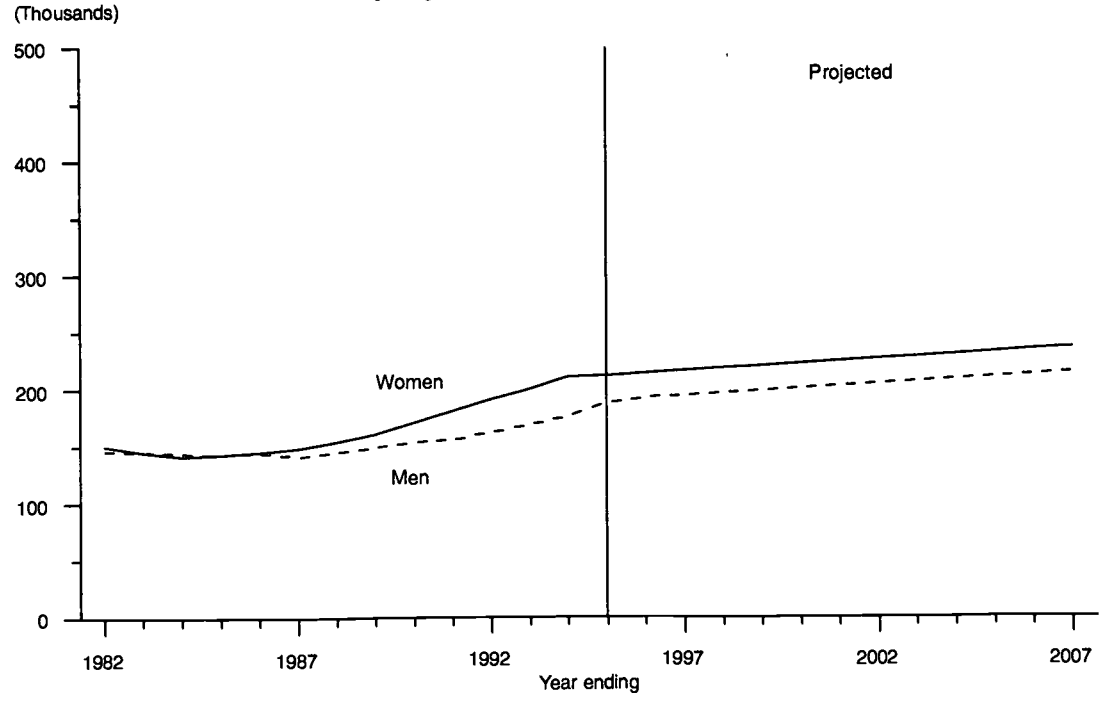


Figure 39
Doctor's degrees, with projections: 1981-82 to 2006-07

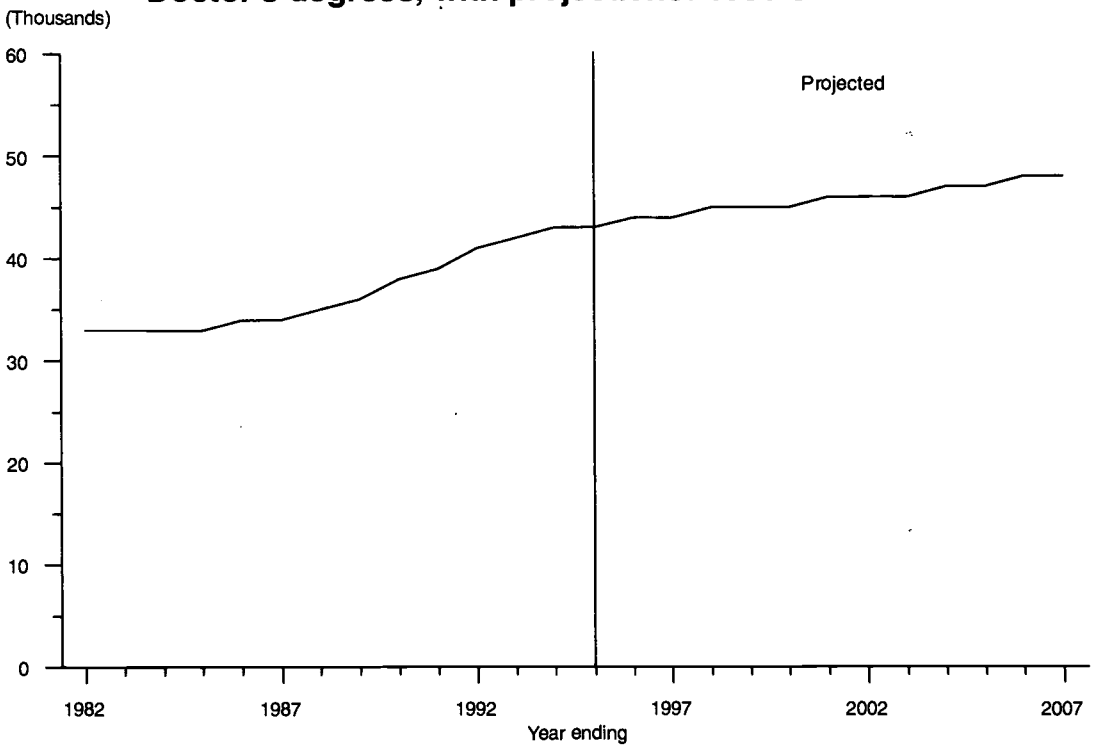


Figure 40
Doctor's degrees, by sex of recipient, with projections: 1981-82 to 2006-07

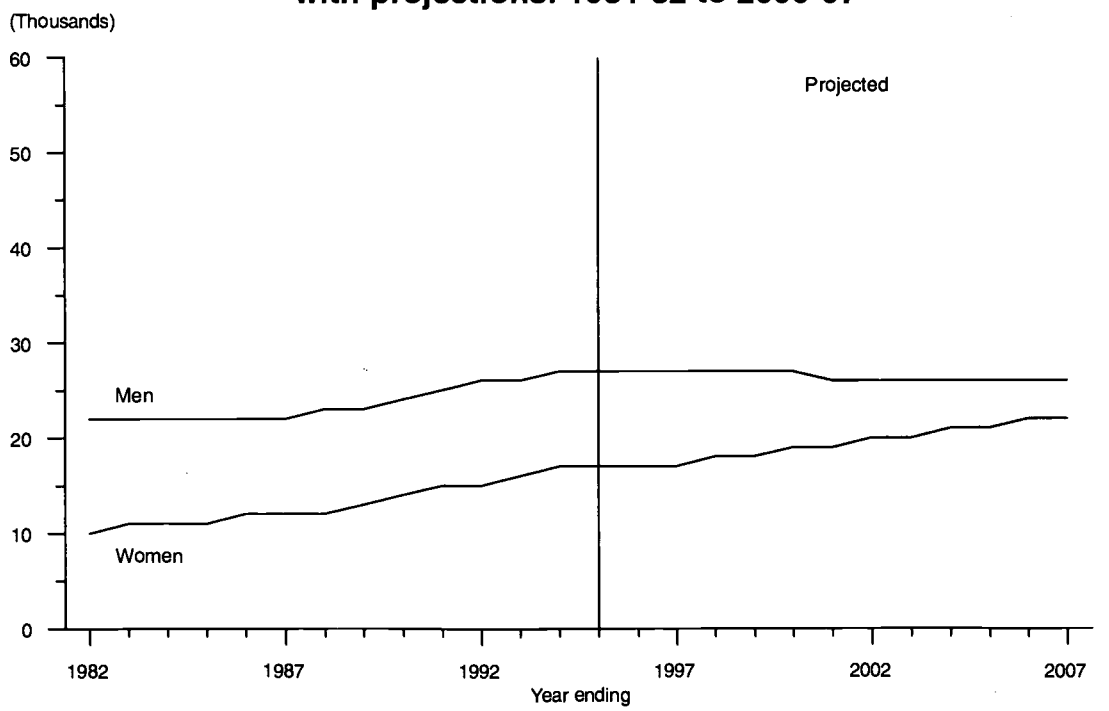


Figure 41
First-professional degrees, with projections: 1981-82 to 2006-07

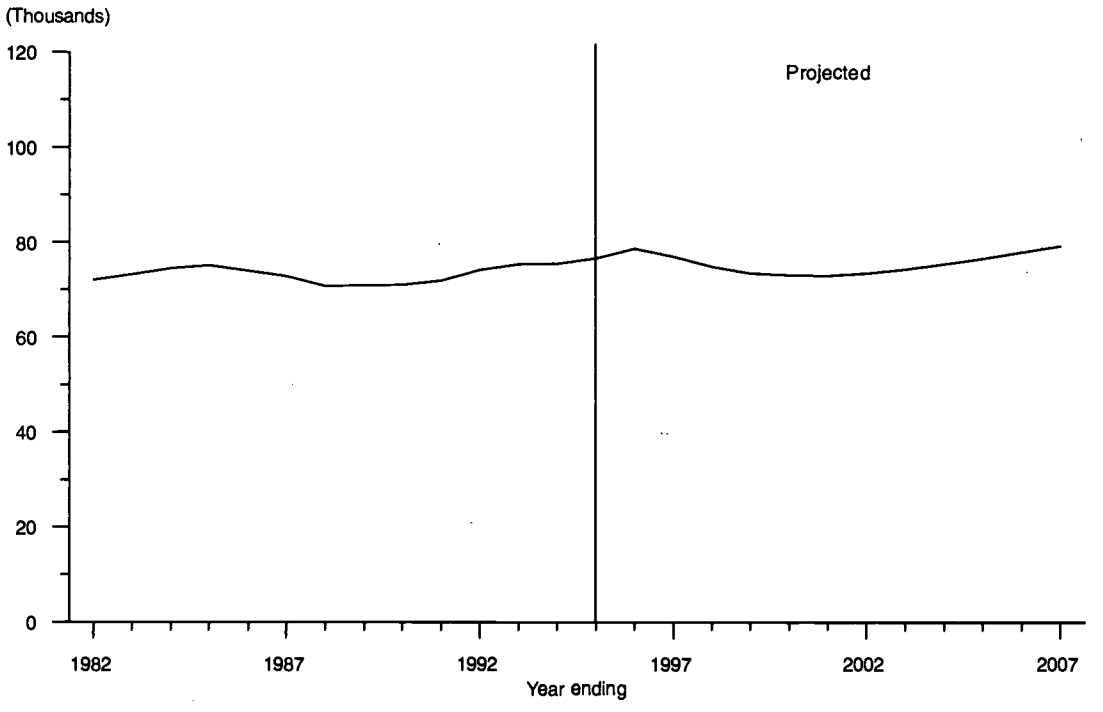


Figure 42
First-professional degrees, by sex of recipient, with projections: 1981-82 to 2006-07

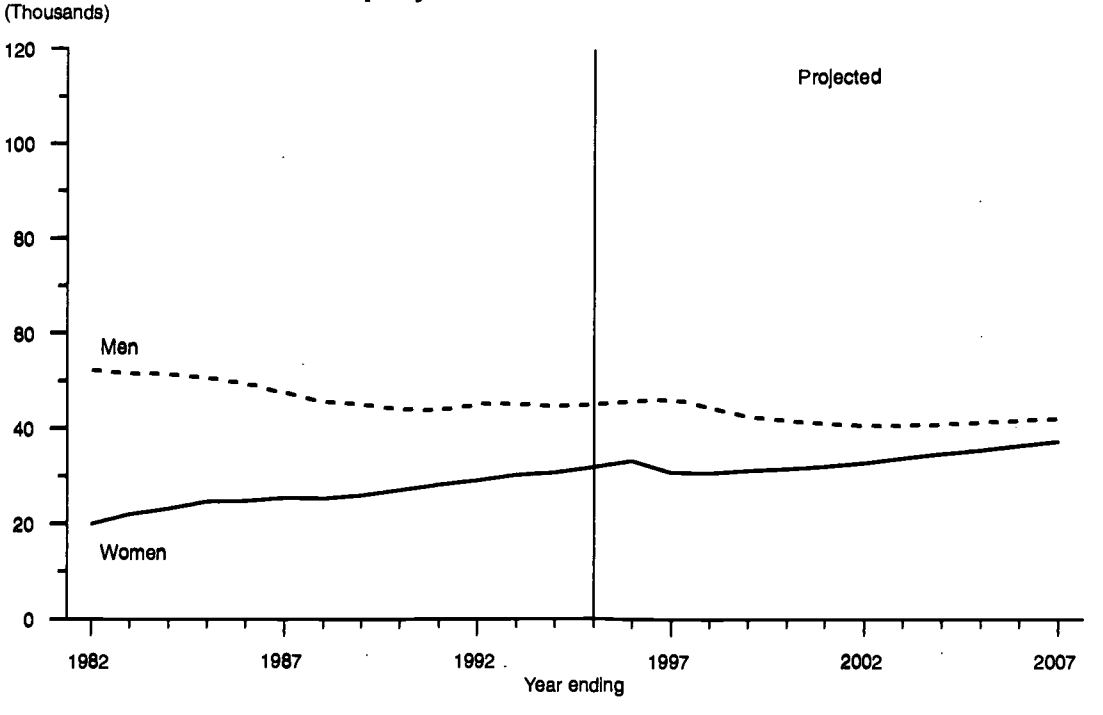


Table 27.—Associate degrees, by sex of recipient, with projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Total	Men	Women
1982	434,526	196,944	237,582
1983	449,620	203,991	245,629
1984	452,240	202,704	249,536
1985	454,712	202,932	251,780
1986	446,047	196,166	249,881
1987	436,304	190,839	245,465
1988	435,085	190,047	245,038
1989	436,764	186,316	250,448
1990	455,102	191,195	263,907
1991	481,720	198,634	283,086
1992	504,231	207,481	296,750
1993	514,756	211,964	302,792
1994	542,449	220,990	321,459
1995*	541,000	218,000	323,000
		Projected	
1996	532,000	214,000	318,000
1997	529,000	211,000	318,000
1998	514,000	208,000	307,000
1999	517,000	207,000	310,000
2000	525,000	208,000	317,000
2001	535,000	210,000	326,000
2002	545,000	211,000	333,000
2003	556,000	213,000	343,000
2004	566,000	214,000	352,000
2005	572,000	215,000	357,000
2006	579,000	216,000	363,000
2007	587,000	217,000	369,000

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1993–94. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey and Integrated Postsecondary Education Data System (IPEDS), "Completions" survey. (This table was prepared September 1996.)

Table 28.—Bachelor's degrees, by sex of recipient, with projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Total	Men	Women
1982	952,998	473,364	479,634
1983	969,510	479,140	490,370
1984	974,309	482,319	491,990
1985	979,477	482,528	496,949
1986	987,823	485,923	501,900
1987	991,264	480,782	510,482
1988	994,829	477,203	517,626
1989	1,018,755	483,346	535,409
1990	1,051,344	491,696	559,648
1991	1,094,538	504,045	590,493
1992	1,136,553	520,811	615,742
1993	1,165,178	532,881	632,297
1994	1,169,275	532,422	636,853
1995*	1,181,000	533,000	648,000
		Projected	
1996	1,186,000	531,000	655,000
1997	1,183,000	528,000	655,000
1998	1,169,000	509,000	660,000
1999	1,140,000	501,000	640,000
2000	1,138,000	500,000	637,000
2001	1,151,000	504,000	647,000
2002	1,169,000	508,000	660,000
2003	1,191,000	516,000	675,000
2004	1,216,000	522,000	694,000
2005	1,237,000	524,000	713,000
2006	1,253,000	529,000	724,000
2007	1,268,000	532,000	735,000

* Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1993–94. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey and Integrated Postsecondary Education Data System (IPEDS), "Completions" survey. (This table was prepared September 1996.)

Table 29.—Master's degrees, by sex of recipient, with projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Total	Men	Women
1982	295,546	145,532	150,014
1983	289,921	144,697	145,224
1984	284,263	143,595	140,668
1985	286,251	143,390	142,861
1986	288,567	143,508	145,059
1987	289,349	141,269	148,080
1988	299,317	145,163	154,154
1989	310,621	149,354	161,267
1990	324,301	153,653	170,648
1991	337,168	156,482	180,686
1992	352,838	161,842	190,996
1993	369,585	169,258	200,327
1994	387,070	176,085	210,985
1995*	400,000	188,000	212,000
		Projected	
1996	406,000	192,000	214,000
1997	410,000	194,000	216,000
1998	414,000	196,000	218,000
1999	418,000	198,000	220,000
2000	422,000	200,000	222,000
2001	426,000	202,000	224,000
2002	430,000	204,000	226,000
2003	434,000	206,000	228,000
2004	438,000	208,000	230,000
2005	442,000	210,000	232,000
2006	446,000	212,000	234,000
2007	450,000	214,000	236,000

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1993–94. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey and Integrated Postsecondary Education Data System (IPEDS), "Completions" survey. (This table was prepared September 1996.)

Table 30.—Doctor's degrees, by sex of recipient, with projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Total	Men	Women
1982	32,707	22,224	10,483
1983	32,775	21,902	10,873
1984	33,209	22,064	11,145
1985	32,943	21,700	11,243
1986	33,653	21,819	11,834
1987	34,041	22,061	11,980
1988	34,870	22,615	12,255
1989	35,720	22,648	13,072
1990	38,371	24,401	13,970
1991	39,294	24,756	14,538
1992	40,659	25,557	15,102
1993	42,132	26,073	16,059
1994	43,185	26,552	16,633
1995*	43,300	26,600	16,700
		Projected	
1996	43,600	26,700	16,900
1997	44,200	26,800	17,400
1998	44,500	26,700	17,800
1999	44,900	26,600	18,300
2000	45,300	26,500	18,800
2001	45,700	26,400	19,300
2002	46,000	26,300	19,700
2003	46,400	26,200	20,200
2004	46,800	26,100	20,700
2005	47,200	26,000	21,200
2006	47,500	25,900	21,600
2007	47,900	25,800	22,100

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1993–94. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey and Integrated Postsecondary Education Data System (IPEDS), "Completions" survey. (This table was prepared September 1996.)

Table 31.—First-professional degrees, by sex of recipient, with projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Total	Men	Women
1982	72,032	52,223	19,809
1983	73,054	51,250	21,804
1984	74,468	51,378	23,090
1985	75,063	50,455	24,608
1986	73,910	49,261	24,649
1987	71,617	46,523	25,094
1988	70,735	45,484	25,251
1989	70,856	45,046	25,810
1990	70,988	43,961	27,027
1991	71,948	43,846	28,102
1992	74,146	45,071	29,075
1993	75,387	45,153	30,234
1994	75,418	44,707	30,711
1995*	76,800	45,000	31,800
		Projected	
1996	78,700	45,600	33,100
1997	76,900	46,200	30,700
1998	74,900	44,300	30,600
1999	73,500	42,400	31,100
2000	73,100	41,700	31,400
2001	72,900	41,000	31,900
2002	73,400	40,700	32,700
2003	74,400	40,700	33,700
2004	75,500	40,900	34,600
2005	76,700	41,300	35,400
2006	78,000	41,700	36,300
2007	79,300	42,100	37,200

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1993–94. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey and Integrated Postsecondary Education Data System (IPEDS), "Completions" survey. (This table was prepared September 1996.)

Chapter 5

Classroom Teachers

Between 1995 and 2007, the number of classroom teachers in elementary and secondary schools is projected to rise, primarily due to the increase in school enrollment during this period. Increases are expected in the numbers of both elementary and secondary teachers. The number of secondary teachers will increase at a faster rate than the number of elementary teachers. The numbers of both public and private teachers are projected to grow.

Three alternative projections of the numbers of classroom teachers were developed to indicate a range of possible outcomes. These alternatives are based on different assumptions about the growth paths for two of the key variables in the teacher model—disposable income per capita and education revenue receipts from state sources per capita. Under the middle alternative, disposable income per capita is projected to increase by 15 percent between 1995 and 2007, while education revenue receipts from state sources per capita will rise by 14 percent during this period. The low alternative assumes that disposable income per capita and education revenue receipts from state sources per capita will increase by 9 percent and 11 percent, respectively. The high alternative assumes that disposable income per capita and education revenue receipts from state sources per capita will increase by 21 percent and 20 percent, respectively. The third variable in the teacher model, enrollment by organizational level, is the same for all three alternatives.

For classroom teachers, the following tabulations show: (1) the average annual rate of change (in percent) for 1982–95 and the three alternative projected rates of change for 1995–2007 and (2) the rates of change for 1982–89 and 1989–95 and the middle alternative projected rates of change for 1995–2001 and 2001–2007. (Calculations are based on unrounded numbers.)

Average annual rate of change (in percent)

	1982–95	Projected 1995–2007		
		Low	Middle	High
Total	1.5	0.7	0.9	1.2
Elementary	2.0	0.4	0.6	0.9
Secondary	0.9	1.1	1.4	1.6
Public	1.6	0.7	0.9	1.2
Private	1.2	0.6	0.8	1.1

Average annual rate of change (in percent)
(Middle alternative projections)

	1982–89	1989–95	Projected	
			1995–2001	2001–2007
Total	1.5	1.5	1.1	0.7
Elementary	2.3	1.5	0.9	0.4
Secondary	0.4	1.4	1.5	1.3
Public	1.4	1.7	1.1	0.8
Private	2.1	0.1	1.1	0.6

Elementary and Secondary School Teachers

The number of classroom teachers in elementary and secondary schools increased from 2.46 million in 1982 to about 2.99 million in 1995, an increase of 22 percent (table 32 and figure 43). Under the middle alternative, the number of classroom teachers is projected to increase to 3.34 million by the year 2007, increasing at an average annual growth rate of 0.9 percent, for a 12-percent increase over the projection period. The growth rate will be higher in the first half of the projection period (1995–2001) than in the second half (2001–2007), 1.1 percent per year versus 0.7 percent (figure 44). Under the low alternative, the number of classroom teachers is projected to increase to 3.24 million by the year 2007, increasing at an average annual growth rate of 0.7 percent. Under the high alternative, classroom teachers are projected to increase to 3.45 million by the year 2007, increasing at an average annual growth rate of 1.2 percent.

Classroom Teachers, by Organizational Level

The number of elementary teachers increased from 1.41 million in 1982 to 1.82 million in 1995, an increase of 29 percent from 1982 (figure 45). Under the middle alternative, the number of elementary teachers is projected to increase to 1.96 million by 2007, an increase of 8 percent from 1995; this increase represents an average annual growth rate of 0.6 percent per year. During the projection period, the growth rate in the 1995–2001 period will be 0.9 percent, while the growth rate in the 2001–2007 period will be 0.4 percent (figure 46). Under the low alternative, the number of elementary teachers is pro-

jected to increase to 1.90 million by the year 2007, increasing at an average annual growth rate of 0.4 percent. Under the high alternative, elementary teachers are projected to increase to 2.04 million by the year 2007, increasing at an average annual growth rate of 0.9 percent.

The number of secondary classroom teachers increased from 1.04 million in 1982 to about 1.17 million in 1995, an increase of 12 percent from 1982. Under the middle alternative, the number of secondary teachers is projected to increase from 1.17 million in 1995 to 1.38 million by the year 2007, resulting in an increase of 18 percent. This increase will represent an average annual growth rate of 1.4 percent over the projection period. During the projection period, the growth rate in the 1995–2001 period will be 1.5 percent, while the growth rate in the 2001–2007 period will be 1.3 percent. Under the low alternative, the number of secondary teachers is projected to increase to 1.34 million by the year 2007, increasing at an average annual growth rate of 1.1 percent. Under the high alternative, secondary teachers are projected to increase to 1.42 million by the year 2007, increasing at an average annual growth rate of 1.6 percent.

Classroom Teachers, by Control of School

The number of classroom teachers in public elementary and secondary schools increased from 2.13 million in 1982 to about 2.61 million in 1995, an increase of 22 percent from 1982 (figure 47). Under the middle alternative, the number of public school teachers is projected to increase to 2.92 million by the year 2007, resulting in an increase of 12 percent from 1995. This increase will represent an average annual growth rate of 0.9 percent. During the projection period, the growth rate in the 1995–2001 period will be 1.1 percent, while the growth rate in the 2001–2007 period will be 0.8 percent (figure 48). Under the low alternative, the number of public school teachers is projected to increase to 2.83 million by the year 2007, increasing at an average annual growth rate of 0.7 percent. Under the high alternative, public school teachers are projected to increase to 3.02 million by the year 2007, increasing at an average annual growth rate of 1.2 percent.

The number of classroom teachers in private elementary and secondary schools was an estimated 380,000 in 1995. Under the middle alternative, this number is projected to increase to 420,000 by the year 2007, an increase of 11 percent from 1995. This increase will represent an average annual growth rate of 0.8 percent. During the projection period, the growth rate in the 1995–2001 period will be 1.1 percent, while the growth rate in the 2001–2007 period will be 0.6 percent. Under the low alternative, the number of private school teachers is projected to increase to 408,000 by the year 2007, increasing at an average annual growth rate of 0.6 percent. Under the high alternative, private school teachers are projected to increase to 435,000 by the year 2007, increasing at an average annual growth rate of 1.1 percent.

Pupil-Teacher Ratios

A broad relationship between the number of pupils and teachers can be described by the pupil-teacher ratio. The pupil-teacher ratios were computed based on elementary and secondary enrollment by organizational level and the number of classroom teachers by organizational level.

The pupil-teacher ratio in elementary schools decreased from 19.8 in 1982 to 18.4 in 1989. Then, the pupil-teacher ratio increased to 18.5 in 1995 (table 33 and figure 49). Under the middle alternative, this ratio is projected to decline to 17.6 by the year 2007. Under the low and high alternatives, the pupil-teacher ratio in elementary schools is expected to range between 17.0 and 18.2 by the year 2007.

For public elementary schools, under the middle alternative, the pupil-teacher ratio is projected to decrease from 18.9 in 1995 to 18.0 by the year 2007 (figure 50). Under the low and high alternatives, the pupil-teacher ratio in public elementary schools is projected to range between 17.3 and 18.5 by the year 2007. For private elementary schools, under the middle alternative, the pupil-teacher ratio is projected to decrease from 16.5 in 1995 to 15.8 by the year 2007. Under the low and high alternatives, the pupil-teacher ratio in private elementary schools is expected to range between 15.2 and 16.3 by the year 2007.

For secondary schools, the pupil-teacher ratio decreased from 16.4 in 1982 to 14.3 in 1990. Next, it increased to about 14.8 in 1992. Then, it declined to 14.5 in 1995. Under the middle alternative, this ratio is projected to decrease to 14.3 by 2007. Under the low and high alternatives, the pupil-teacher ratio in secondary schools is projected to range between 13.9 and 14.7 by the year 2007.

For public secondary schools, under the middle alternative, the pupil-teacher ratio is projected to decrease from 14.8 in 1995 to 14.6 by 2007. Under the low and high alternatives, the pupil-teacher ratio in public secondary schools is expected to range between 14.2 and 15.1 by the year 2007. For private secondary schools, under the middle alternative, the pupil-teacher ratio is projected to increase from 11.4 in 1995 to 11.5 by 1998. Then, it will fluctuate and decline to 11.4 by the year 2007. Under the low and high alternatives, the pupil-teacher ratio in private secondary schools is projected to range between 11.1 and 11.8 by the year 2007.

Although private school classroom teachers represented 13 percent of total classroom teachers in 1995, private school enrollment was 11 percent of total enrollment. This indicates that private schools have more teachers for a given number of students than do public schools; that is, private school pupil-teacher ratios are smaller than public school pupil-teacher ratios.

Figure 43
Elementary and secondary classroom teachers, with alternative projections: Fall 1982 to fall 2007

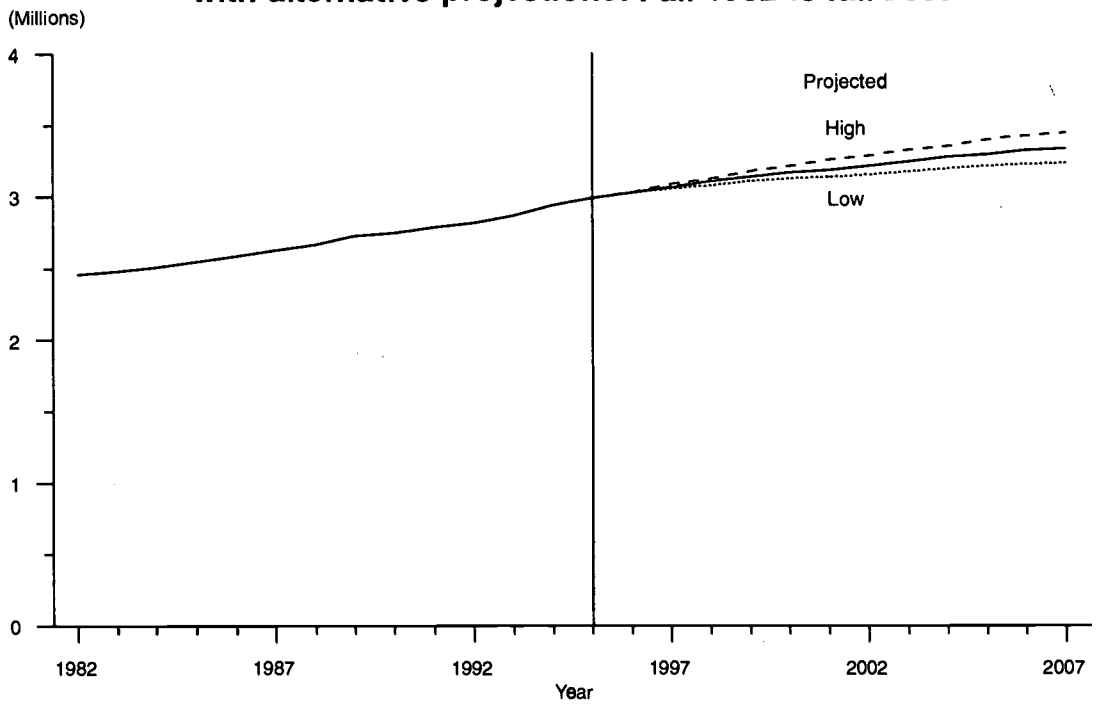


Figure 44
Average annual growth rates for classroom teachers

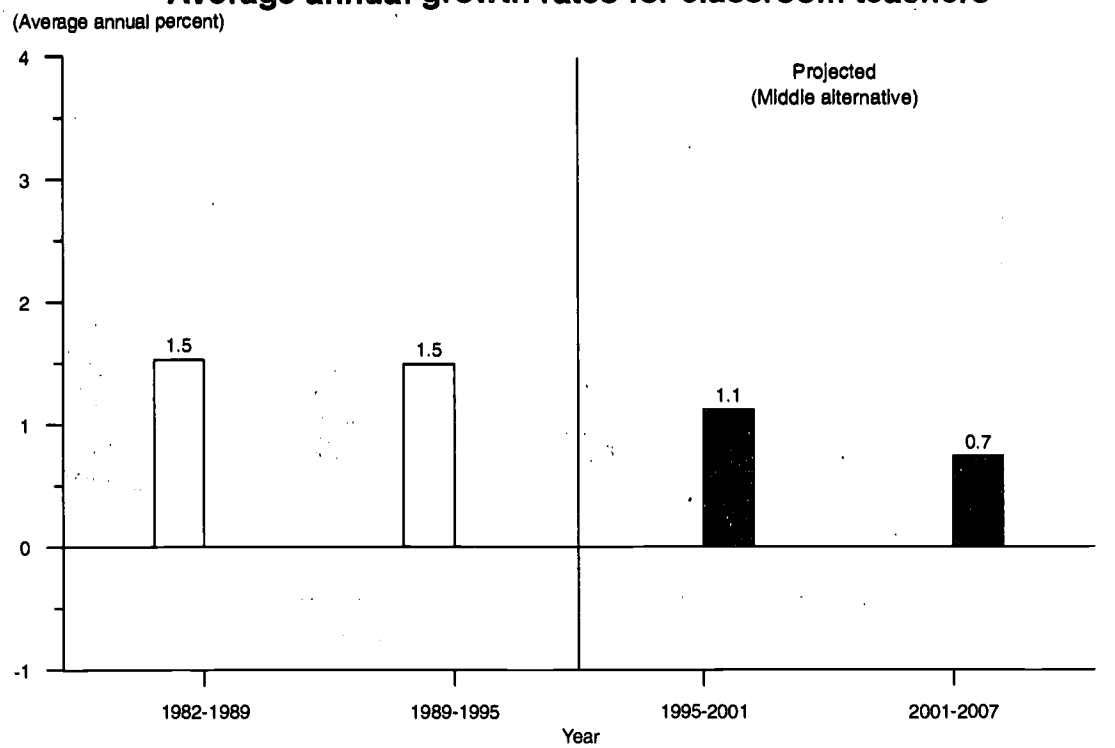


Figure 45
Elementary and secondary classroom teachers, by organizational level, with middle alternative projections: Fall 1982 to fall 2007

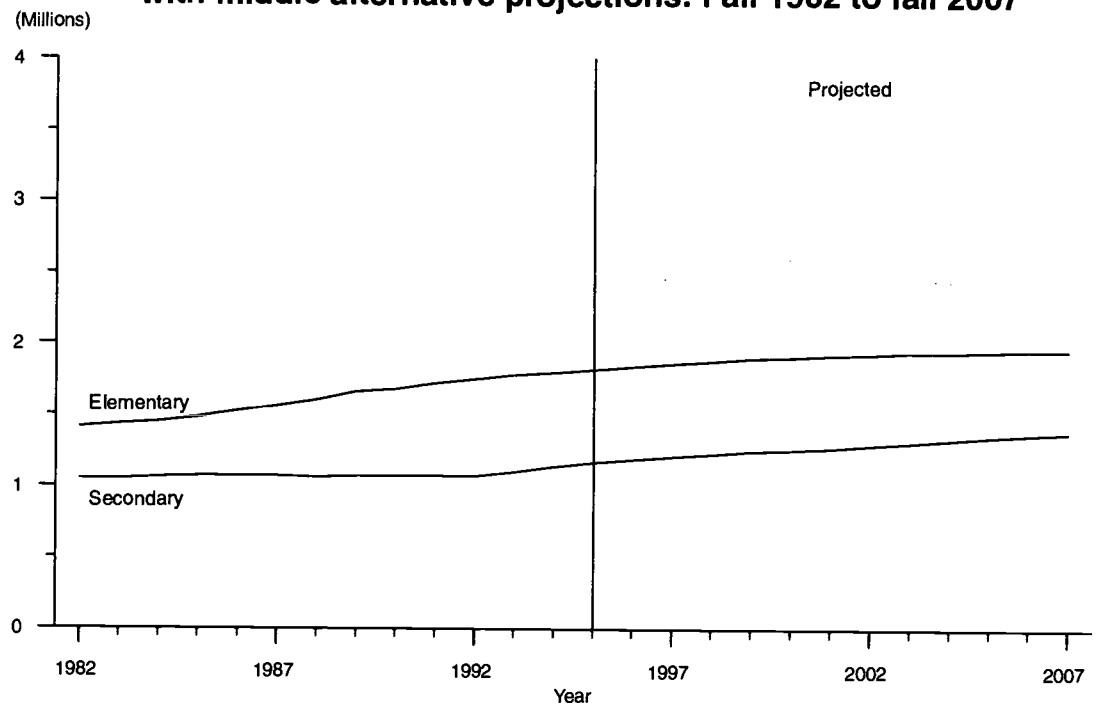


Figure 46
Average annual rates of change for classroom teachers, by organizational level

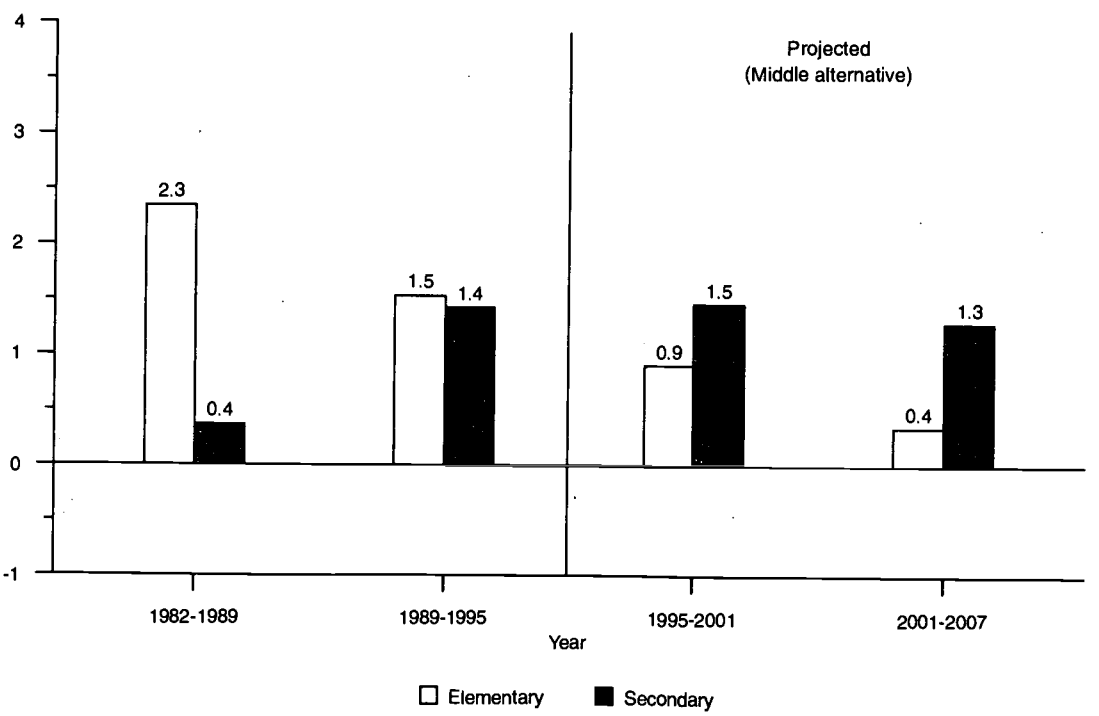


Figure 47

Elementary and secondary classroom teachers, by control of institution, with middle alternative projections: Fall 1982 to fall 2007

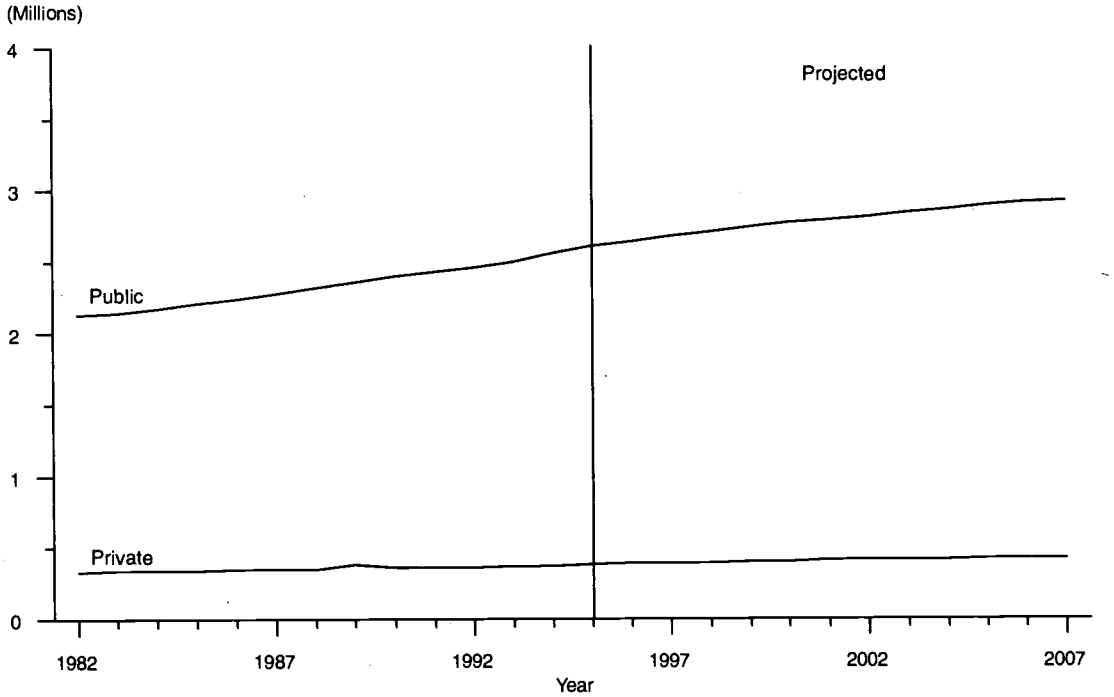


Figure 48

Average annual growth rates for classroom teachers, by control of institution

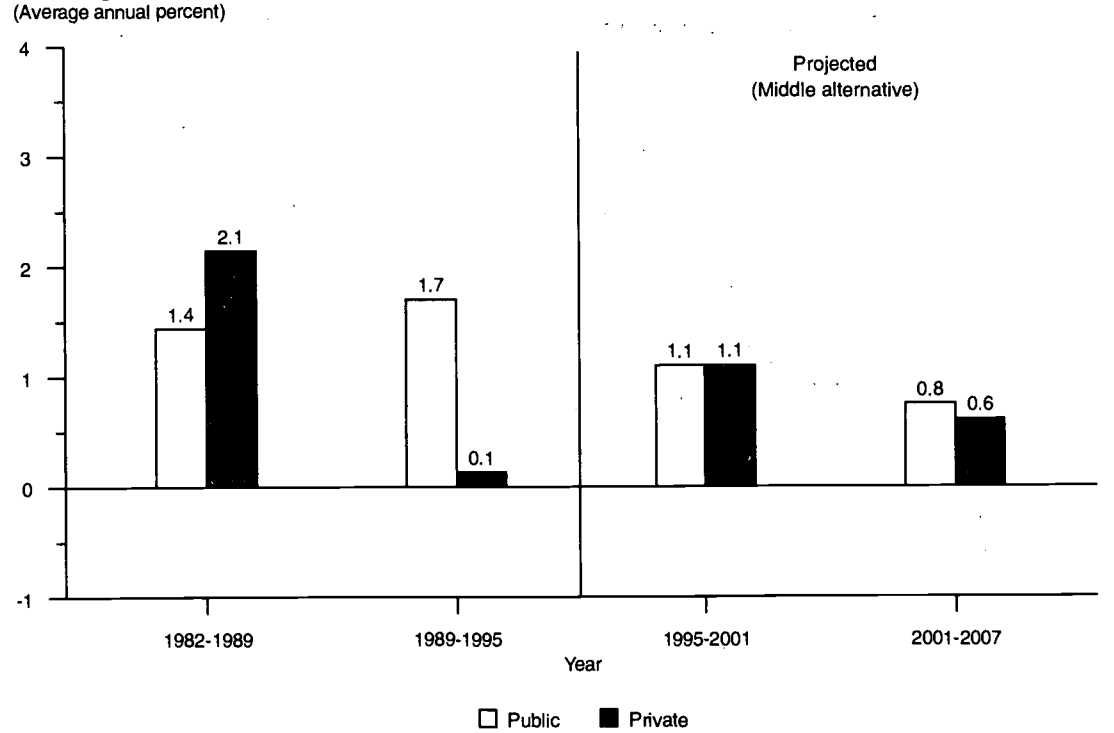


Figure 49
Pupil-teacher ratios, by organizational level, with middle alternative projections: Fall 1982 to fall 2007

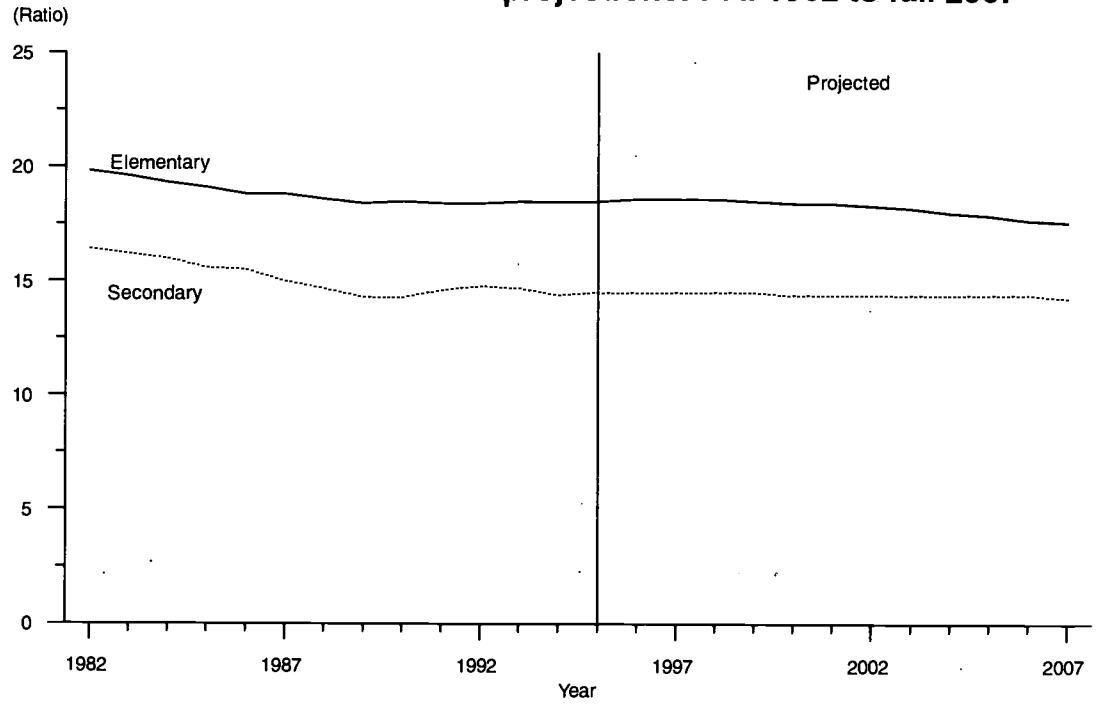


Figure 50
Pupil-teacher ratios, by organizational level and control, with middle alternative projections: Fall 1982 to fall 2007

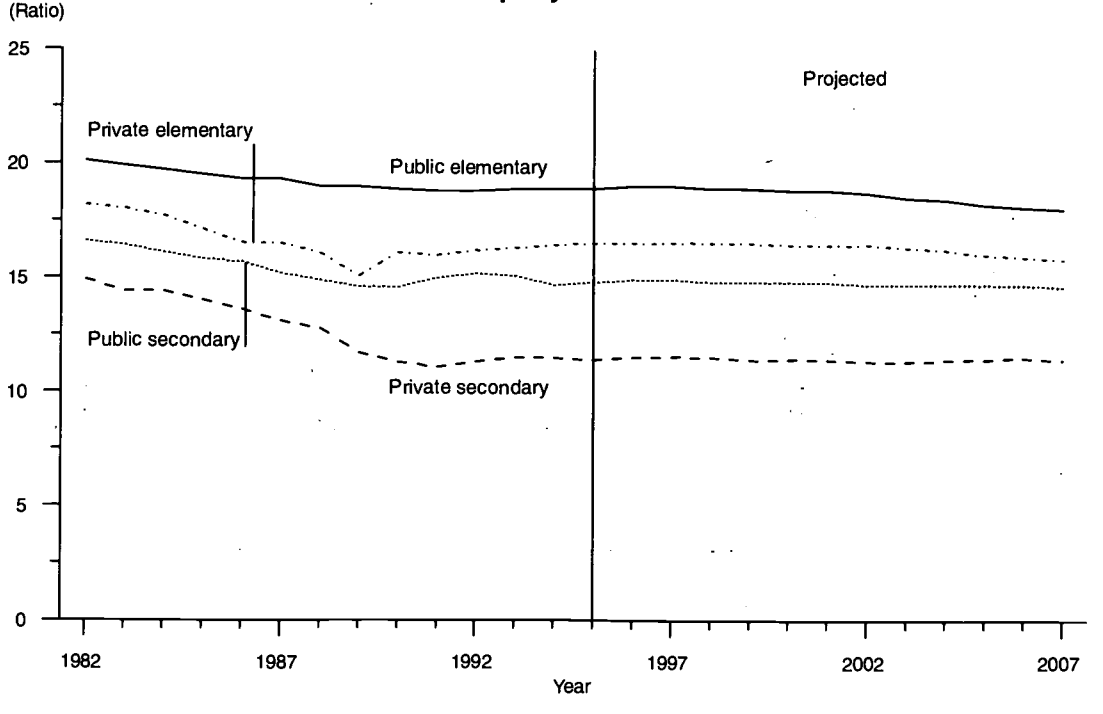


Table 32.—Classroom teachers in elementary and secondary schools, by control of institution and organizational level, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

(In thousands)

Year	Total			Public			Private		
	K–12	Elementary	Secondary	K–12	Elementary	Secondary	K–12	Elementary	Secondary
1982	2,458	1,413	1,045	2,133	1,182	951	[1]325	231	94
1983	2,476	1,426	1,050	2,139	1,186	953	337	240	97
1984	2,508	1,451	1,057	2,168	1,208	960	[1]340	243	97
1985	2,549	1,483	1,066	2,206	1,237	969	343	246	97
1986	2,592	1,521	1,071	2,244	1,271	973	[1]348	250	98
1987	2,632	1,564	1,068	2,279	1,307	973	[2]353	257	95
1988	2,668	1,604	1,064	2,323	1,353	970	[2]345	251	94
1989	2,734	1,662	1,072	2,357	1,387	970	[2]377	275	102
1990	2,753	1,680	1,073	2,398	1,426	972	[2]355	254	101
1991	2,787	1,713	1,074	2,432	1,459	973	[2]355	254	101
1992	2,822	1,752	1,070	2,459	1,492	967	[2]363	260	103
1993	2,870	1,775	1,095	2,504	1,513	991	[3]366	262	104
1994	2,926	1,794	1,132	2,552	1,528	1,024	[3]373	266	108
1995[3]	2,988	1,821	1,167	2,608	1,552	1,057	380	269	111
Middle alternative projections									
1996	3,029	1,840	1,189	2,644	1,568	1,076	385	272	113
1997	3,071	1,861	1,211	2,682	1,586	1,096	390	275	115
1998	3,106	1,879	1,228	2,712	1,601	1,111	394	277	117
1999	3,143	1,898	1,245	2,744	1,618	1,127	398	280	118
2000	3,172	1,912	1,259	2,770	1,630	1,140	402	282	120
2001	3,194	1,922	1,273	2,790	1,638	1,152	405	284	121
2002	3,221	1,929	1,291	2,813	1,645	1,169	407	285	123
2003	3,248	1,936	1,311	2,837	1,651	1,187	410	286	125
2004	3,275	1,942	1,333	2,862	1,656	1,207	413	287	127
2005	3,303	1,950	1,353	2,887	1,662	1,225	416	288	129
2006	3,326	1,957	1,369	2,907	1,668	1,239	419	289	130
2007	3,339	1,963	1,375	2,918	1,674	1,244	420	290	131
Low alternative projections									
1996	3,026	1,837	1,188	2,642	1,566	1,076	384	271	113
1997	3,060	1,853	1,206	2,672	1,580	1,092	388	274	115
1998	3,084	1,865	1,219	2,693	1,590	1,103	391	275	116
1999	3,109	1,877	1,231	2,715	1,600	1,114	394	277	117
2000	3,129	1,886	1,243	2,732	1,607	1,125	396	278	118
2001	3,143	1,890	1,253	2,745	1,611	1,134	398	279	119
2002	3,160	1,892	1,268	2,761	1,613	1,148	400	279	120
2003	3,179	1,894	1,285	2,777	1,615	1,163	402	280	122
2004	3,199	1,895	1,304	2,796	1,616	1,180	404	280	124
2005	3,220	1,898	1,321	2,814	1,618	1,196	406	280	125
2006	3,234	1,901	1,333	2,827	1,620	1,207	407	281	127
2007	3,239	1,902	1,337	2,831	1,621	1,210	408	281	127
High alternative projections									
1996	3,034	1,843	1,190	2,648	1,571	1,077	385	272	113
1997	3,086	1,870	1,216	2,694	1,594	1,100	391	276	115
1998	3,133	1,895	1,237	2,736	1,616	1,120	397	280	118
1999	3,182	1,923	1,259	2,779	1,639	1,140	403	284	120
2000	3,222	1,944	1,278	2,813	1,657	1,156	408	287	121
2001	3,255	1,960	1,295	2,843	1,671	1,172	412	289	123
2002	3,291	1,974	1,318	2,875	1,682	1,192	416	291	125
2003	3,328	1,987	1,341	2,907	1,693	1,214	421	293	127
2004	3,364	1,998	1,366	2,939	1,703	1,236	425	295	130
2005	3,400	2,010	1,390	2,972	1,714	1,258	429	297	132
2006	3,431	2,023	1,408	2,999	1,724	1,275	432	299	134
2007	3,453	2,035	1,418	3,018	1,734	1,284	435	300	135

[1] Estimated on the basis of past data.
[2] Estimate is from the survey on *Early Estimates*.
[3] Projected.

NOTE: The numbers of elementary and secondary teachers reported separately by the National Education Association were prorated to the NCES totals for each year. Historical numbers may differ from those in previous editions. Projections are based on data through 1993. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; "Private Elementary and Secondary Education, 1983: Enrollment, Teachers, and Schools," *NCES Bulletin*, December 1984; 1985 Private School Survey; "Key Statistics for Private Elementary and Secondary Education: School Year 1988–89," *Early Estimates*; "Key Statistics for ate Elementary and Secondary Education: School Year 1990–91," *Early Estimates*; Public and Private Elementary and Secondary Education Statis- School Year 1991–92," *Early Estimates*; and "Public and Private Elementary and Secondary Education Statistics: School Year 1992–93," *Early nates*. (This table was prepared September 1996.)

Table 33.—Pupil-teacher ratios in elementary and secondary schools, by control of institution and organizational level, with alternative projections: 50 States and D.C., fall 1982 to fall 2007

Year	Total		Public		Private	
	Elementary	Secondary	Elementary	Secondary	Elementary	Secondary
1982	19.8	16.4	20.2	16.6	[1]18.2	[1]14.9
1983	19.6	16.2	19.9	16.4	18.0	14.4
1984	19.3	16.0	19.7	16.1	[1]17.7	[1]14.4
1985	19.1	15.6	19.5	15.8	17.1	14.0
1986	18.8	15.5	19.3	15.7	[1]16.5	[1]13.6
1987	18.8	15.0	19.3	15.2	[2]16.4	[2]13.1
1988	18.6	14.7	19.0	14.9	[2]16.1	[2]12.8
1989	18.4	14.3	19.0	14.6	[2]15.1	[2]11.7
1990	18.5	14.3	19.0	14.6	[2]16.1	[2]11.3
1991	18.5	14.5	18.9	14.9	[2]16.0	[2]11.1
1992	18.4	14.8	18.8	15.2	[2]16.2	[2]11.3
1993	18.5	14.7	18.9	15.1	[3]16.3	[3]11.5
1994	18.6	14.5	18.9	14.8	[3]16.4	[3]11.5
1995[3]	18.5	14.5	18.9	14.8	16.5	11.4
Middle alternative projections						
1996	18.6	14.5	19.0	14.9	16.5	11.5
1997	18.6	14.5	19.0	14.9	16.5	11.5
1998	18.6	14.5	18.9	14.8	16.5	11.5
1999	18.5	14.5	18.9	14.8	16.5	11.4
2000	18.4	14.4	18.8	14.8	16.4	11.4
2001	18.4	14.4	18.8	14.8	16.4	11.4
2002	18.3	14.4	18.7	14.7	16.4	11.3
2003	18.2	14.4	18.5	14.7	16.3	11.3
2004	18.0	14.4	18.4	14.7	16.2	11.4
2005	17.9	14.4	18.2	14.7	16.0	11.4
2006	17.7	14.4	18.1	14.7	15.9	11.5
2007	17.6	14.3	18.0	14.6	15.8	11.4
Low alternative projections (Based on high alternative projections of teachers)						
1996	18.6	14.5	18.9	14.8	16.5	11.4
1997	18.5	14.5	18.9	14.8	16.5	11.4
1998	18.4	14.4	18.8	14.7	16.4	11.4
1999	18.3	14.3	18.6	14.6	16.2	11.3
2000	18.1	14.2	18.5	14.5	16.1	11.3
2001	18.0	14.2	18.4	14.5	16.1	11.2
2002	17.9	14.1	18.2	14.4	16.0	11.1
2003	17.7	14.1	18.1	14.4	15.9	11.0
2004	17.5	14.1	17.9	14.4	15.7	11.1
2005	17.3	14.0	17.6	14.3	15.5	11.1
2006	17.2	14.0	17.5	14.3	15.3	11.1
2007	17.0	13.9	17.3	14.2	15.2	11.1
High alternative projections (Based on low alternative projections of teachers)						
1996	18.6	14.5	19.0	14.9	16.6	11.5
1997	18.7	14.6	19.0	14.9	16.6	11.5
1998	18.7	14.6	19.1	14.9	16.7	11.5
1999	18.7	14.6	19.1	15.0	16.6	11.6
2000	18.7	14.6	19.1	15.0	16.6	11.6
2001	18.7	14.7	19.1	15.0	16.7	11.6
2002	18.7	14.7	19.0	15.0	16.7	11.5
2003	18.6	14.7	18.9	15.0	16.7	11.5
2004	18.5	14.7	18.8	15.1	16.6	11.6
2005	18.4	14.8	18.7	15.1	16.4	11.7
2006	18.3	14.8	18.6	15.1	16.3	11.8
2007	18.2	14.7	18.5	15.1	16.3	11.8

[1] Estimated on the basis of past data.
[2] Estimate is from the survey on *Early Estimates*.
[3] Projected.

NOTE: The pupil-teacher ratios were derived from tables 2 and 32. Historical numbers may differ from those in previous editions. Projections are based on data through 1993.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; "Private Elementary and Secondary Education, 1983: Enrollment, Teachers, and Schools," *NCES Bulletin*, December 1984; 1985 Private School Survey; "Key Statistics for Private Elementary and Secondary Education: School Year 1988–89," *Early Estimates*; "Key Statistics for Private Elementary and Secondary Education: School Year 1990–91," *Early Estimates*; Public and Private Elementary and Secondary Education Statistics: School Year 1991–92," *Early Estimates*; and "Public and Private Elementary and Secondary Education Statistics: School Year 1992–93," *Early Estimates*. (This table was prepared September 1996.)

Chapter 6

Expenditures of Public Elementary and Secondary Schools

Current expenditures are projected to increase by 32 percent in constant dollars between school years 1993–94 and 2006–07 in the middle set of projections presented in this chapter. Average annual teacher salaries in public elementary and secondary schools in constant dollars are projected to increase by 4 percent during that period. (Note that all percent changes presented in this chapter were calculated using unrounded numbers.) These projections are based on assumptions concerning economic growth and assistance by state governments to local governments which are discussed in appendix A5. Other sets of projections, based on alternative economic scenarios, are also discussed. No projections for private schools are presented as there are no regular data collections for private school expenditures.

Current Expenditures

Past Trends

Current expenditures increased from $161.6 billion in 1981–82 to $238.2 billion in 1993–94 using constant 1994–95 dollars using the Consumer Price Index (table 34 and figure 51). (The 1993–94 school year is the last year for which current expenditures are available.) This was an increase of 47 percent. Current expenditures are estimated to increase to $250.8 billion by 1995–96, an increase of 55 percent since 1981–82. From 1981–82 to 1993–94, current expenditures per pupil in average daily attendance rose 36 percent to $5,932 (table 34 and figures 52 and 53). Current expenditures per pupil in average daily attendance increased an estimated 38 percent from 1981–82 to 1995–96. Current expenditures per pupil in fall enrollment (table 35) increased 36 percent from 1981–82 to 1993–94.

Historically, education expenditures have followed a path similar to general economic trends. For much of the period since 1981–82, the economy has been rising. Current expenditures have also been rising during that period. (See figure 54 for a comparison of the growth rates of current expenditures per pupil and one major indicator of the state of the economy, disposable income per capita and table B6 for the values of disposable income per capita.)

The amount that local governments spend on education is also historically associated with the amount of state education aid to local governments (table B7). There was a rapid rise in state education aid to local governments during the period from 1981–82 to 1993–94. (See figure 55 for a comparison of the growth rates of current expenditures per pupil and revenue receipts from state sources per capita).

Current expenditures have increased each year since 1981–82. The percent increase has not been constant over that time however. Most of the largest of the percent increases occurred from 1984–85 to 1988–89. That was the period when disposable income per capita and state education aid per capita were also increasing most rapidly. Also during that period, enrollments, which had been falling since the early 1970s, entered a period of steady increases. Since 1988–89, current expenditures have not been increasing as rapidly. Disposable income per capita and state education aid per capita have been increasing at lower rates than in the mid-1980s as well.

The percentage of total disposable income spent on public elementary and secondary school current expenditures has increased slightly from 1981–82 (4.4 percent) to 1993–94 (4.7 percent) (tables 34, B5 and B6). This percentage was not stable during this period however. It fell to 4.3 percent in 1983–84 before beginning to rise again. The year 1983–84 is notable because enrollment as measured by average daily attendance reached its lowest level since 1962–63 and has been increasing annually since then.

Current expenditures per pupil in average daily attendance as a percentage of disposable income per capita rose from 27.1 percent in 1981–82 to 30.5 percent in 1993–94.

Alternative Projections

Three sets of projections are presented for current expenditures in this chapter. Each set of projections is based on alternative assumptions concerning the economy. These assumptions together with the methodology used to produce the current expenditure projections are discussed in appendix A5.

The projections in this chapter are presented in both constant 1994–95 dollars and in current dollars. The projections were developed in constant dollars and then placed in current dollars using projections for the Consumer Price Index (CPI) (table B8). Three alternative sets of projections for the CPI were used, one for use with the middle alternative projections, one for use with the low alternative projections, and one for use with the high alter-

native projections. As the set of projections for the CPI developed for use with the low alternative projections is rising at the most rapid rate and that developed for use with the high alternative projections is rising at the slowest rate, it is frequently the case that the current dollar projections from the low alternative set of projections are higher than those from the other two alternative sets of projections.

In the middle alternative projections, current expenditures in constant 1994–95 dollars are projected to increase steadily throughout the forecast period, reaching $314.1 billion in 2006–07. This is an increase of 32 percent over the 1993–94 level, and 25 percent over the estimated level for 1995–96. Current expenditures are projected to increase most rapidly during the period from 1996–97 to 1999–2000. This is also the period during which enrollments are expected to increase most rapidly.

Current expenditures per pupil in average daily attendance are projected to increase by 18 percent to $7,006 from 1993–94 to 2006–07 (table 34 and figure 52).

In the middle alternative projection, total current expenditures as a percentage of total disposable income are projected to increase from 4.7 percent in 1993–94 to 4.8 percent in 2006–07. Current expenditures per pupil in average daily attendance as a percentage of disposable income per capita are also projected to increase slightly, from 30.5 percent to 30.6 percent during the same period.

In the low alternative projections, both current expenditures and current expenditures per pupil are projected to increase more slowly than in the middle set of projections. Current expenditures are projected to increase by 26 percent from 1993–94 to 2006–07, reaching $299.6 billion at the end of the forecast period. Current expenditures per pupil in average daily attendance are projected to reach $6,683 by 2006–07, an increase of 13 percent since 1993–94.

In the high alternative projections, current expenditures are projected to increase by approximately 40 percent over the 1993–94 level to $332.9 billion in 2006–07. Current expenditures per pupil in average daily attendance are projected to increase by 25 percent to $7,427 since 1993–94.

Teacher Salaries

Past Trends

The period from 1981–82 to 1995–96 has been dominated by two different patterns for teacher salaries in constant dollars (table 36 and figures 56 and 57).

Teacher salaries had reached the bottom of a period of steady declines in 1980–81, and then entered a period of steady and relatively rapid growth. From 1981–82 to 1989–90, teacher salaries increased 20.6 percent, from $30,811 to $37,163. During this period, current expenditures and the revenues of state governments were increasing rapidly. (See figure 59 for a comparison of the growth rates for teacher salaries and current expenditures per pupil.) It was during that period when enrollment, which had also been in a period of steady decline, began increasing again.

From 1989–90 to 1995–96, teacher salaries declined 1 percent. (Unlike current expenditures, there are values for teacher salaries for 1994–95 and 1995–96.) During much of that period, the economy, current expenditures, and revenues of state and local governments had not been increasing as rapidly as earlier.

Alternative Projections

As with current expenditures, three sets of projections are presented for teacher salaries. The methodology and the assumptions used to produce these projections are discussed in appendix A5.

In the middle alternative projections, the average teacher salary in constant 1994–95 dollars is projected to reach $38,270 in 2006–07 (table 36 and figure 56). This is a 4-percent increase from the level estimated for 1995–96.

In the low alternative projections, teacher salaries are projected to rise slowly throughout the projection period. The average salary is projected to reach $37,453 in 2006–07, an increase of about 2 percent from 1995–96. (See figure 57 for a comparison of the growth rates for the alternative sets of projections.)

In the high alternative projections, the average teacher salary is projected to reach $39,307 in 2006–07, an increase of about 7 percent.

Figure 51
Current expenditures of public schools (in constant 1994-95 dollars), with alternative projections: 1981-82 to 2006-07

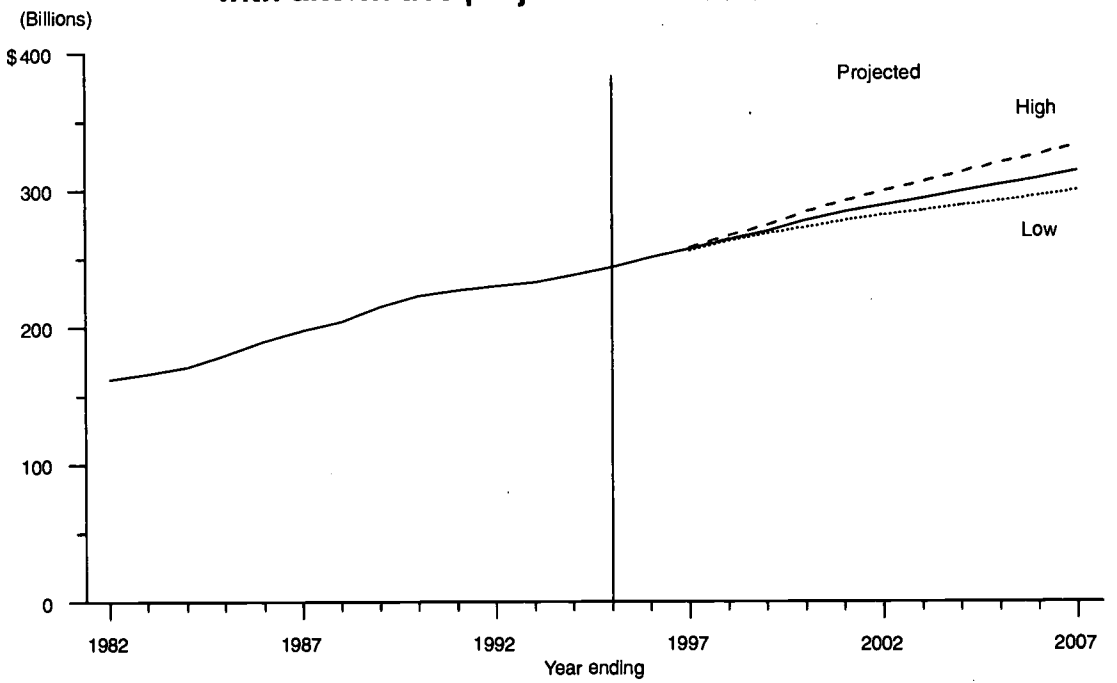


Figure 52
Current expenditures per pupil in average daily attendance of public schools (in constant 1994-95 dollars), with alternative projections: 1981-82 to 2006-07

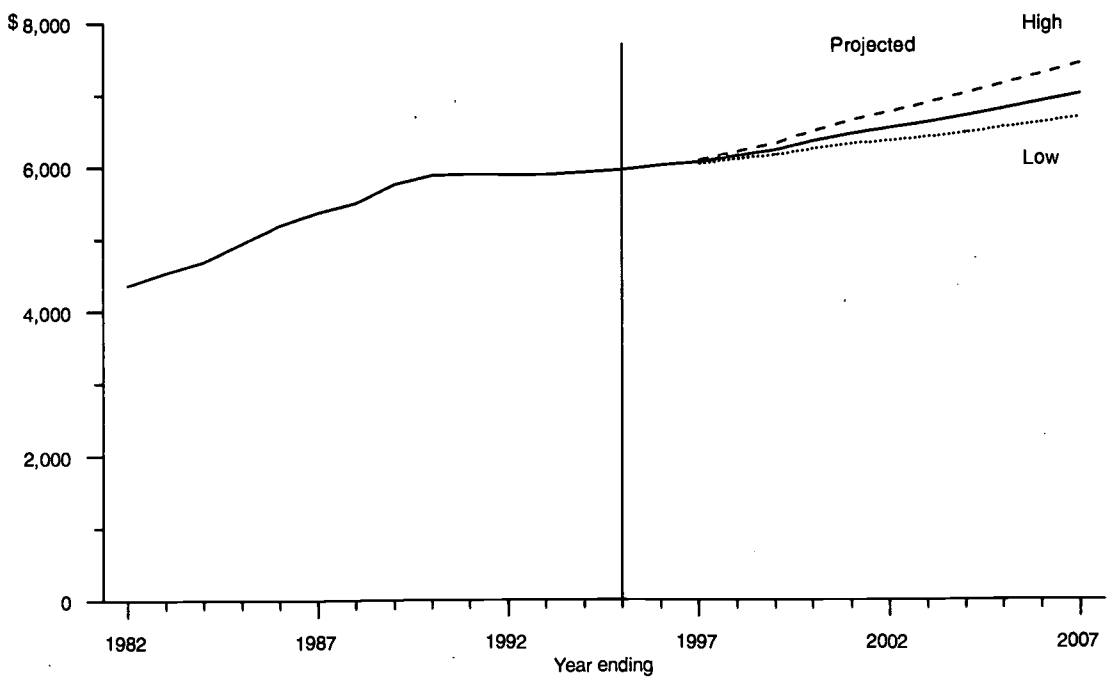


Figure 53
Annual percentage change in current expenditures per pupil in average daily attendance of public schools (in constant dollars), with alternative projections: 1981-82 to 2006-07

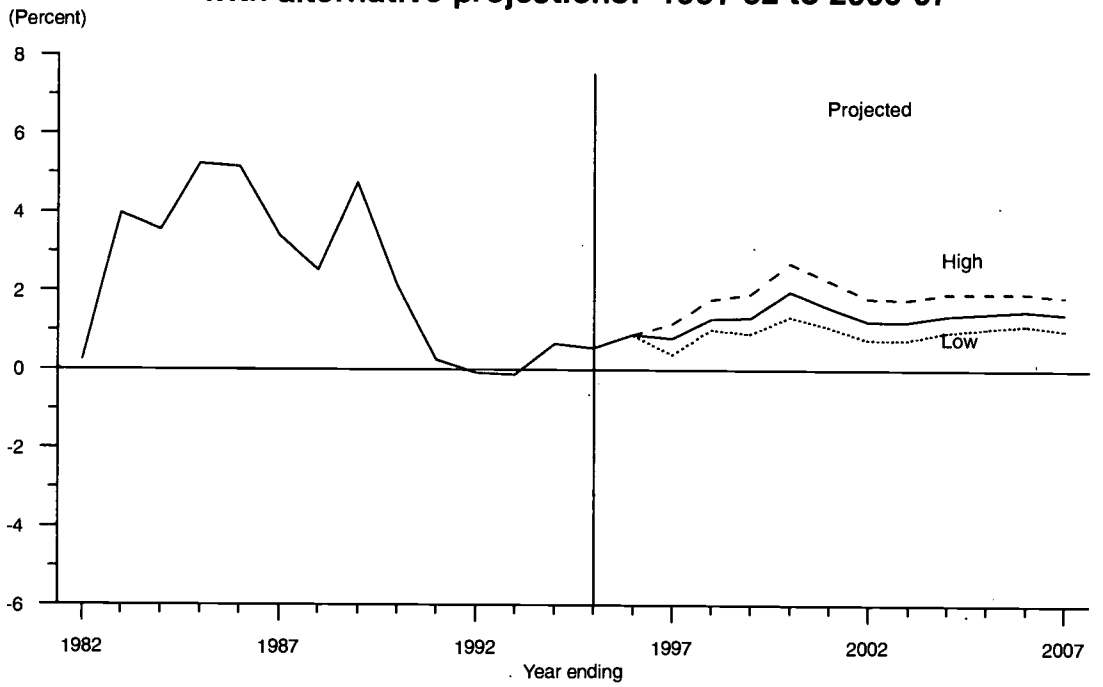


Figure 54
Annual percentage change in current expenditures per pupil in average daily attendance of public schools and disposable income per capita (both in constant dollars), with middle alternative projections: 1981-82 to 2006-07

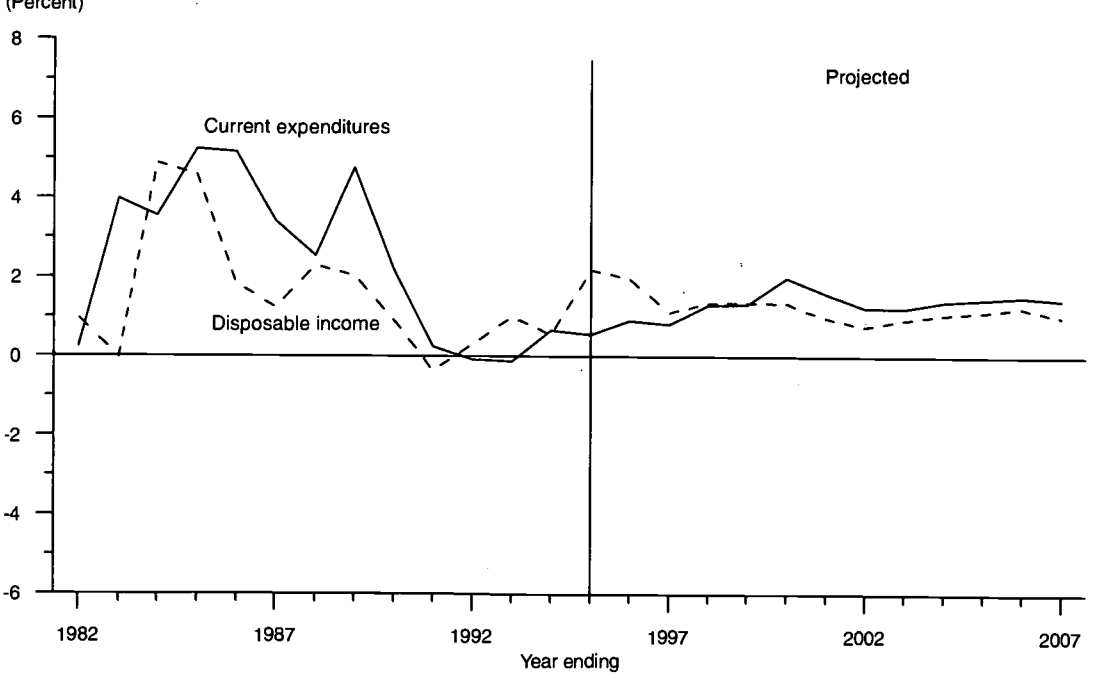


Figure 55

Annual percentage change in current expenditures per pupil in ADA of public schools and education revenue receipts from state sources (both in constant dollars), with middle alternative projections: 1981-82 to 2006-07

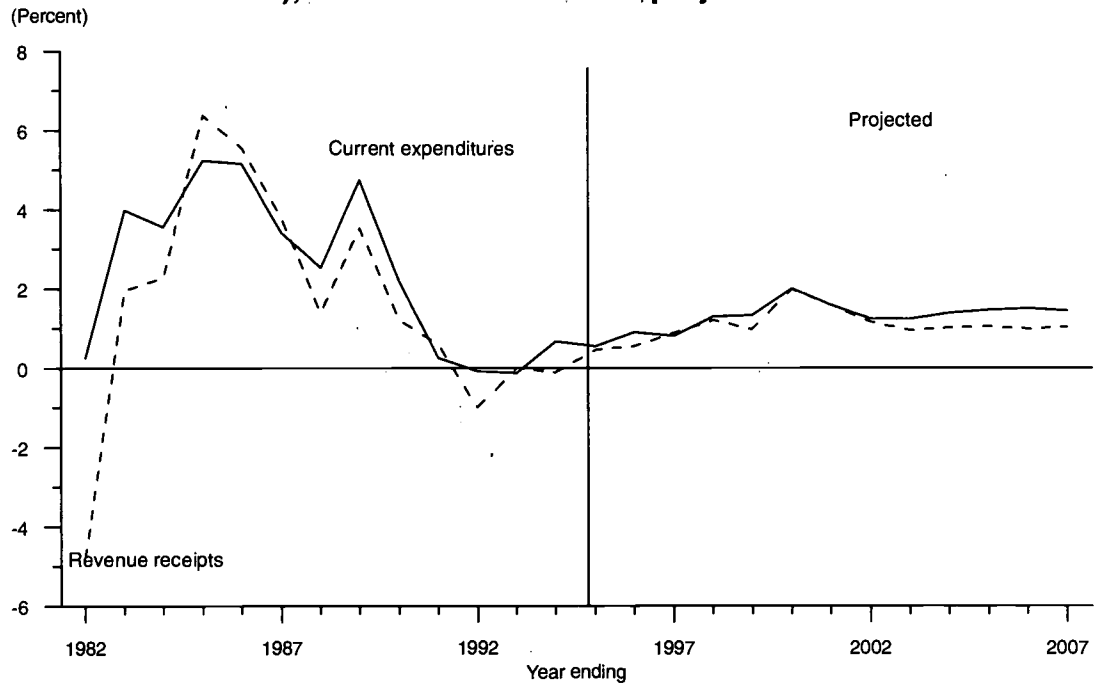


Figure 56
Average annual salaries of teachers in public schools (in constant 1994-95 dollars), with alternative projections: 1981-82 to 2006-07

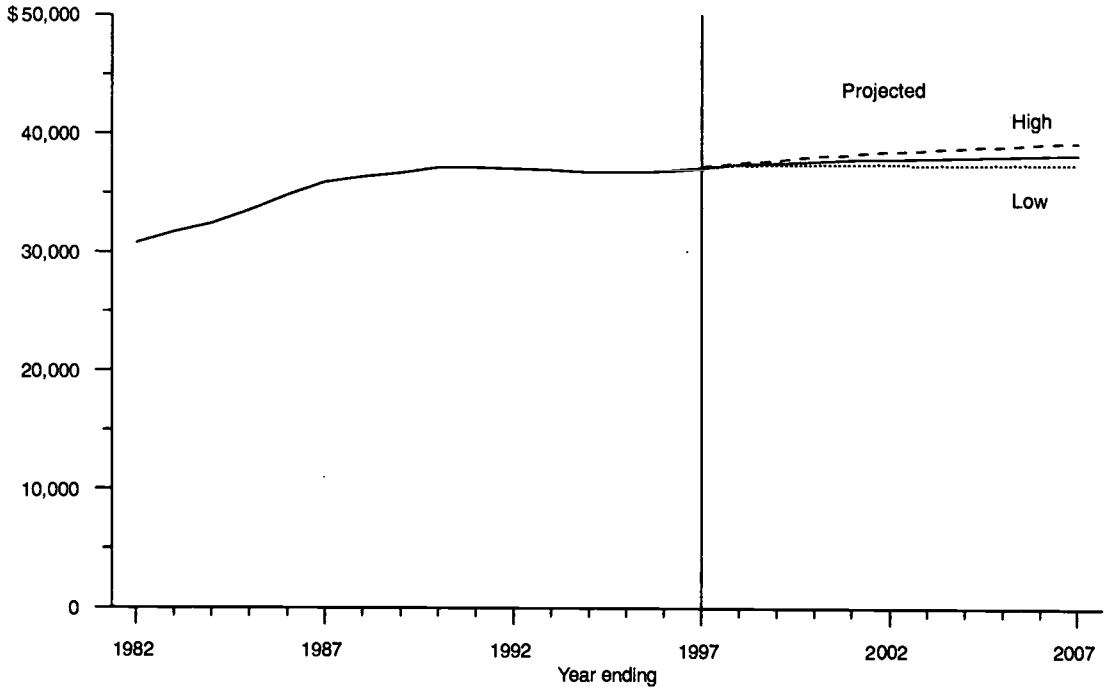


Figure 57
Annual percentage change in average annual salaries of teachers in public schools (in constant dollars), with alternative projections: 1981-82 to 2006-07

(Percent)

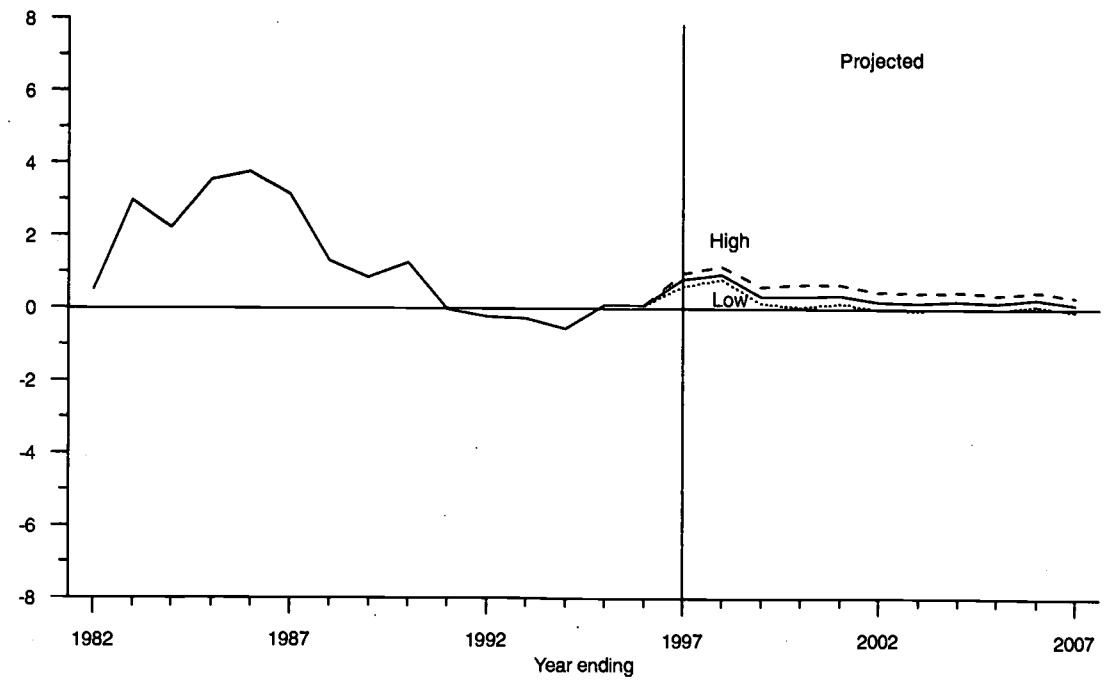


Figure 58

Annual percentage change in average annual salaries of teachers in public schools (in constant dollars) and average daily attendance, with middle alternative projections: 1981-82 to 2006-07

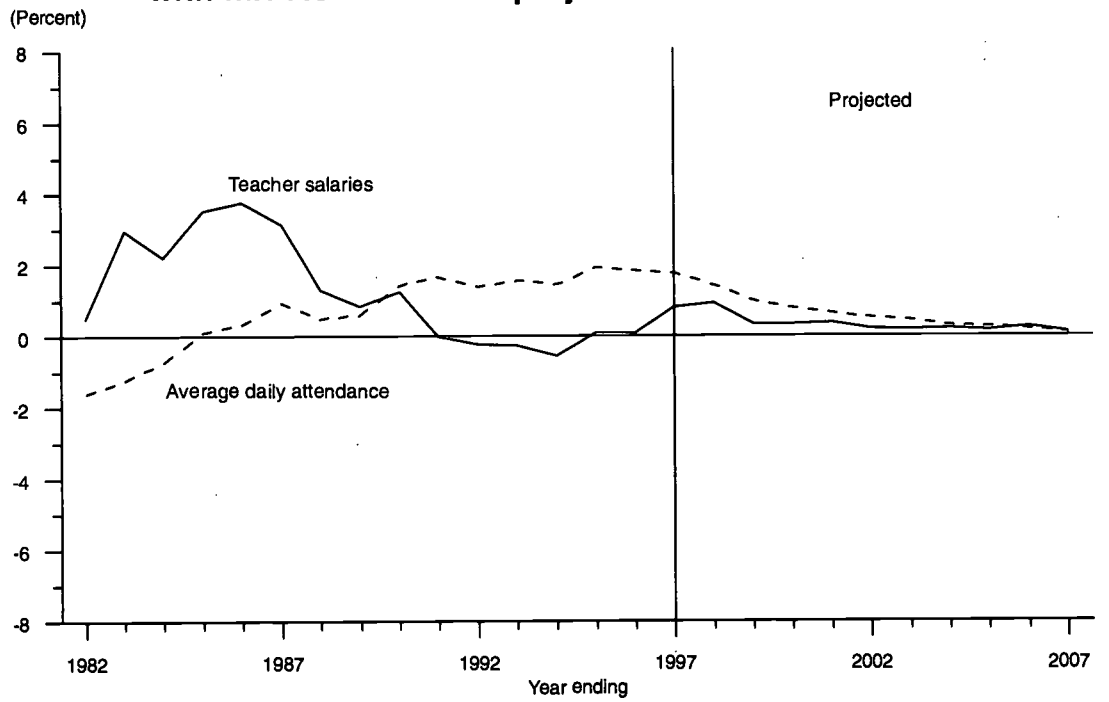
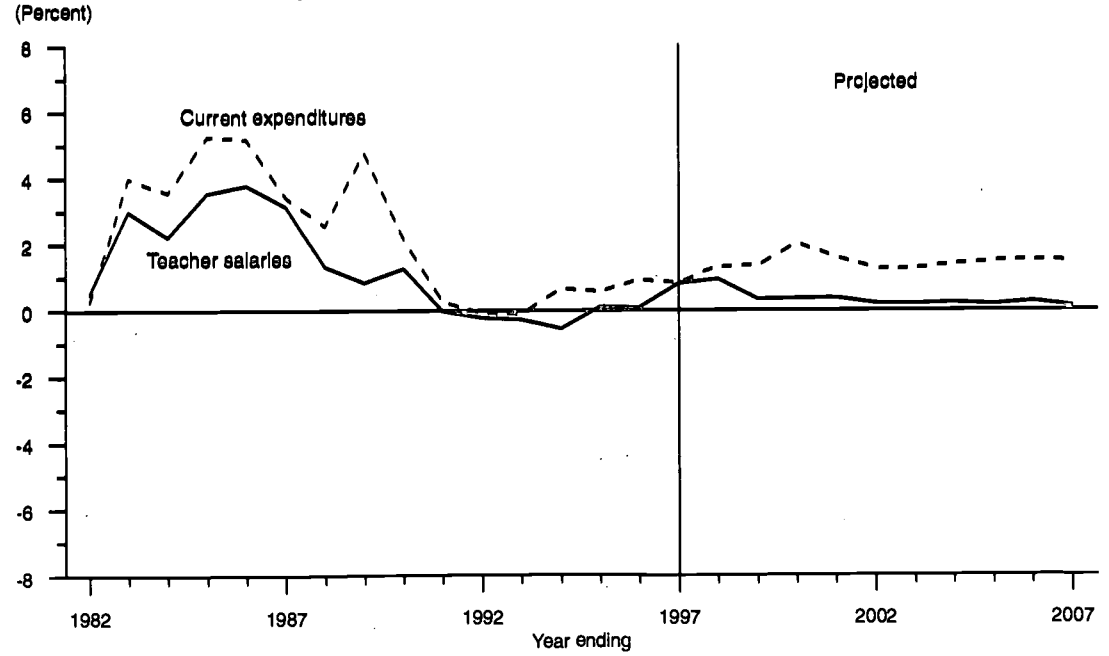


Figure 59

Annual percentage change in average annual salaries of teachers in public schools and current expenditures per pupil in ADA of public schools (both in constant dollars), with middle alternative projections: 1981-82 to 2006-07



NOTE: Data for current expenditures for 1994-95 and 1995-96 are estimated.

Table 34.—Current expenditures and current expenditures per pupil in average daily attendance (ADA) in public elementary and secondary schools, with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	ADA (in thousands)	Current expenditures			
		Constant 1994–95 dollars [1]		Current dollars [2]	
		Total (in billions)	Per pupil in ADA	Total (in billions)	Per pupil in ADA
1982	37,095	$161.6	$4,357	$101.1	$2,726
1983	36,636	166.0	4,531	108.3	2,955
1984	36,363	170.6	4,691	115.4	3,173
1985	36,404	179.7	4,937	126.3	3,470
1986	36,523	189.6	5,192	137.2	3,756
1987	36,864	197.9	5,369	146.4	3,970
1988	37,051	203.9	5,505	157.1	4,240
1989	37,268	214.9	5,766	173.1	4,645
1990	37,799	222.7	5,891	187.9	4,972
1991	38,427	226.9	5,905	202.0	5,258
1992	38,961	229.9	5,901	211.2	5,421
1993	39,570	233.2	5,893	220.9	5,584
1994	40,146	238.2	5,932	231.5	5,767
1995 [3]	40,921	244.1	5,965	244.1	5,965
		Middle alternative projections			
1996	41,667	250.8	6,019	257.7	6,185
1997	42,398	257.3	6,068	272.4	6,425
1998	43,004	264.3	6,147	287.7	6,691
1999	43,423	270.4	6,228	303.6	6,993
2000	43,761	278.0	6,352	322.3	7,365
2001	44,037	284.2	6,453	340.7	7,738
2002	44,260	289.2	6,533	—	—
2003	44,449	294.0	6,614	—	—
2004	44,581	299.0	6,706	—	—
2005	44,698	304.1	6,804	—	—
2006	44,787	309.3	6,907	—	—
2007	44,826	314.1	7,006	—	—
		Low alternative projections			
1996	41,667	250.8	6,019	257.7	6,185
1997	42,398	256.2	6,042	273.5	6,451
1998	43,004	262.5	6,104	292.4	6,800
1999	43,423	267.5	6,161	312.8	7,203
2000	43,761	273.3	6,245	335.7	7,672
2001	44,037	278.0	6,313	359.2	8,156
2002	44,260	281.6	6,362	—	—
2003	44,449	284.9	6,410	—	—
2004	44,581	288.5	6,472	—	—
2005	44,698	292.4	6,541	—	—
2006	44,787	296.3	6,615	—	—
2007	44,826	299.6	6,683	—	—
		High alternative projections			
1996	41,667	250.8	6,019	257.7	6,185
1997	42,398	258.2	6,090	272.4	6,425
1998	43,004	266.6	6,199	287.3	6,680
1999	43,423	274.4	6,318	302.7	6,971
2000	43,761	284.0	6,490	321.3	7,342
2001	44,037	292.3	6,637	339.8	7,715
2002	44,260	299.1	6,759	—	—
2003	44,449	305.8	6,880	—	—
2004	44,581	312.7	7,014	—	—
2005	44,698	319.6	7,150	—	—
2006	44,787	326.5	7,289	—	—
2007	44,826	332.9	7,427	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2001 due to the uncertain behavior of inflation over the long term.

[3] Current expenditures and average daily attendance are projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*; Common Core of Data survey; and the Early Estimates survey; and National Education Association, annual *Estimates of School Statistics*. (Latest edition 1995–96. Copyright 1996 by the National Education Association. All rights reserved.) (This table was prepared September 1996.)

Table 35.—Current expenditures and current expenditures per pupil in fall enrollment in public elementary and secondary schools, with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Fall enrollment[1] (in thousands)	Current expenditures			
		Constant 1994–95 dollars[2]		Current dollars[3]	
		Total (in billions)	Per pupil in fall enrollment	Total (in billions)	Per pupil in fall enrollment
1982	40,044	$161.6	$4,036	$101.1	$2,525
1983	39,566	166.0	4,195	108.3	2,736
1984	39,252	170.6	4,346	115.4	2,940
1985	39,208	179.7	4,584	126.3	3,222
1986	39,422	189.6	4,810	137.2	3,479
1987	39,753	197.9	4,979	146.4	3,682
1988	40,008	203.9	5,098	157.1	3,927
1989	40,189	214.9	5,347	173.1	4,307
1990	40,543	222.7	5,492	187.9	4,635
1991	41,217	226.9	5,505	202.0	4,902
1992	42,047	229.9	5,468	211.2	5,023
1993	42,823	233.2	5,446	220.9	5,160
1994	43,465	238.2	5,479	231.5	5,327
1995[4]	44,109	244.1	5,534	244.1	5,534
Middle alternative projections					
1996	44,912	250.8	5,584	257.7	5,738
1997	45,700	257.3	5,629	272.4	5,961
1998	46,353	264.3	5,702	287.7	6,208
1999	46,806	270.4	5,778	303.6	6,487
2000	47,170	278.0	5,893	322.3	6,833
2001	47,467	284.2	5,987	340.7	7,179
2002	47,707	289.2	6,061	—	—
2003	47,911	294.0	6,136	—	—
2004	48,053	299.0	6,221	—	—
2005	48,180	304.1	6,312	—	—
2006	48,276	309.3	6,408	—	—
2007	48,318	314.1	6,500	—	—
Low alternative projections					
1996	44,912	250.8	5,584	257.7	5,738
1997	45,700	256.2	5,605	273.5	5,984
1998	46,353	262.5	5,663	292.4	6,308
1999	46,806	267.5	5,716	312.8	6,682
2000	47,170	273.3	5,794	335.7	7,117
2001	47,467	278.0	5,857	359.2	7,566
2002	47,707	281.6	5,902	—	—
2003	47,911	284.9	5,947	—	—
2004	48,053	288.5	6,004	—	—
2005	48,180	292.4	6,068	—	—
2006	48,276	296.3	6,137	—	—
2007	48,318	299.6	6,201	—	—
High alternative projections					
1996	44,912	250.8	5,584	257.7	5,738
1997	45,700	258.2	5,650	272.4	5,961
1998	46,353	266.6	5,751	287.3	6,197
1999	46,806	274.4	5,862	302.7	6,467
2000	47,170	284.0	6,021	321.3	6,811
2001	47,467	292.3	6,157	339.8	7,158
2002	47,707	299.1	6,270	—	—
2003	47,911	305.8	6,383	—	—
2004	48,053	312.7	6,507	—	—
2005	48,180	319.6	6,633	—	—
2006	48,276	326.5	6,763	—	—
2007	48,318	332.9	6,890	—	—

[1] Each enrollment number is for the fall of the school year ending in the school year shown in column 1. Hence, the enrollment number listed for 1982 is for fall 1981.

[2] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[3] Projections in current dollars are not shown after 2001 due to the uncertain behavior of inflation over the long term.

[4] Current expenditures are projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*; *Statistics of Public Elementary and Secondary Schools*; "Selected Public and Private Elementary and Secondary Education Statistics," NCES Bulletin, October 23, 1979; Common Core of Data survey; and the Early Estimates survey; and National Education Association, annual *Estimates of School Statistics*. (Latest edition 1995–96. Copyright 1996 by the National Education Association. All rights reserved.) (This table was prepared September 1996.)

Table 36.—Average annual salaries of classroom teachers in public elementary and secondary schools, with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Constant 1994–95 dollars [1]	Current dollars [2]
1982	$30,811	$19,274
1983	31,727	20,695
1984	32,428	21,935
1985	33,573	23,600
1986	34,835	25,199
1987	35,926	26,569
1988	36,395	28,034
1989	36,703	29,564
1990	37,163	31,367
1991	37,158	33,084
1992	37,074	34,063
1993	36,973	35,030
1994	36,765	35,741
1995	36,802	36,802
1996	36,828	37,846
	Middle alternative projections	
1997	37,123	39,312
1998	37,467	40,786
1999	37,588	42,203
2000	37,714	43,728
2001	37,854	45,388
2002	37,927	—
2003	37,991	—
2004	38,072	—
2005	38,132	—
2006	38,229	—
2007	38,270	—
	Low alternative projections	
1997	37,051	39,557
1998	37,349	41,604
1999	37,403	43,727
2000	37,422	45,970
2001	37,475	48,413
2002	37,467	—
2003	37,451	—
2004	37,457	—
2005	37,450	—
2006	37,482	—
2007	37,453	—
	High alternative projections	
1997	37,185	39,233
1998	37,612	40,534
1999	37,836	41,743
2000	38,087	43,087
2001	38,343	44,574
2002	38,521	—
2003	38,685	—
2004	38,862	—
2005	39,008	—
2006	39,186	—
2007	39,307	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2001 due to the uncertain behavior of inflation over the long term.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: National Education Association, annual *Estimates of School Statistics*. (Latest edition 1995–96. Copyright 1996 by the National Education Association. All rights reserved.) (This table was prepared September 1996.)

Chapter 7

Expenditures of Institutions of Higher Education

The steady growth in higher education expenditures that has marked the 1980s and early 1990s is expected to continue throughout the 1990s and beyond with total current fund expenditures projected to increase 38 percent from 1993–94 to 2006–07. (Note that all percent changes presented in this chapter were calculated using unrounded numbers.) Key assumptions behind these projections are that the economy continues to grow at a steady rate, that inflation rates remain near current levels, and that enrollments increase as in the middle alternative projections presented in chapter 2. Projections based on alternative economic scenarios are discussed below.

The higher education system is examined by both control of institution (public versus private) and by type of institution (4-year versus 2-year). For each of these sectors of higher education, two different types of expenditures—current-fund expenditures and educational and general expenditures—are examined. Educational and general expenditures consist only of that portion of current-fund expenditures that are for activities that are directly related to the education of students. Expenditures for such activities as auxilary enterprises and university hospitals are excluded. All expenditure data have been adjusted for inflation. Since the historical trends and the projections of current-fund expenditures and educational and general expenditures are very similar, emphasis is given to current-fund expenditures.

Past Trends

Following a well-established trend, current-fund expenditures have increased significantly since 1981–82 (table 37 and figure 60). In real terms, current-fund expenditures increased 59 percent from 1981–82 to 1993–94. (1993–94 is the last year for which there are actual data.) From 1981–82 to 1995–96, current-fund expenditures are estimated to have increased 65 percent. The rate of increase in current-fund expenditures during this period has not been consistent. There have been years of rapid growth and others of slow growth. Factors that are associated with current-fund expenditures during these periods include: (1) the economy as a whole, and, for public institutions, the economic situation of state and local governments; (2) the inflation rate; and (3) enrollments.

Current-fund expenditures have risen steadily since 1981–82. The greatest increases occurred from 1981–82 to 1986–87, when current–fund expenditures rose 27 percent. The economy was increasing steadily during that period with disposable income per capita rising 13 percent.

The 24.7 percent increase that occurred from 1986–87 to 1993–94 was partly due to the rapid increase in enrollments that occurred during that time. The number of students as measured by full-time-equivalent enrollment rose 14 percent. From 1981–82 to 1986–87, full-time-equivalent enrollment rose by 1 percent.

While current-fund expenditures in both public and private institutions rose, they did not rise at the same rate. From 1981–82 to 1993–94, current-fund expenditures increased 52 percent in public institutions and 71 percent in private institutions.

For the period under examination, educational and general expenditures have been an almost constant percentage of current-fund expenditures (about 78 percent). Hence, the trend for educational and general expenditures is virtually identical to that for current-fund expenditures (table 38 and figure 61). Total educational and general expenditures in constant dollars increased 60 percent from 1981–82 to 1993–94. There was a 51 percent increase in educational and general expenditures in public colleges from 1981–82 to 1993–94 and a 78 percent increase in private colleges.

Since the trends of current-fund expenditures for the different sectors show some differences, the data are examined separately for each sector, except private 2-year institutions. Expenditures are examined both as a total and per student in full-time-equivalent (FTE) enrollment.

The trend for private 2-year projections is not shown separately because there have been significant additions to the universe of private 2-year institutions since 1980–81. Private 2-year institutions comprise the smallest of the higher education sectors. In 1993–94, they accounted for 1 percent of total current-fund expenditures and 2 percent of FTE enrollment.

Public 4-Year Institutions

The trend for current-fund expenditures in public 4-year institutions is very similar to that for all institutions (table 39). From 1981–82 to 1993–94 current-fund expenditures increased 52.3 percent with the most rapid growth occurring from 1981–82 to 1986–87. Current-fund expenditures rose 25 percent during that time, while full-time-equivalent enrollment increased by 2 percent.

As with total current-fund expenditures, current-fund expenditures per student rose each year from 1981–82 to 1993–94. Most of the increase occurred from 1981–82 to 1986–87 when current-fund expenditures per student rose 23 percent. From 1986–87 to 1993–94, when FTE enrollment rose 11 percent, current-fund expenditures per student rose 10 percent.

The trend for educational and general expenditures (table 40) is similar to that for current-fund expenditures.

Public 2-Year Institutions

Public 2-year institutions show a similar trend to public 4-year institutions (table 41). There was an 18 percent increase from 1981–82 to 1986–87 in total current-fund expenditures. A further 28 percent increase occurred from 1986–87 to 1993–94, when enrollments rose 23 percent.

A somewhat different pattern emerges when public 2-year current-fund expenditures are placed in per student terms. Between 1981–82 and 1986–87, current-fund expenditures per student rose 23 percent. From 1986–87 to 1993–94, current-fund expenditures per student rose 4 percent.

The trend for educational and general expenditures (table 42) is similar to that for current-fund expenditures.

Private 4-Year Institutions

Like public institutions, current-fund expenditures in private 4-year institutions rose rapidly throughout the 1980s and into the 1990s. From 1981–82 to 1993–94, total current-fund expenditures rose 71 percent (table 43).

Expenditures per student also increased significantly during the period from 1981–82 to 1993–94. The greatest increases occurred from 1981–82 to 1986–87, when current-fund expenditures per student rose 32 percent. After that, as enrollments increased, current expenditures per student have continued to increase, but not at as rapid a rate. From 1986–87 to 1993–94, current expenditures per student rose 13 percent.

The trend for educational and general expenditures (table 44) is similar to that for current-fund expenditures.

Alternative Projections

Projections have been prepared for each of the sectors of higher education. The methodology and assumptions used to produce these projections are discussed in appendix A6.

There are three sets of projections for the public 4-year, public 2-year, and private 4-year sectors. Due to the short time series of consistent data, only one set of projections was produced for the private 2-year sector. This set of projections for private 2-year institutions is not examined separately.

The projections in this chapter are presented in both constant 1994–95 dollars and current dollars. The projections were developed in constant dollars and then placed in current dollars using projections for the Consumer Price Index (CPI). Three alternative sets of projections for the CPI were used, one for use with the middle alternative projections, one for use with the low alternative projections, and one for use with the high alternative projections. As the set of projections for the CPI developed for use with the low alternative projections is rising at the most rapid rate and that developed for use with the high alternative projections is rising at the slowest rate, it is frequently the case that the current dollar projections from the low alternative set of projections are higher than those from the other two alternative sets of projections.

All of the alternative projections indicate an increase in current-fund expenditures throughout the remainder of the century. In the middle alternative projection, current-fund expenditures are projected to reach $246.0 billion in 2006–07. This is a 38 percent increase from 1993–94, the last year for which there are actual data. In the low alternative projection, current-fund expenditures are projected to increase to $241.8 billion. In the high alternative projection, the figure for 2006–07 is $250.4 billion.

A similar pattern is seen for educational and general expenditures. In the middle alternative projection, educational and general expenditures are projected to be $189.6 billion in 2006–07, a 35–percent increase from 1993–94. In the low alternative projection, educational and general expenditures are projected to increase to $185.4 billion. In the high alternative projection, the figure for 2006–07 is $193.9 billion.

It should be noted that private institutions are in the process of going from one accounting model to another. This change should have an effect on the revenues and expenditures of private institutions beginning, at the earliest, in 1996–97. Work has also begun on changing the accounting model of public institutions but a new accounting model for public institutions will probably not be implemented until the early part of the next century.

Public 4-Year Institutions

There are only small differences in the trends among the various sectors of higher education. In public 4-year institutions, current-fund expenditures are projected to reach $128.9 billion in the middle alternative projection in 2006–07 (table 39). This is a 40 percent increase from 1993–94 to 2006–07. In the low alternative projection, the value for 2006–07 is $127.6 billion, and in the high alternative projection, it is $130.5 billion.

Since full-time-equivalent (FTE) enrollment is projected to increase by 14 percent from 1993–94 to 2006–07, the rate of increase for expenditures is lower on a per student basis. In the middle alternative projection, a 23 percent increase is projected for the period from 1993–94 to 2006–07 compared with 21 percent for the low alternative projection and 24 percent for the high alternative projection.

Public 2-Year Institutions

Expenditures are also projected to increase in public 2-year institutions. For instance, in the middle alternative projection, current-fund expenditures are projected to reach $26.8 billion in 2006–07 and expenditures per student are projected to increase to $7,842. When the low alternative projection is used, with its lower growth path for revenues of state and local governments per capita, lower values for current expenditure are found. When the high alternative projection is used, with its higher growth path for revenues of state and local governments per capita, higher values are found.

Private 4-Year Institutions

The trends for private 4-year institutions exhibit the same patterns as other types of institutions. Total current-fund expenditures are seen as increasing each year. In the middle alternative projection, from 1993–94 to 2006–07, they are projected to increase 38 percent. Current-fund expenditures per student are projected to increase 22 percent during the same time.

Figure 60
Current-fund expenditures of public and private institutions of higher education (in constant 1994-95 dollars), with middle alternative projections: 1981-82 to 2006-07

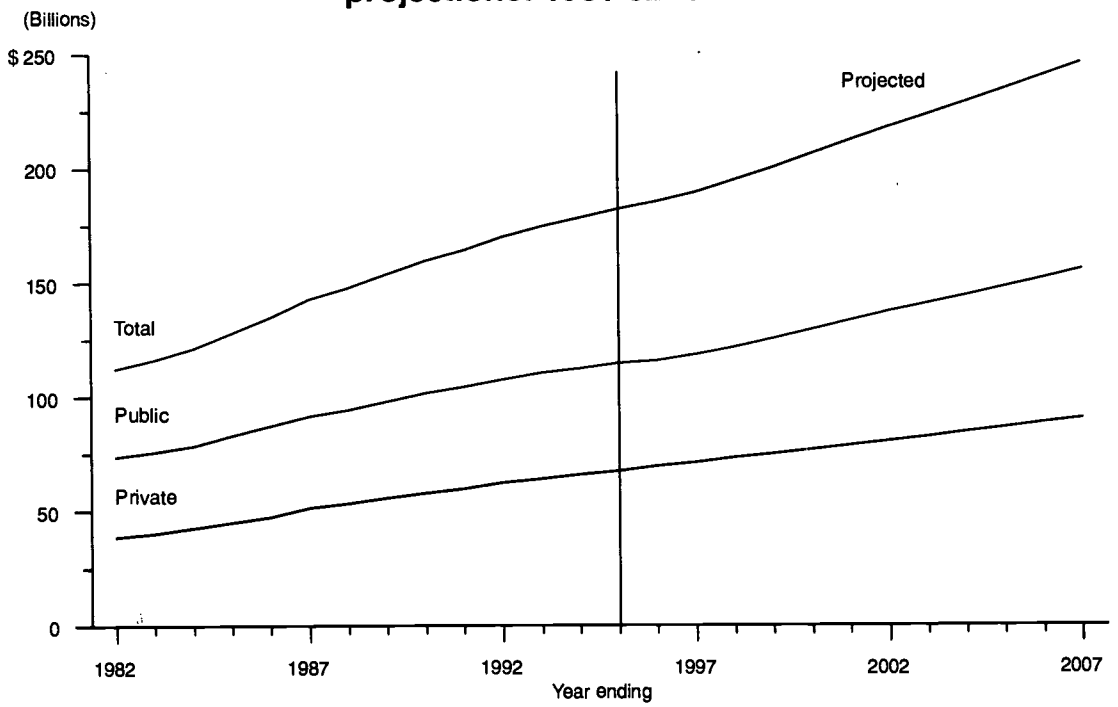


Figure 61
Educational and general expenditures of public and private institutions of higher education (in constant 1994-95 dollars), with middle alternative projections: 1981-82 to 2006-07

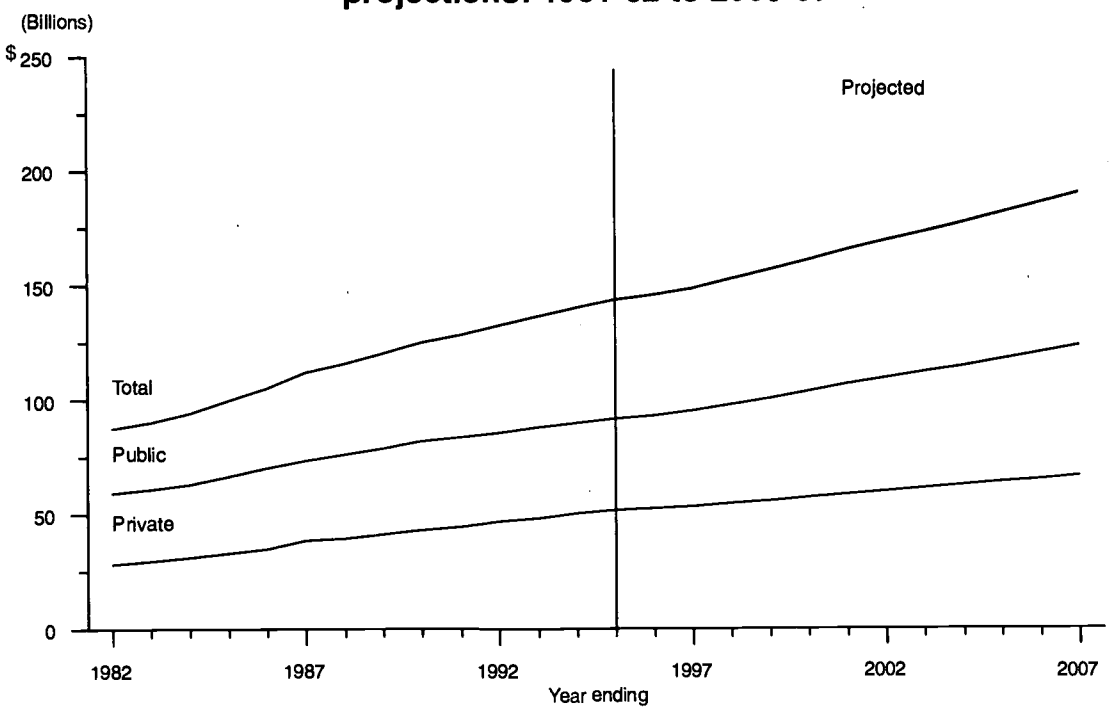


Table 37.—Current-fund expenditures of public and private institutions of higher education, with alternative projections: 50 States and D.C., 1981–82 to 2006–2007

Year ending	Constant 1994–95 dollars [1] (in billions)			Current dollars [2] (in billions)		
	Total	Public	Private	Total	Public	Private
1982	$112.4	$73.9	$38.6	$70.3	$46.2	$24.1
1983	116.4	76.0	40.4	75.9	49.6	26.4
1984	121.2	78.5	42.7	82.0	53.1	28.9
1985	128.0	83.0	45.0	90.0	58.3	31.6
1986	134.8	87.4	47.5	97.5	63.2	34.3
1987	143.0	91.5	51.5	105.8	67.7	38.1
1988	147.7	94.3	53.4	113.8	72.6	41.1
1989	153.8	98.0	55.8	123.9	78.9	44.9
1990	159.5	101.6	57.9	134.7	85.8	48.9
1991	164.1	104.4	59.7	146.1	93.0	53.1
1992	170.0	107.6	62.4	156.2	98.8	57.3
1993	174.4	110.4	64.0	165.2	104.6	60.7
1994	178.3	112.4	65.9	173.4	109.3	64.0
1995 [3]	182.1	114.7	67.4	182.1	114.7	67.4
Middle alternative projections						
1996	185.4	115.8	69.6	190.6	119.0	71.6
1997	189.5	118.3	71.2	200.6	125.3	75.4
1998	194.7	121.6	73.2	212.0	132.3	79.7
1999	200.1	125.3	74.9	224.7	140.6	84.1
2000	206.1	129.3	76.8	238.9	149.9	89.0
2001	212.1	133.4	78.6	254.3	160.0	94.3
2002	217.8	137.3	80.5	—	—	—
2003	223.1	140.7	82.4	—	—	—
2004	228.6	144.3	84.3	—	—	—
2005	234.3	148.0	86.3	—	—	—
2006	240.1	151.7	88.3	—	—	—
2007	246.0	155.7	90.3	—	—	—
Low alternative projections						
1996	185.4	115.8	69.6	190.6	119.0	71.6
1997	189.0	118.3	70.7	201.8	126.3	75.5
1998	193.7	121.5	72.2	215.8	135.3	80.4
1999	198.6	124.8	73.7	232.1	146.0	86.2
2000	204.0	128.5	75.5	250.5	157.8	92.7
2001	209.6	132.3	77.2	270.7	171.0	99.8
2002	214.9	135.9	79.0	—	—	—
2003	219.9	139.1	80.8	—	—	—
2004	225.2	142.5	82.7	—	—	—
2005	230.6	145.9	84.6	—	—	—
2006	236.1	149.5	86.6	—	—	—
2007	241.8	153.2	88.6	—	—	—
High alternative projections						
1996	185.4	115.8	69.6	190.6	119.0	71.6
1997	189.7	118.3	71.4	200.2	124.8	75.4
1998	195.5	121.7	73.8	210.6	131.1	79.5
1999	201.4	125.7	75.7	222.2	138.7	83.5
2000	207.9	130.2	77.7	235.2	147.3	87.9
2001	214.4	134.8	79.6	249.2	156.7	92.6
2002	220.4	138.9	81.6	—	—	—
2003	226.1	142.6	83.5	—	—	—
2004	232.0	146.5	85.5	—	—	—
2005	238.0	150.5	87.5	—	—	—
2006	244.1	154.4	89.6	—	—	—
2007	250.4	158.7	91.7	—	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2001 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared September 1996.)

Table 38.—Educational and general expenditures of public and private institutions of higher education, with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Constant 1994–95 dollars[1] (in billions)			Current dollars[2] (in billions)		
	Total	Public	Private	Total	Public	Private
1982	$87.7	$59.4	$28.3	$54.8	$37.2	$17.7
1983	90.3	60.9	29.5	58.9	39.7	19.2
1984	94.2	63.0	31.3	63.7	42.6	21.1
1985	99.7	66.7	33.0	70.1	46.9	23.2
1986	105.2	70.3	34.9	76.1	50.9	25.3
1987	112.2	73.5	38.7	83.0	54.4	28.6
1988	115.7	76.1	39.6	89.2	58.6	30.5
1989	120.2	78.8	41.4	96.8	63.4	33.4
1990	125.1	81.9	43.2	105.6	69.2	36.4
1991	128.2	83.6	44.6	114.1	74.4	39.7
1992	132.3	85.5	46.8	121.6	78.6	43.0
1993	136.1	87.8	48.3	129.0	83.2	45.8
1994	139.9	89.6	50.3	136.0	87.1	48.9
1995[3]	143.4	91.6	51.8	143.4	91.6	51.8
Middle alternative projections						
1996	145.4	92.9	52.5	149.4	95.5	53.9
1997	148.3	95.1	53.2	157.1	100.7	56.4
1998	152.3	97.7	54.6	165.8	106.3	59.5
1999	156.3	100.4	55.8	175.5	112.8	62.7
2000	160.7	103.5	57.2	186.3	120.0	66.3
2001	165.1	106.6	58.6	198.0	127.8	70.2
2002	169.3	109.3	59.9	—	—	—
2003	173.0	111.9	61.2	—	—	—
2004	177.0	114.6	62.5	—	—	—
2005	181.1	117.3	63.8	—	—	—
2006	185.3	120.2	65.1	—	—	—
2007	189.6	123.2	66.4	—	—	—
Low alternative projections						
1996	145.4	92.9	52.5	149.4	95.5	53.9
1997	147.9	95.1	52.8	157.9	101.5	56.4
1998	151.3	97.6	53.8	168.6	108.7	59.9
1999	154.8	100.0	54.8	181.0	117.0	64.0
2000	158.7	102.8	56.0	195.0	126.2	68.8
2001	162.8	105.5	57.3	210.3	136.3	74.0
2002	166.5	108.0	58.5	—	—	—
2003	170.0	110.3	59.7	—	—	—
2004	173.7	112.8	60.9	—	—	—
2005	177.5	115.4	62.1	—	—	—
2006	181.4	118.0	63.4	—	—	—
2007	185.4	120.8	64.7	—	—	—
High alternative projections						
1996	145.4	92.9	52.5	149.4	95.5	53.9
1997	148.6	95.1	53.5	156.8	100.3	56.4
1998	152.9	97.8	55.2	164.8	105.4	59.5
1999	157.5	100.9	56.6	173.8	111.3	62.4
2000	162.5	104.4	58.1	183.8	118.1	65.7
2001	167.4	107.9	59.5	194.6	125.4	69.2
2002	171.9	110.9	61.0	—	—	—
2003	176.0	113.7	62.3	—	—	—
2004	180.3	116.7	63.6	—	—	—
2005	184.8	119.7	65.0	—	—	—
2006	189.2	122.8	66.4	—	—	—
2007	193.9	126.1	67.8	—	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2001 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared September 1996.)

Table 39.—Current-fund expenditures and current-fund expenditures per full-time-equivalent (FTE) student of public 4-year institutions, with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Full-time-equivalent enrollment (in thousands)	Current-fund expenditures			
		Constant 1994–95 dollars [1]		Current dollars [2]	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1982	4,209	$60.6	$14,387	$37.9	$9,000
1983	4,221	62.3	14,752	40.6	9,622
1984	4,266	64.4	15,105	43.6	10,218
1985	4,238	68.3	16,118	48.0	11,330
1986	4,240	72.1	17,010	52.2	12,305
1987	4,295	75.7	17,627	56.0	13,036
1988	4,396	78.1	17,760	60.1	13,680
1989	4,506	81.1	18,005	65.3	14,503
1990	4,620	84.0	18,173	70.9	15,339
1991	4,740	86.2	18,179	76.7	16,186
1992	4,796	88.5	18,458	81.3	16,959
1993	4,798	90.8	18,932	86.1	17,938
1994	4,766	92.3	19,363	89.7	18,824
1995 [3]	4,750	94.3	19,859	94.3	19,859
		Middle alternative projections			
1996	4,618	95.5	20,671	98.1	21,243
1997	4,597	97.5	21,211	103.3	22,462
1998	4,655	100.2	21,529	109.1	23,436
1999	4,744	103.3	21,771	116.0	24,444
2000	4,832	106.5	22,045	123.5	25,560
2001	4,950	110.0	22,219	131.9	26,641
2002	5,061	113.2	22,376	—	—
2003	5,132	116.2	22,642	—	—
2004	5,208	119.3	22,907	—	—
2005	5,280	122.4	23,186	—	—
2006	5,349	125.6	23,475	—	—
2007	5,432	128.9	23,735	—	—
		Low alternative projections			
1996	4,618	95.5	20,671	98.1	21,243
1997	4,597	97.5	21,211	104.1	22,646
1998	4,655	100.2	21,521	111.6	23,972
1999	4,744	103.1	21,727	120.5	25,400
2000	4,832	106.1	21,960	130.4	26,977
2001	4,950	109.4	22,103	141.3	28,555
2002	5,061	112.6	22,240	—	—
2003	5,132	115.4	22,482	—	—
2004	5,208	118.3	22,723	—	—
2005	5,280	121.3	22,982	—	—
2006	5,349	124.4	23,253	—	—
2007	5,432	127.6	23,494	—	—
		High alternative projections			
1996	4,618	95.5	20,671	98.1	21,243
1997	4,597	97.5	21,211	102.9	22,380
1998	4,655	100.3	21,542	108.1	23,215
1999	4,744	103.5	21,825	114.2	24,079
2000	4,832	107.0	22,146	121.1	25,053
2001	4,950	110.7	22,359	128.7	25,992
2002	5,061	114.1	22,545	—	—
2003	5,132	117.2	22,838	—	—
2004	5,208	120.5	23,130	—	—
2005	5,280	123.7	23,432	—	—
2006	5,349	127.0	23,743	—	—
2007	5,432	130.5	24,025	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2001 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared September 1996.)

Table 40.—Educational and general expenditures and educational and general expenditures per full-time-equivalent (FTE) student of public 4-year institutions, with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Full-time-equivalent enrollment (in thousands)	Educational and general expenditures			
		Constant 1994–95 dollars [1]		Current dollars [2]	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1982	4,209	$47.0	$11,163	$29.4	$6,983
1983	4,221	48.1	11,395	31.4	7,433
1984	4,266	49.9	11,704	33.8	7,917
1985	4,238	53.1	12,519	37.3	8,800
1986	4,240	56.1	13,239	40.6	9,577
1987	4,295	58.8	13,696	43.5	10,129
1988	4,396	61.0	13,872	47.0	10,685
1989	4,506	63.0	13,990	50.8	11,269
1990	4,620	65.5	14,179	55.3	11,967
1991	4,740	66.6	14,044	59.3	12,504
1992	4,796	67.8	14,135	62.3	12,987
1993	4,798	69.6	14,509	66.0	13,746
1994	4,766	70.8	14,851	68.8	14,438
1995 [3]	4,750	72.5	15,267	72.5	15,267
		Middle alternative projections			
1996	4,618	74.0	16,015	76.0	16,457
1997	4,597	75.7	16,472	80.2	17,444
1998	4,655	77.7	16,697	84.6	18,176
1999	4,744	79.9	16,843	89.7	18,910
2000	4,832	82.2	17,016	95.3	19,729
2001	4,950	84.6	17,087	101.4	20,488
2002	5,061	86.8	17,147	—	—
2003	5,132	88.9	17,321	—	—
2004	5,208	91.1	17,491	—	—
2005	5,280	93.3	17,676	—	—
2006	5,349	95.6	17,871	—	—
2007	5,432	98.0	18,035	—	—
		Low alternative projections			
1996	4,618	74.0	16,015	76.0	16,457
1997	4,597	75.7	16,472	80.8	17,587
1998	4,655	77.7	16,690	86.6	18,591
1999	4,744	79.7	16,802	93.2	19,643
2000	4,832	81.9	16,940	100.6	20,809
2001	4,950	84.1	16,984	108.6	21,941
2002	5,061	86.2	17,025	—	—
2003	5,132	88.2	17,177	—	—
2004	5,208	90.2	17,326	—	—
2005	5,280	92.4	17,493	—	—
2006	5,349	94.5	17,672	—	—
2007	5,432	96.8	17,818	—	—
		High alternative projections			
1996	4,618	74.0	16,015	76.0	16,457
1997	4,597	75.7	16,472	79.9	17,380
1998	4,655	77.8	16,709	83.8	18,007
1999	4,744	80.1	16,891	88.4	18,635
2000	4,832	82.7	17,107	93.5	19,352
2001	4,950	85.2	17,214	99.1	20,011
2002	5,061	87.6	17,299	—	—
2003	5,132	89.8	17,497	—	—
2004	5,208	92.1	17,692	—	—
2005	5,280	94.5	17,898	—	—
2006	5,349	96.9	18,112	—	—
2007	5,432	99.4	18,296	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2001 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared September 1996.)

Table 41.—Current-fund expenditures and current-fund expenditures per full-time-equivalent (FTE) student of public 2-year institutions, with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Full-time-equivalent enrollment (in thousands)	Current-fund expenditures			
		Constant 1994–95 dollars[1]		Current dollars[2]	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1982	2,573	$13.3	$5,175	$8.3	$3,237
1983	2,630	13.7	5,223	9.0	3,407
1984	2,616	14.0	5,368	9.5	3,631
1985	2,447	14.6	5,987	10.3	4,208
1986	2,428	15.2	6,268	11.0	4,534
1987	2,483	15.8	6,348	11.7	4,694
1988	2,542	16.2	6,386	12.5	4,919
1989	2,592	16.9	6,515	13.6	5,248
1990	2,752	17.7	6,417	14.9	5,416
1991	2,819	18.2	6,472	16.2	5,763
1992	3,068	19.1	6,213	17.5	5,708
1993	3,114	19.5	6,274	18.5	5,945
1994	3,047	20.2	6,621	19.6	6,437
1995[3]	3,035	20.4	6,723	20.4	6,723
		Middle alternative projections			
1996	2,942	20.3	6,916	20.9	7,108
1997	2,957	20.8	7,030	22.0	7,445
1998	3,002	21.3	7,109	23.2	7,738
1999	3,061	22.0	7,181	24.7	8,062
2000	3,114	22.7	7,303	26.4	8,468
2001	3,174	23.5	7,390	28.1	8,861
2002	3,231	24.0	7,432	—	—
2003	3,261	24.5	7,502	—	—
2004	3,297	25.0	7,581	—	—
2005	3,337	25.6	7,660	—	—
2006	3,373	26.1	7,750	—	—
2007	3,416	26.8	7,842	—	—
		Low alternative projections			
1996	2,942	20.3	6,916	20.9	7,108
1997	2,957	20.8	7,031	22.2	7,506
1998	3,002	21.3	7,097	23.7	7,906
1999	3,061	21.8	7,116	25.5	8,320
2000	3,114	22.4	7,181	27.5	8,822
2001	3,174	22.9	7,225	29.6	9,334
2002	3,231	23.4	7,236	—	—
2003	3,261	23.7	7,272	—	—
2004	3,297	24.1	7,317	—	—
2005	3,337	24.6	7,367	—	—
2006	3,373	25.1	7,431	—	—
2007	3,416	25.6	7,495	—	—
		High alternative projections			
1996	2,942	20.3	6,916	20.9	7,108
1997	2,957	20.8	7,031	21.9	7,418
1998	3,002	21.4	7,127	23.1	7,681
1999	3,061	22.2	7,258	24.5	8,008
2000	3,114	23.2	7,448	26.2	8,426
2001	3,174	24.1	7,592	28.0	8,826
2002	3,231	24.8	7,674	—	—
2003	3,261	25.4	7,784	—	—
2004	3,297	26.0	7,902	—	—
2005	3,337	26.7	8,014	—	—
2006	3,373	27.4	8,135	—	—
2007	3,416	28.2	8,259	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2001 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared September 1996.)

Table 42.—Educational and general expenditures and educational and general expenditures per full-time-equivalent (FTE) student of public 2-year institutions, with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Full-time-equivalent enrollment (in thousands)	Educational and general expenditures			
		Constant 1994–95 dollars[1]		Current dollars[2]	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1982	2,573	$12.4	$4,829	$7.8	$3,020
1983	2,630	12.8	4,859	8.3	3,169
1984	2,616	13.0	4,985	8.8	3,372
1985	2,447	13.6	5,569	9.6	3,915
1986	2,428	14.2	5,841	10.3	4,225
1987	2,483	14.7	5,909	10.8	4,370
1988	2,542	15.1	5,958	11.7	4,590
1989	2,592	15.7	6,069	12.7	4,889
1990	2,752	16.4	5,974	13.9	5,042
1991	2,819	17.0	6,028	15.1	5,367
1992	3,068	17.7	5,771	16.3	5,302
1993	3,114	18.2	5,850	17.3	5,543
1994	3,047	18.9	6,192	18.3	6,020
1995[3]	3,035	19.1	6,282	19.1	6,282
		Middle alternative projections			
1996	2,942	19.0	6,448	19.5	6,626
1997	2,957	19.4	6,557	20.5	6,943
1998	3,002	19.9	6,636	21.7	7,224
1999	3,061	20.5	6,712	23.1	7,536
2000	3,114	21.3	6,838	24.7	7,929
2001	3,174	22.0	6,930	26.4	8,309
2002	3,231	22.5	6,974	—	—
2003	3,261	23.0	7,041	—	—
2004	3,297	23.5	7,118	—	—
2005	3,337	24.0	7,197	—	—
2006	3,373	24.6	7,286	—	—
2007	3,416	25.2	7,379	—	—
		Low alternative projections			
1996	2,942	19.0	6,448	19.5	6,626
1997	2,957	19.4	6,557	20.7	7,001
1998	3,002	19.9	6,624	22.1	7,379
1999	3,061	20.3	6,645	23.8	7,769
2000	3,114	20.9	6,712	25.7	8,246
2001	3,174	21.4	6,759	27.7	8,732
2002	3,231	21.9	6,771	—	—
2003	3,261	22.2	6,803	—	—
2004	3,297	22.6	6,846	—	—
2005	3,337	23.0	6,895	—	—
2006	3,373	23.5	6,957	—	—
2007	3,416	24.0	7,020	—	—
		High alternative projections			
1996	2,942	19.0	6,448	19.5	6,626
1997	2,957	19.4	6,557	20.5	6,918
1998	3,002	20.0	6,655	21.5	7,172
1999	3,061	20.8	6,792	22.9	7,493
2000	3,114	21.8	6,988	24.6	7,906
2001	3,174	22.7	7,138	26.3	8,298
2002	3,231	23.3	7,224	—	—
2003	3,261	23.9	7,332	—	—
2004	3,297	24.6	7,450	—	—
2005	3,337	25.2	7,563	—	—
2006	3,373	25.9	7,684	—	—
2007	3,416	26.7	7,810	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2001 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared September 1996.)

Table 43.—Current-fund expenditures and current-fund expenditures per full-time-equivalent (FTE) student of private 4-year institutions, with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Full-time-equivalent enrollment (in thousands)	Current-fund expenditures			
		Constant 1994–95 dollars [1]		Current dollars [2]	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1982	2,041	$37.5	$18,362	$23.4	$11,487
1983	2,028	39.3	19,369	25.6	12,634
1984	2,059	41.5	20,160	28.1	13,637
1985	2,055	43.7	21,269	30.7	14,951
1986	2,055	46.1	22,463	33.4	16,249
1987	2,065	50.0	24,204	37.0	17,900
1988	2,091	51.9	24,838	40.0	19,132
1989	2,158	54.4	25,170	43.8	20,274
1990	2,194	56.5	25,754	47.7	21,737
1991	2,228	58.3	26,125	51.9	23,261
1992	2,286	61.0	26,659	56.0	24,493
1993	2,331	62.5	26,787	59.2	25,379
1994	2,355	64.3	27,273	62.5	26,514
1995 [3]	2,388	65.9	27,576	65.9	27,576
		Middle alternative projections			
1996	2,276	68.0	29,887	69.9	30,713
1997	2,263	69.6	30,741	73.7	32,553
1998	2,289	71.5	31,245	77.9	34,013
1999	2,328	73.2	31,439	82.2	35,299
2000	2,369	75.1	31,685	87.0	36,737
2001	2,424	76.9	31,709	92.2	38,020
2002	2,477	78.7	31,767	—	—
2003	2,513	80.6	32,068	—	—
2004	2,550	82.5	32,350	—	—
2005	2,585	84.4	32,659	—	—
2006	2,620	86.4	32,997	—	—
2007	2,659	88.4	33,236	—	—
		Low alternative projections			
1996	2,276	68.0	29,887	69.9	30,713
1997	2,263	69.1	30,522	73.7	32,586
1998	2,289	70.5	30,821	78.6	34,332
1999	2,328	72.0	30,935	84.2	36,165
2000	2,369	73.8	31,133	90.6	38,246
2001	2,424	75.5	31,131	97.5	40,217
2002	2,477	77.2	31,161	—	—
2003	2,513	79.0	31,442	—	—
2004	2,550	80.9	31,715	—	—
2005	2,585	82.8	32,015	—	—
2006	2,620	84.7	32,345	—	—
2007	2,659	86.6	32,576	—	—
		High alternative projections			
1996	2,276	68.0	29,887	69.9	30,713
1997	2,263	69.8	30,859	73.7	32,559
1998	2,289	72.1	31,508	77.7	33,956
1999	2,328	74.0	31,780	81.6	35,062
2000	2,369	76.0	32,067	85.9	36,277
2001	2,424	77.8	32,114	90.5	37,332
2002	2,477	79.8	32,193	—	—
2003	2,513	81.7	32,508	—	—
2004	2,550	83.6	32,802	—	—
2005	2,585	85.6	33,127	—	—
2006	2,620	87.7	33,482	—	—
2007	2,659	89.7	33,742	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2001 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared September 1996.)

Table 44.—Educational and general expenditures and educational and general expenditures per full-time-equivalent (FTE) student of private 4-year institutions, with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Full-time-equivalent enrollment (in thousands)	Educational and general expenditures			
		Constant 1994–95 dollars[1]		Current dollars[2]	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1982	2,041	$27.3	$13,387	$17.1	$8,374
1983	2,028	28.5	14,049	18.6	9,164
1984	2,059	30.2	14,667	20.4	9,922
1985	2,055	31.9	15,500	22.4	10,896
1986	2,055	33.7	16,419	24.4	11,877
1987	2,065	37.3	18,043	27.6	13,343
1988	2,091	38.3	18,305	29.5	14,100
1989	2,158	40.2	18,593	32.3	14,977
1990	2,194	41.9	19,087	35.4	16,110
1991	2,228	43.4	19,440	38.6	17,309
1992	2,286	45.5	19,893	41.8	18,277
1993	2,331	46.9	20,098	44.4	19,042
1994	2,355	48.8	20,723	47.5	20,146
1995[3]	2,388	50.4	21,103	50.4	21,103
Middle alternative projections					
1996	2,276	51.0	22,408	52.4	23,028
1997	2,263	51.8	22,878	54.8	24,227
1998	2,289	53.1	23,215	57.8	25,271
1999	2,328	54.3	23,328	61.0	26,192
2000	2,369	55.6	23,483	64.5	27,227
2001	2,424	57.0	23,505	68.3	28,183
2002	2,477	58.3	23,539	—	—
2003	2,513	59.5	23,696	—	—
2004	2,550	60.8	23,845	—	—
2005	2,585	62.1	24,011	—	—
2006	2,620	63.4	24,196	—	—
2007	2,659	64.7	24,320	—	—
Low alternative projections					
1996	2,276	51.0	22,408	52.4	23,028
1997	2,263	51.3	22,686	54.8	24,220
1998	2,289	52.3	22,834	58.2	25,435
1999	2,328	53.2	22,867	62.2	26,732
2000	2,369	54.4	22,969	66.8	28,216
2001	2,424	55.7	22,960	71.9	29,661
2002	2,477	56.9	22,961	—	—
2003	2,513	58.0	23,093	—	—
2004	2,550	59.2	23,226	—	—
2005	2,585	60.4	23,378	—	—
2006	2,620	61.7	23,549	—	—
2007	2,659	62.9	23,659	—	—
High alternative projections					
1996	2,276	51.0	22,408	52.4	23,028
1997	2,263	52.0	22,985	54.9	24,251
1998	2,289	53.7	23,458	57.9	25,280
1999	2,328	55.1	23,652	60.8	26,094
2000	2,369	56.5	23,853	63.9	26,985
2001	2,424	57.9	23,905	67.4	27,789
2002	2,477	59.4	23,966	—	—
2003	2,513	60.7	24,144	—	—
2004	2,550	62.0	24,310	—	—
2005	2,585	63.3	24,496	—	—
2006	2,620	64.7	24,703	—	—
2007	2,659	66.1	24,852	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2001 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared September 1996.)

State-Level Projections

Figure 62

Map of the United States, by region

Chapter 8

Public Elementary and Secondary Enrollment

Public elementary and secondary school enrollment is projected to rise between 1995 and the year 2007, but growth will vary widely across the Nation (table 45 and figure 63). Enrollment will increase most rapidly in the Western and Southern regions, where public school enrollment is expected to rise 17 percent and 9 percent, respectively. An increase of 3 percent is projected for the Northeastern region, while a decrease of 1 percent is expected in the Midwestern region (table 46 and figure 64).

Public School Enrollment

Over the projection period, public school enrollment is expected to vary across states. The Northeast will have enrollment increases in five out of nine states. Increases will occur in Massachusetts (6 percent), New Hampshire (2 percent), New Jersey (7 percent), New York (5 percent), and Rhode Island (4 percent). Decreases are projected in Connecticut (2 percent), Maine (8 percent), Pennsylvania (3 percent), and Vermont (0.3 percent). Over the projection period, enrollment will grow between 1995 and 2001 in most states, while it will decline between 2001 and 2007.

In the Midwest, enrollment will increase in only four of the states between 1995 and 2007. Increases are projected for Illinois (4 percent), Indiana (5 percent), Kansas (0.1 percent), and Missouri (1 percent). Decreases are projected for Iowa (7 percent), Michigan (3 percent), Minnesota (4 percent), Nebraska (1 percent), North Dakota (7 percent), Ohio (3 percent), South Dakota (4 percent), and Wisconsin (5 percent).

Enrollment increases are projected for many of the Southern states between 1995 and 2007. Increases are projected for Delaware (10 percent), Florida (9 percent), Georgia (16 percent), North Carolina (13 percent), Tennessee (10 percent), Texas (15 percent), and Virginia (11 percent). Smaller increases are expected for Alabama (7 percent), Arkansas (2 percent), Maryland (7 percent), Mississippi (4 percent), and South Carolina (6 percent). Decreases in enrollment have been projected for District of Columbia (7 percent), Kentucky (1 percent), Louisiana (3 percent), Oklahoma (4 percent), and West Virginia (8 percent).

All of the states in the West except Montana are expected to show increases in enrollment between 1995 and 2007. Increases are expected in Alaska (12 percent), Arizona (20 percent), California (22 percent), Colorado (11 percent), Hawaii (17 percent), Idaho (15 percent), Nevada (20 percent), New Mexico (16 percent), and Utah (14 percent) over the projection period. Smaller increases are expected in Oregon (3 percent), Washington (6 percent), and Wyoming (5 percent). Montana is expected to decrease by 1 percent.

Elementary Enrollment

Between 1995 and 2007, public elementary school enrollment in kindergarten through grade 8 (K–8) is expected to increase 3 percent. Increases in elementary enrollment are expected to occur in most states across the Nation (table 47 and figure 65). These expected increases in elementary enrollment are a reflection of immigration and the rising number of births beginning in 1977, rather than changes in the attendance rates of young children. The NCES projections do not account for enrollment increases that may be caused by changing state and local policies about the provision of prekindergarten and kindergarten programs. Expansion of these programs would lead to higher enrollments at the elementary school level.

Elementary enrollment is expected to show a decrease of 2 percent in the Northeast between 1995 and 2007 (table 48 and figure 66). Decreases are projected for Connecticut (7 percent), Maine (11 percent), Massachusetts (2 percent), New Hampshire (3 percent), New York (0.2 percent), Pennsylvania (7 percent), Rhode Island (3 percent), and Vermont (4 percent). An increase is projected for New Jersey (3 percent).

A decrease in elementary enrollment has been projected for the Midwestern region. Between 1995 and 2007, enrollment in the Midwest is projected to decrease by 4 percent. Ten of the twelve states in this region are projected to show decreases. These will occur in Iowa (8 percent), Kansas (3 percent), Michigan (6 percent), Minnesota (7 percent), Missouri (3 percent), Nebraska (2 percent), North Dakota (10 percent), Ohio (6 percent), South Dakota (4 percent), and Wisconsin (7 percent). Increases are expected in Illinois (0.4 percent) and Indiana (3 percent).

An increase of 5 percent is expected for the Southern region between 1995 and 2007. Increases are expected in Georgia (12 percent) and Texas (11 percent). Smaller increases are projected for Alabama (5 percent), Delaware (3 percent), Florida (2 percent), Maryland (2 percent), Mississippi (3 percent), North Carolina (6 percent), Tennessee (7 percent), South Carolina (3 percent),and Virginia

(6 percent). Decreases are projected for District of Columbia (11 percent), Kentucky (2 percent), Louisiana (5 percent), Oklahoma (7 percent), and West Virginia (6 percent). Most of the growth in the states will occur between 1995 and 2001.

Elementary enrollment in the Western states is expected to rise between 1995 and 2007, an increase of 12 percent. Over the projection period, enrollment increases are anticipated for Arizona (13 percent), California (14 percent), Hawaii (16 percent), Idaho (16 percent), New Mexico (16 percent), Nevada (13 percent), and Utah (12 percent). Other enrollment increases are projected for Alaska (9 percent), Colorado (6 percent), Oregon (1 percent), Washington (3 percent), and Wyoming (5 percent). A decrease is projected for Montana (1 percent). Most of the growth in the states will occur between 1995 and 2001.

High School Enrollment

Between 1995 and 2007, enrollment in public high schools (grades 9 through 12) is expected to increase by 18 percent (table 49 and figure 67). Over the projection period, enrollment increases are projected in all of the regions.

The Northeast is projected to increase by 16 percent between 1995 and 2007 (table 50 and figure 68). Increases are expected in Connecticut (12 percent), Massachusetts (30 percent), New Hampshire (16 percent), New Jersey (18 percent), New York (18 percent), Pennsylvania (6 percent), Rhode Island (26 percent), and Vermont (8 percent). Maine is projected to decrease by 1 percent. Most of growth in the states will occur between 1995 and 2001.

The Midwestern region is expected to show an increase of 5 percent in high school enrollment between 1995 and 2007. Increases are expected in Illinois (11 percent), Indiana (10 percent), Kansas (7 percent), and Missouri (9 percent). Smaller increases are projected for Michigan (5 percent), Minnesota (3 percent), Nebraska (3 percent), and Ohio (4 percent). Decreases are projected in Iowa (6 percent), North Dakota (0.4 percent), South Dakota (4 percent), and Wisconsin (0.3 percent).

Between 1995 and 2007, public high school enrollment in the South is projected to increase by 20 percent. Over the projection period, increases are expected in Delaware (25 percent), Florida (28 percent), Georgia (27 percent), Maryland (21 percent), North Carolina (33 percent), South Carolina (16 percent), Tennessee (19 percent), Texas (26 percent), and Virginia (26 percent). Other increases are expected for Alabama (13 percent), Arkansas (5 percent), District of Columbia (8 percent), Mississippi (6 percent), and Oklahoma (5 percent). Smaller increases are projected for Kentucky (1 percent), and Louisiana (3 percent). West Virginia will decline by 11 percent.

The Western region's public high school enrollment is expected to increase by 32 percent between 1995 and 2007. Between 1995 and 2007 increases have been projected for Alaska (20 percent), Arizona (38 percent), California (44 percent), Colorado (25 percent), Hawaii (22 percent), Idaho (15 percent), Nevada (42 percent), New Mexico (17 percent), Oregon (11 percent), Utah (18 percent), and Washington (15 percent). A smaller increase is projected for Wyoming (3 percent). Montana is expected to decline by 1 percent.

Figure 63
Percent change in grades K-12 enrollment in public schools, by state: Fall 1995 to fall 2007

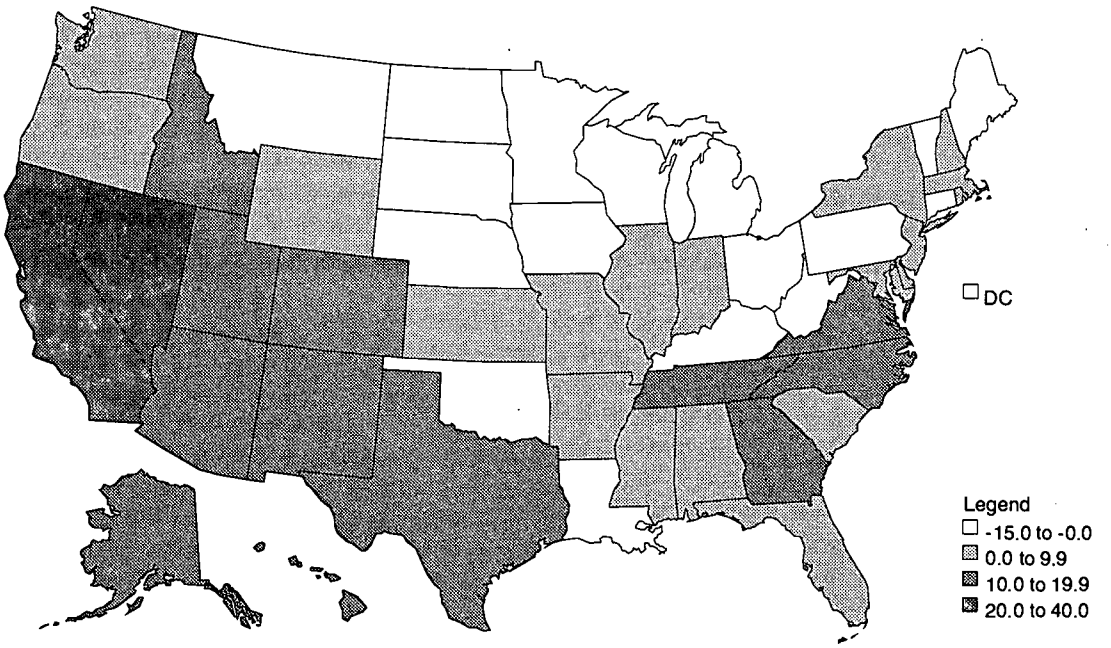


Figure 64
Percent change in public K-12 enrollment, by region: Fall 1995 to fall 2007

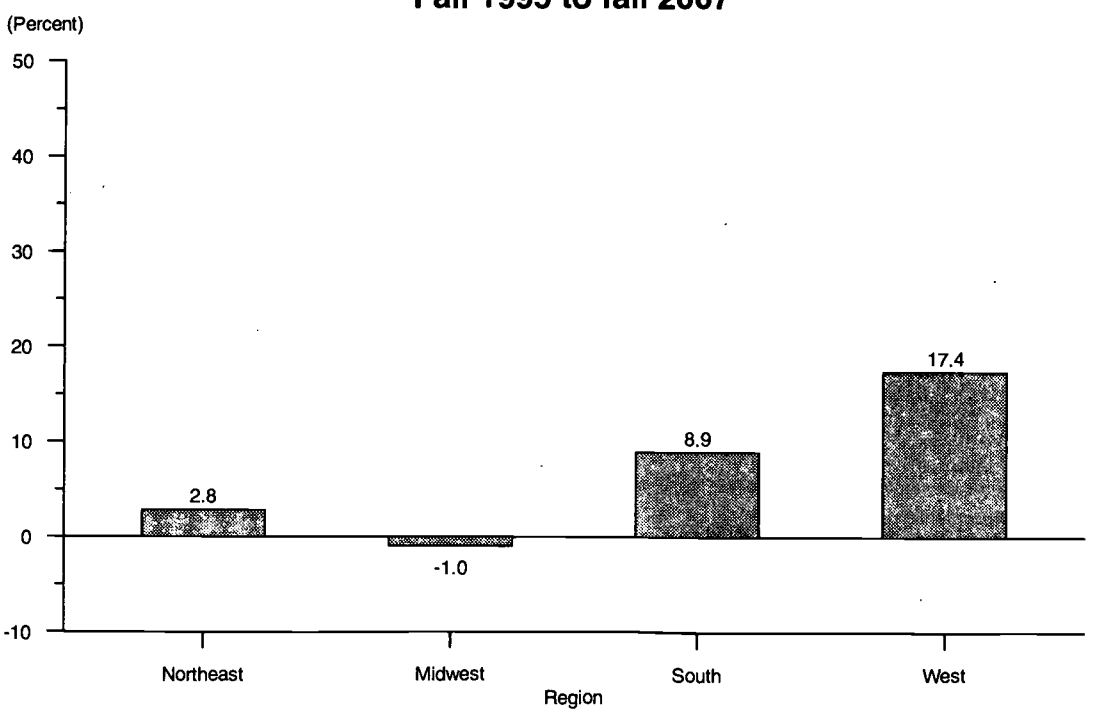


Figure 65
Percent change in grades K-8 enrollment in public schools, by state: Fall 1995 to fall 2007

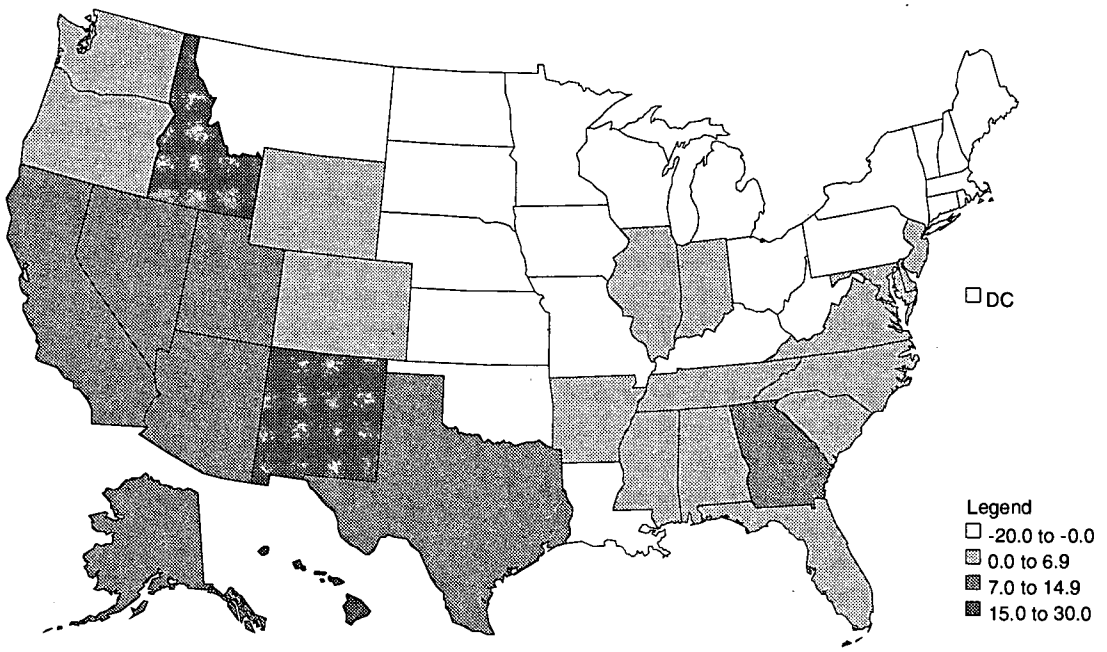


Figure 66
Percent change in public K-8 enrollment, by region: Fall 1995 to fall 2007

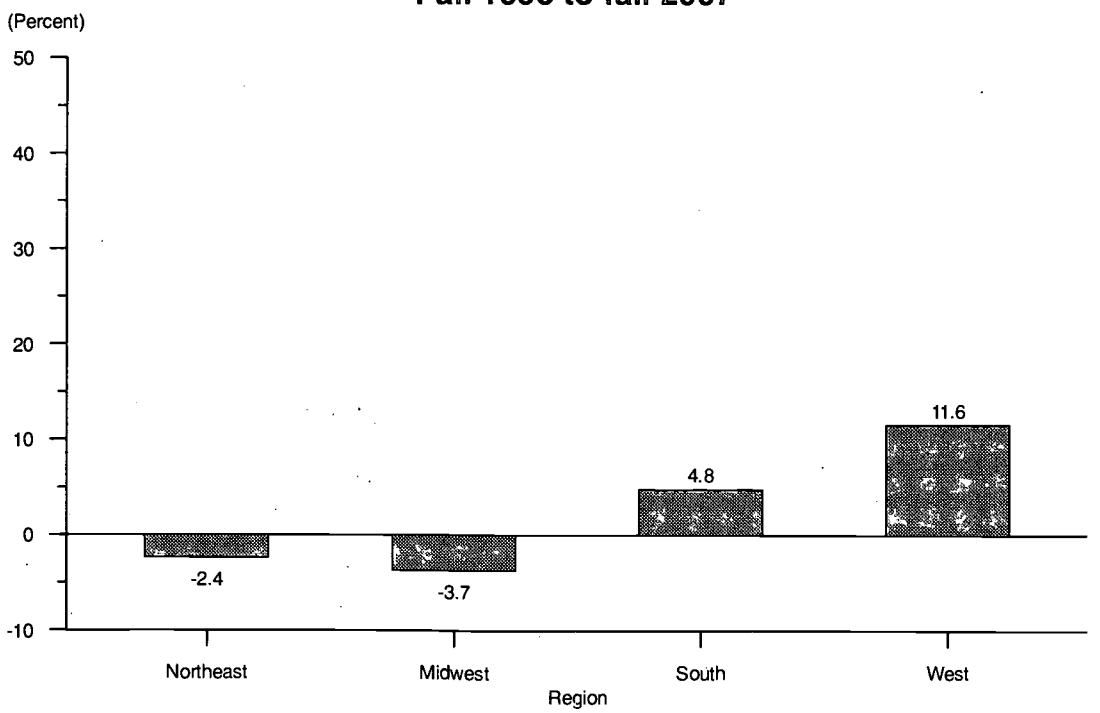


Figure 67
Percent change in grades 9-12 enrollment in public schools, by state: Fall 1995 to fall 2007

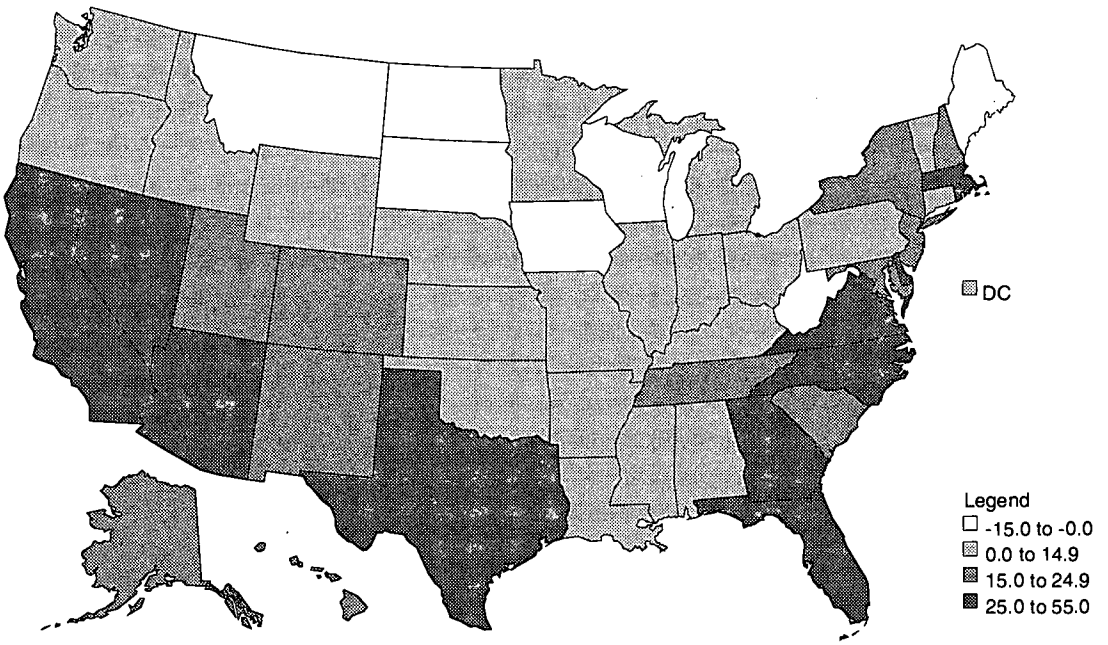


Figure 68
Percent change in public 9-12 enrollment, by region: Fall 1995 to fall 2007

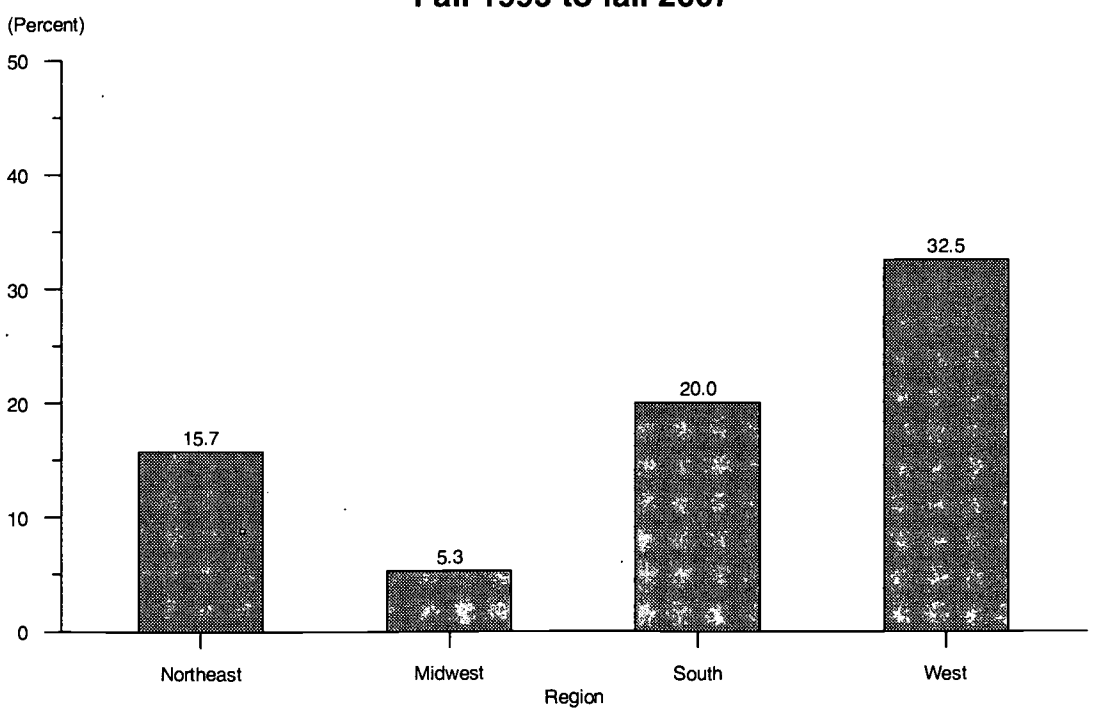


Table 45.—Enrollment in grades K–12 in public elementary and secondary schools, by region and state, with projections: Fall 1989 to fall 2007

(In thousands)

Region and state	Actual						Projected			
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
United States	40,543	41,217	42,047	42,823	43,465	44,109	44,912	45,700	46,353	46,806
Northeast	7,200	7,282	7,407	7,526	7,654	7,761	7,924	8,053	8,150	8,206
Connecticut	462	469	481	488	496	507	523	532	537	540
Maine	214	215	216	216	217	213	215	215	214	213
Massachusetts	826	834	846	860	878	894	915	931	947	958
New Hampshire	172	173	177	181	185	189	194	198	201	202
New Jersey	1,076	1,090	1,110	1,131	1,151	1,174	1,199	1,226	1,248	1,262
New York	2,566	2,598	2,644	2,690	2,734	2,766	2,816	2,864	2,902	2,926
Pennsylvania	1,655	1,668	1,693	1,718	1,744	1,766	1,804	1,825	1,838	1,840
Rhode Island	136	139	142	144	146	147	151	154	156	157
Vermont	95	96	97	99	103	105	106	107	108	108
Midwest	9,849	9,944	10,080	10,198	10,289	10,385	10,505	10,587	10,643	10,653
Illinois	1,797	1,821	1,848	1,874	1,893	1,916	1,941	1,967	1,988	2,001
Indiana	954	955	957	961	966	969	976	982	989	995
Iowa	478	484	491	495	499	500	504	503	501	497
Kansas	431	437	445	452	458	461	469	473	476	477
Michigan	1,577	1,584	1,594	1,604	1,599	1,615	1,638	1,649	1,655	1,653
Minnesota	740	756	774	794	810	822	834	842	847	846
Missouri	808	817	843	859	866	879	887	896	902	905
Nebraska	271	274	280	282	285	287	289	290	290	290
North Dakota	118	118	118	119	119	119	119	118	117	116
Ohio	1,764	1,771	1,784	1,795	1,807	1,814	1,825	1,834	1,840	1,839
South Dakota	127	129	132	135	143	143	146	147	147	147
Wisconsin	783	798	815	829	844	861	877	885	890	888
South	14,605	14,807	15,081	15,357	15,591	15,849	16,105	16,396	16,650	16,848
Alabama	724	722	722	732	734	736	737	742	748	753
Arkansas	435	436	439	441	444	448	451	456	458	459
Delaware	98	100	102	104	106	107	110	112	114	116
District of Columbia	81	81	81	81	81	80	81	82	82	81
Florida	1,790	1,862	1,932	1,981	2,041	2,109	2,179	2,247	2,300	2,341
Georgia	1,127	1,152	1,178	1,207	1,235	1,271	1,296	1,327	1,358	1,384
Kentucky	631	636	646	655	655	658	657	659	661	661
Louisiana	783	785	794	798	801	798	808	810	810	807
Maryland	699	715	736	752	773	791	809	827	840	849
Mississippi	502	502	504	507	506	506	506	509	512	514
North Carolina	1,081	1,087	1,098	1,114	1,133	1,157	1,181	1,212	1,240	1,266
Oklahoma	579	579	588	597	604	610	615	619	621	619
South Carolina	616	622	627	640	644	649	652	659	665	668
Tennessee	820	825	834	855	867	881	893	908	923	936
Texas	3,329	3,383	3,464	3,542	3,608	3,677	3,741	3,823	3,900	3,966
Virginia	985	999	1,016	1,032	1,045	1,061	1,079	1,097	1,115	1,129
West Virginia	328	322	320	318	314	311	308	305	302	299
West	8,889	9,184	9,479	9,742	9,931	10,114	10,378	10,665	10,910	11,099
Alaska	109	114	119	122	126	127	130	132	133	134
Arizona	608	640	657	673	709	737	771	803	832	857
California	4,772	4,950	5,107	5,255	5,327	5,407	5,544	5,713	5,860	5,974
Colorado	563	574	593	613	625	641	655	670	684	695
Hawaii	169	172	175	177	180	184	194	199	204	206
Idaho	215	221	226	232	237	240	246	251	255	260
Montana	151	153	156	160	163	164	167	168	169	169
Nevada	187	201	212	223	236	251	266	282	295	307
New Mexico	296	302	309	316	322	327	338	346	352	357
Oregon	472	472	499	510	517	522	530	538	544	547
Utah	439	447	456	464	471	475	478	484	488	493
Washington	810	840	869	896	916	938	959	979	993	1,001
Wyoming	97	98	102	100	101	100	100	100	100	99

Table 45.—Enrollment in grades K–12 in public elementary and secondary schools, by region and state, with projections: Fall 1989 to fall 2007—Continued

(In thousands)

Region and state	Projected								
	1999	2000	2001	2002	2003	2004	2005	2006	2007
United States	47,170	47,467	47,707	47,911	48,053	48,180	48,276	48,318	48,262
Northeast	8,240	8,261	8,279	8,283	8,271	8,251	8,231	8,196	8,143
Connecticut	539	537	535	531	526	521	518	515	511
Maine	210	207	205	203	201	200	199	198	197
Massachusetts	967	974	982	987	990	991	988	982	974
New Hampshire	202	202	202	203	202	202	201	200	199
New Jersey	1,273	1,281	1,287	1,290	1,290	1,288	1,288	1,285	1,280
New York	2,945	2,961	2,975	2,985	2,990	2,992	2,990	2,982	2,965
Pennsylvania	1,838	1,833	1,826	1,817	1,804	1,790	1,780	1,769	1,754
Rhode Island	158	158	159	159	160	160	159	159	158
Vermont	108	108	108	108	108	108	108	107	106
Midwest	10,646	10,634	10,615	10,588	10,547	10,508	10,483	10,450	10,397
Illinois	2,012	2,021	2,023	2,022	2,019	2,015	2,017	2,016	2,010
Indiana	1,001	1,007	1,013	1,020	1,024	1,028	1,028	1,027	1,023
Iowa	492	487	483	480	476	474	472	470	467
Kansas	476	475	474	473	472	471	471	471	470
Michigan	1,649	1,644	1,642	1,637	1,629	1,621	1,615	1,607	1,596
Minnesota	843	839	833	827	819	812	808	803	798
Missouri	906	907	906	905	903	900	899	897	893
Nebraska	289	288	288	288	287	287	287	287	286
North Dakota	115	114	114	113	113	112	112	111	111
Ohio	1,833	1,827	1,822	1,817	1,809	1,801	1,793	1,784	1,772
South Dakota	146	145	144	143	142	142	141	141	140
Wisconsin	884	879	872	864	854	845	840	836	831
South	17,026	17,179	17,292	17,393	17,471	17,535	17,565	17,574	17,543
Alabama	759	766	772	779	784	789	791	791	789
Arkansas	461	462	463	464	464	464	463	461	458
Delaware	117	119	120	121	122	122	122	121	120
District of Columbia	80	79	79	78	78	77	77	76	76
Florida	2,371	2,389	2,395	2,396	2,392	2,386	2,384	2,381	2,372
Georgia	1,410	1,434	1,454	1,471	1,485	1,496	1,502	1,504	1,502
Kentucky	661	661	660	660	659	657	655	653	648
Louisiana	804	800	795	791	788	786	785	785	783
Maryland	855	861	865	868	870	871	872	870	867
Mississippi	517	520	523	525	528	530	530	529	527
North Carolina	1,290	1,312	1,328	1,341	1,349	1,353	1,350	1,343	1,332
Oklahoma	616	611	607	603	599	597	596	595	593
South Carolina	672	676	682	688	693	698	698	697	694
Tennessee	949	961	970	978	984	987	988	988	984
Texas	4,026	4,077	4,116	4,156	4,194	4,232	4,262	4,291	4,314
Virginia	1,144	1,159	1,171	1,182	1,191	1,199	1,202	1,202	1,198
West Virginia	296	293	292	291	290	289	288	287	285
West	11,257	11,392	11,522	11,646	11,765	11,886	11,997	12,098	12,179
Alaska	135	136	137	138	139	141	143	144	145
Arizona	879	896	907	914	918	919	922	923	922
California	6,066	6,150	6,243	6,337	6,434	6,537	6,623	6,705	6,780
Colorado	705	712	717	722	725	727	728	728	727
Hawaii	209	211	212	214	215	217	221	224	228
Idaho	264	268	271	275	277	279	281	283	283
Montana	168	168	167	167	166	166	166	166	165
Nevada	318	325	329	330	329	325	325	324	321
New Mexico	361	364	368	372	376	381	385	389	393
Oregon	549	550	550	550	549	548	549	549	549
Utah	499	506	512	519	526	533	538	541	543
Washington	1,005	1,008	1,009	1,009	1,009	1,010	1,014	1,017	1,019
Wyoming	99	99	99	100	101	102	103	104	105

NOTE: Historical numbers may differ from those in previous editions. Includes most kindergarten and some nursery school enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data Surveys. (This table was prepared September 1996.)

Table 46.—Percent change in grades K–12 enrollment in public schools, by region and state, with projections: Fall 1989 to fall 2007

Region and state	Actual	Projected		
	1989 to 1995	1995 to 2001	2001 to 2007	1995 to 2007
United States	10.8	6.2	1.2	7.5
Northeast	10.1	4.5	-1.6	2.8
Connecticut	13.3	2.2	-4.5	-2.4
Maine	0.6	-4.7	-4.0	-8.5
Massachusetts	10.8	7.3	-0.8	6.5
New Hampshire	13.1	4.2	-1.7	2.4
New Jersey	11.5	7.3	-0.6	6.7
New York	9.7	5.7	-0.3	5.3
Pennsylvania	9.0	1.2	-4.0	-2.8
Rhode Island	11.4	5.0	-0.5	4.5
Vermont	12.1	1.6	-1.8	-0.3
Midwest	6.7	1.0	-2.1	-1.0
Illinois	8.0	4.2	-0.6	3.5
Indiana	2.2	3.9	0.9	4.8
Iowa	5.2	-4.0	-3.3	-7.2
Kansas	9.0	1.0	-0.9	0.1
Michigan	3.9	0.2	-2.8	-2.6
Minnesota	12.8	-0.1	-4.2	-4.3
Missouri	9.7	2.2	-1.5	0.7
Nebraska	6.6	-0.3	-0.7	-0.9
North Dakota	1.0	-4.6	-2.4	-6.9
Ohio	3.5	-0.2	-2.8	-2.9
South Dakota	14.4	-0.9	-2.8	-3.7
Wisconsin	12.1	-0.6	-4.6	-5.2
South	10.3	7.4	1.5	8.9
Alabama	1.8	4.8	2.1	7.1
Arkansas	3.7	2.7	-1.1	1.5
Delaware	12.3	9.1	0.4	9.6
District of Columbia	0.2	-3.3	-3.8	-6.9
Florida	21.7	9.9	-0.9	8.9
Georgia	15.1	12.1	3.3	15.8
Kentucky	4.2	0.5	-1.8	-1.4
Louisiana	3.2	-1.7	-1.4	-3.1
Maryland	15.8	6.9	0.2	7.1
Mississippi	0.9	3.2	0.8	4.0
North Carolina	9.3	12.4	0.3	12.8
Oklahoma	6.3	-1.4	-2.2	-3.5
South Carolina	5.9	4.6	1.7	6.4
Tennessee	8.9	8.7	1.4	10.2
Texas	12.4	10.0	4.8	15.3
Virginia	9.5	8.5	2.3	11.1
West Virginia	-5.9	-5.4	-2.2	-7.5
West	16.8	11.0	5.7	17.4
Alaska	18.7	5.6	5.9	11.8
Arizona	26.9	17.6	1.7	19.6
California	16.2	12.6	8.6	22.3
Colorado	16.3	9.6	1.3	11.0
Hawaii	14.5	9.3	7.2	17.2
Idaho	14.3	10.5	4.3	15.3
Montana	10.1	0.5	-1.2	-0.8
Nevada	42.6	23.5	-2.4	20.5
New Mexico	14.2	8.9	6.7	16.2
Oregon	12.3	3.7	-0.3	3.4
Utah	9.0	7.1	6.1	13.6
Washington	18.4	5.1	1.1	6.3
Wyoming	3.4	-1.6	6.4	4.7

NOTE: Calculations are based on unrounded numbers. Includes most kindergarten and some nursery school enrollment.

SOURCE: US Department of Education, National Center for Education Statistics, Common Core of Data surveys. (This table was prepared September 1996.)

Table 47.—Enrollment in grades K–8 in public schools, by region and state, with projections: Fall 1989 to fall 2007

(In thousands)

Region and state	Actual						Projected			
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
United States	29,152	29,878	30,506	31,088	31,504	31,894	32,365	32,826	33,216	33,512
Northeast	5,077	5,189	5,293	5,387	5,486	5,568	5,682	5,763	5,821	5,848
Connecticut	338	347	355	362	369	376	388	393	396	396
Maine	152	155	157	156	157	156	157	156	154	151
Massachusetts	590	604	616	630	646	659	674	684	692	696
New Hampshire	124	126	130	133	136	139	142	143	144	144
New Jersey	766	784	801	818	844	862	883	903	920	931
New York	1,790	1,828	1,862	1,893	1,921	1,949	1,985	2,020	2,047	2,065
Pennsylvania	1,148	1,172	1,195	1,216	1,233	1,244	1,265	1,275	1,279	1,278
Rhode Island	98	102	104	106	107	108	111	112	114	114
Vermont	69	71	73	74	75	76	76	76	75	75
Midwest	6,997	7,130	7,245	7,312	7,348	7,386	7,435	7,460	7,477	7,474
Illinois	1,280	1,310	1,328	1,345	1,356	1,368	1,387	1,408	1,427	1,437
Indiana	671	676	676	677	679	679	680	683	688	695
Iowa	338	345	348	349	348	345	343	340	337	334
Kansas	314	320	325	328	330	329	332	331	330	330
Michigan	1,128	1,145	1,159	1,165	1,160	1,170	1,188	1,192	1,194	1,190
Minnesota	529	546	557	569	577	581	584	583	581	577
Missouri	576	588	612	622	622	628	632	637	639	639
Nebraska	194	198	201	202	203	203	202	201	200	199
North Dakota	85	85	85	85	84	83	82	80	79	78
Ohio	1,239	1,258	1,277	1,284	1,290	1,295	1,297	1,297	1,298	1,295
South Dakota	94	95	96	98	102	102	102	101	101	100
Wisconsin	549	566	580	588	596	601	606	606	605	601
South	10,617	10,859	11,068	11,287	11,440	11,601	11,742	11,916	12,079	12,226
Alabama	526	527	526	535	536	535	534	538	543	549
Arkansas	311	314	315	318	318	319	320	323	325	326
Delaware	71	73	75	76	77	77	78	80	81	82
District of Columbia	61	61	61	61	61	62	63	64	64	63
Florida	1,303	1,370	1,428	1,470	1,515	1,567	1,613	1,653	1,681	1,703
Georgia	828	849	868	892	910	935	948	969	990	1,012
Kentucky	452	459	466	470	467	467	466	467	468	470
Louisiana	582	586	591	591	587	584	587	585	583	580
Maryland	507	527	543	556	569	581	592	601	608	613
Mississippi	370	372	370	370	369	367	365	366	369	373
North Carolina	770	783	795	811	828	847	867	890	912	931
Oklahoma	421	425	432	439	441	443	443	442	440	437
South Carolina	444	452	456	467	467	469	470	474	479	483
Tennessee	590	598	605	622	630	641	647	658	670	681
Texas	2,443	2,511	2,575	2,634	2,681	2,721	2,751	2,801	2,851	2,900
Virginia	712	728	741	758	767	774	787	798	808	817
West Virginia	227	224	222	219	216	213	210	208	207	206
West	6,461	6,700	6,900	7,102	7,230	7,339	7,506	7,686	7,838	7,964
Alaska	82	85	89	92	94	94	95	95	96	96
Arizona	451	479	490	498	526	543	565	586	605	623
California	3,470	3,615	3,720	3,851	3,903	3,955	4,057	4,180	4,280	4,357
Colorado	408	420	436	451	460	470	476	483	489	494
Hawaii	123	123	127	129	132	134	140	143	145	147
Idaho	157	160	161	165	167	169	171	174	177	181
Montana	110	111	113	115	117	117	117	117	117	117
Nevada	137	150	158	165	175	185	196	206	215	223
New Mexico	203	208	213	217	226	229	231	233	237	241
Oregon	340	340	359	365	368	372	377	380	382	383
Utah	324	325	327	330	330	328	329	329	333	338
Washington	586	613	633	652	660	673	683	690	696	698
Wyoming	70	71	74	72	71	70	69	68	68	67

Table 47.—Enrollment in grades K–8 in public schools, by region and state, with projections: Fall 1989 to fall 2007—Continued

(In thousands)

Region and state	Projected								
	1999	2000	2001	2002	2003	2004	2005	2006	2007
United States	33,699	33,858	33,994	34,078	34,044	33,861	33,660	33,488	33,393
Northeast	5,848	5,840	5,833	5,810	5,766	5,700	5,640	5,585	5,548
Connecticut	393	390	386	382	377	370	366	363	360
Maine	148	145	144	143	142	140	140	139	140
Massachusetts	696	695	694	692	687	679	672	666	661
New Hampshire	142	141	141	141	140	139	138	138	138
New Jersey	938	943	945	943	937	928	919	911	906
New York	2,073	2,079	2,082	2,079	2,067	2,045	2,021	1,998	1,981
Pennsylvania	1,271	1,261	1,253	1,244	1,231	1,215	1,202	1,191	1,182
Rhode Island	113	113	113	112	111	110	109	108	107
Vermont	74	74	74	74	74	74	73	73	73
Midwest	7,447	7,426	7,413	7,395	7,355	7,291	7,244	7,196	7,163
Illinois	1,442	1,448	1,448	1,446	1,439	1,426	1,415	1,403	1,393
Indiana	700	705	710	714	715	712	708	703	698
Iowa	330	327	326	325	323	321	319	317	316
Kansas	328	327	327	327	326	325	324	323	323
Michigan	1,181	1,175	1,172	1,168	1,159	1,145	1,135	1,126	1,122
Minnesota	571	565	561	557	552	546	544	542	541
Missouri	637	635	634	634	631	626	621	618	615
Nebraska	198	197	198	198	198	197	197	197	197
North Dakota	76	76	75	75	75	74	74	74	74
Ohio	1,290	1,283	1,279	1,274	1,265	1,253	1,243	1,232	1,224
South Dakota	100	99	99	99	99	98	98	98	98
Wisconsin	594	588	583	579	574	568	565	563	561
South	12,341	12,442	12,512	12,565	12,567	12,512	12,436	12,364	12,308
Alabama	555	562	567	571	573	572	568	564	560
Arkansas	328	329	331	331	331	328	325	323	320
Delaware	82	83	84	84	84	83	82	82	81
District of Columbia	62	60	60	60	59	57	56	56	56
Florida	1,717	1,725	1,725	1,720	1,708	1,688	1,671	1,658	1,648
Georgia	1,033	1,052	1,064	1,074	1,077	1,075	1,070	1,065	1,060
Kentucky	471	471	471	472	471	467	463	458	454
Louisiana	576	573	570	569	567	564	560	557	555
Maryland	616	619	621	621	619	614	609	606	603
Mississippi	377	381	384	387	388	387	384	380	377
North Carolina	945	957	963	964	959	949	937	925	915
Oklahoma	433	429	427	425	422	418	415	413	413
South Carolina	486	489	493	496	496	493	489	485	482
Tennessee	690	698	705	709	709	706	701	695	691
Texas	2,940	2,976	3,003	3,031	3,053	3,063	3,063	3,062	3,063
Virginia	825	834	841	846	847	844	839	835	831
West Virginia	205	204	205	205	205	203	202	200	198
West	8,063	8,149	8,236	8,309	8,355	8,359	8,340	8,342	8,373
Alaska	97	97	98	99	100	101	101	102	103
Arizona	637	647	653	656	656	650	646	642	639
California	4,415	4,464	4,522	4,571	4,607	4,620	4,607	4,613	4,642
Colorado	499	503	506	509	510	508	507	505	504
Hawaii	149	151	153	155	156	158	158	160	162
Idaho	184	189	192	194	196	197	198	198	198
Montana	116	116	116	116	116	116	116	116	116
Nevada	229	234	235	235	233	229	226	224	222
New Mexico	244	248	253	257	260	263	264	265	267
Oregon	383	383	384	384	383	381	379	379	379
Utah	343	349	354	359	362	364	365	366	367
Washington	699	701	703	704	704	701	700	699	701
Wyoming	67	67	68	69	70	71	72	72	73

NOTE: Historical numbers may differ from those in previous editions. Includes most kindergarten and some nursery school enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data Surveys. (This table was prepared September 1996.)

Table 48.—Percent change in grades K–8 enrollment in public schools, by region and state, with projections: Fall 1989 to fall 2007

Region and state	Actual	Projected		
	1989 to 1995	1995 to 2001	2001 to 2007	1995 to 2007
United States	11.0	5.0	-1.8	3.2
Northeast	11.9	2.7	-4.9	-2.4
Connecticut	14.8	-0.5	-6.8	-7.3
Maine	3.3	-8.5	-3.0	-11.2
Massachusetts	14.2	3.0	-4.8	-2.0
New Hampshire	13.9	-0.6	-2.3	-2.9
New Jersey	15.3	7.0	-4.2	2.6
New York	10.9	4.9	-4.9	-0.2
Pennsylvania	10.2	-1.0	-5.7	-6.6
Rhode Island	12.6	1.5	-4.5	-3.1
Vermont	9.8	-2.3	-1.6	-3.8
Midwest	6.3	-0.3	-3.4	-3.7
Illinois	8.3	4.4	-3.8	0.4
Indiana	1.3	4.5	-1.7	2.7
Iowa	1.4	-5.0	-3.0	-7.8
Kansas	6.0	-1.6	-1.2	-2.8
Michigan	5.3	-1.3	-4.3	-5.6
Minnesota	10.5	-3.9	-3.5	-7.3
Missouri	9.7	0.3	-3.0	-2.7
Nebraska	4.0	-2.1	-0.4	-2.5
North Dakota	-3.2	-8.5	-1.4	-9.8
Ohio	4.7	-1.4	-4.3	-5.6
South Dakota	8.6	-2.7	-0.8	-3.5
Wisconsin	10.4	-3.9	-3.7	-7.4
South	10.6	6.6	-1.6	4.8
Alabama	1.6	6.2	-1.2	4.9
Arkansas	3.0	3.2	-3.1	0.0
Delaware	10.8	6.8	-3.2	3.4
District of Columbia	4.1	-4.9	-6.6	-11.2
Florida	23.7	7.0	-4.4	2.2
Georgia	14.4	12.3	-0.4	11.8
Kentucky	3.0	1.3	-3.7	-2.5
Louisiana	0.9	-2.8	-2.6	-5.4
Maryland	16.7	5.0	-2.8	2.0
Mississippi	-1.2	5.2	-1.9	3.2
North Carolina	12.7	11.0	-4.9	5.5
Oklahoma	5.3	-3.7	-3.3	-6.9
South Carolina	5.9	4.9	-2.1	2.6
Tennessee	9.7	8.9	-1.9	6.8
Texas	12.6	9.1	2.0	11.3
Virginia	10.5	6.8	-1.2	5.6
West Virginia	-7.5	-2.7	-3.2	-5.8
West	16.2	9.7	1.7	11.6
Alaska	16.0	3.4	5.1	8.6
Arizona	25.3	15.5	-2.1	13.1
California	16.9	11.5	2.6	14.4
Colorado	16.8	6.2	-0.4	5.8
Hawaii	13.2	9.5	5.5	15.5
Idaho	9.4	11.9	3.4	15.7
Montana	6.7	-1.1	0.4	-0.7
Nevada	42.8	19.8	-5.7	13.0
New Mexico	13.5	9.6	5.6	15.7
Oregon	10.8	1.8	-1.3	0.5
Utah	1.4	7.8	3.7	11.8
Washington	16.5	2.9	-0.2	2.8
Wyoming	-1.0	-2.5	8.0	5.4

NOTE: Calculations are based on unrounded numbers. Includes most kindergarten and some nursery school enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys. (This table was prepared September 1996.)

Table 49.—Enrollment in grades 9–12 in public schools, by region and state, with projections: Fall 1989 to fall 2007

(In thousands)

Region and state	Actual						Projected			
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
United States	11,390	11,338	11,541	11,735	11,961	12,214	12,548	12,874	13,138	13,294
Northeast	2,124	2,092	2,114	2,139	2,168	2,193	2,242	2,290	2,329	2,358
Connecticut	123	122	126	127	128	131	135	138	141	144
Maine	62	60	60	60	60	57	58	59	60	61
Massachusetts	235	230	230	230	232	235	241	247	255	263
New Hampshire	47	46	47	48	49	50	53	55	57	59
New Jersey	310	306	309	313	308	312	316	323	328	331
New York	776	770	782	796	813	817	830	843	854	862
Pennsylvania	507	496	498	502	511	522	539	551	559	562
Rhode Island	37	37	38	38	39	40	40	42	42	43
Vermont	26	25	24	25	28	29	30	31	32	33
Midwest	2,852	2,814	2,835	2,886	2,941	3,000	3,070	3,127	3,166	3,179
Illinois	517	512	520	529	537	548	555	560	561	563
Indiana	283	279	281	283	287	290	296	299	300	300
Iowa	140	139	143	146	151	155	160	163	165	163
Kansas	117	117	120	123	128	132	137	142	146	147
Michigan	449	440	435	439	439	445	450	457	462	464
Minnesota	211	211	217	224	233	240	250	259	266	270
Missouri	232	228	231	238	244	250	254	258	263	266
Nebraska	77	76	78	80	82	84	87	89	90	91
North Dakota	33	33	33	34	35	36	37	38	38	39
Ohio	525	514	506	511	517	519	529	536	542	544
South Dakota	34	34	35	37	41	42	44	46	47	46
Wisconsin	234	232	235	241	248	259	271	279	285	287
South	3,988	3,948	4,013	4,070	4,150	4,248	4,363	4,479	4,571	4,622
Alabama	198	195	196	196	199	201	203	204	204	203
Arkansas	124	123	123	124	127	128	131	133	133	133
Delaware	27	27	28	28	29	30	32	32	33	34
District of Columbia	21	19	20	20	19	18	18	18	18	18
Florida	486	492	505	512	526	542	566	594	619	638
Georgia	298	303	309	316	325	336	348	359	368	372
Kentucky	179	177	180	185	188	191	192	192	193	191
Louisiana	201	199	203	207	213	214	222	225	227	227
Maryland	192	188	193	196	203	210	217	225	232	236
Mississippi	133	131	134	137	137	139	141	143	143	142
North Carolina	311	304	303	304	305	309	313	322	328	335
Oklahoma	158	154	156	158	163	167	172	177	182	183
South Carolina	172	170	171	173	177	180	182	185	186	185
Tennessee	230	226	229	233	237	241	246	250	253	255
Texas	885	872	889	907	927	957	990	1,022	1,050	1,066
Virginia	273	270	275	274	278	286	292	300	307	312
West Virginia	100	98	99	99	99	98	98	97	95	92
West	2,427	2,484	2,579	2,640	2,701	2,775	2,872	2,978	3,071	3,135
Alaska	28	29	30	31	32	33	35	36	37	38
Arizona	156	161	167	176	183	195	205	217	227	234
California	1,302	1,336	1,387	1,404	1,424	1,452	1,487	1,533	1,580	1,616
Colorado	155	154	157	161	165	171	179	188	196	201
Hawaii	46	49	48	49	49	50	54	56	59	59
Idaho	58	61	64	67	70	72	74	77	78	79
Montana	41	42	43	45	46	48	49	51	52	52
Nevada	49	51	54	58	61	65	70	75	80	84
New Mexico	93	94	96	98	96	98	107	112	116	116
Oregon	132	132	139	145	148	150	153	158	162	164
Utah	115	122	129	134	141	146	149	154	156	156
Washington	224	227	237	245	256	265	277	289	298	303
Wyoming	27	27	28	29	29	30	31	32	32	32

Table 49.—Enrollment in grades 9–12 in public schools, by region and state, with projections: Fall 1989 to fall 2007—Continued

(In thousands)

Region and state	1999	Projected 2000	2001	2002	2003	2004	2005	2006	2007
United States	13,470	13,609	13,713	13,832	14,010	14,319	14,617	14,830	14,870
Northeast	2,392	2,421	2,446	2,473	2,505	2,551	2,591	2,611	2,596
Connecticut	146	148	148	149	149	150	152	152	151
Maine	62	62	61	60	60	60	59	58	57
Massachusetts	271	279	288	295	303	312	315	316	313
New Hampshire	60	61	62	62	63	63	63	63	61
New Jersey	335	338	342	347	352	360	369	374	374
New York	872	882	893	906	923	947	970	984	984
Pennsylvania	568	572	573	573	573	575	578	578	572
Rhode Island	44	45	46	47	48	50	51	51	51
Vermont	33	34	34	34	34	34	34	34	33
Midwest	3,199	3,208	3,202	3,193	3,191	3,218	3,239	3,254	3,234
Illinois	569	573	575	577	580	589	603	613	618
Indiana	301	302	303	306	310	316	320	324	324
Iowa	162	160	157	155	153	153	153	153	151
Kansas	148	148	147	146	146	147	147	148	147
Michigan	468	469	470	469	470	477	480	481	474
Minnesota	273	273	272	269	267	265	263	261	257
Missouri	269	272	272	271	272	274	277	279	277
Nebraska	91	91	90	89	89	90	90	90	89
North Dakota	39	39	38	38	38	38	38	37	37
Ohio	543	544	543	542	543	548	550	552	548
South Dakota	46	46	45	45	44	43	43	43	42
Wisconsin	290	291	289	285	280	277	275	273	270
South	4,686	4,736	4,779	4,829	4,903	5,023	5,129	5,209	5,234
Alabama	203	203	205	208	211	218	222	227	228
Arkansas	133	133	133	133	133	135	137	138	138
Delaware	35	36	36	37	38	39	40	40	39
District of Columbia	18	19	19	19	19	20	20	20	20
Florida	654	664	670	676	684	697	713	722	724
Georgia	377	383	389	398	408	421	432	439	441
Kentucky	190	191	189	188	188	190	192	194	194
Louisiana	228	227	225	222	221	222	225	228	228
Maryland	239	242	244	247	251	257	262	265	263
Mississippi	140	140	139	139	140	143	146	149	150
North Carolina	345	354	365	377	390	405	413	418	417
Oklahoma	183	182	180	178	177	179	180	182	181
South Carolina	186	188	190	193	198	205	210	212	211
Tennessee	259	263	266	269	274	282	287	292	293
Texas	1,085	1,101	1,113	1,125	1,141	1,169	1,200	1,229	1,252
Virginia	319	325	330	336	344	355	362	367	367
West Virginia	90	89	87	86	85	86	86	87	87
West	3,195	3,243	3,286	3,338	3,410	3,528	3,657	3,756	3,806
Alaska	38	39	39	39	40	41	41	42	42
Arizona	242	249	254	258	263	268	275	281	283
California	1,652	1,686	1,721	1,766	1,826	1,917	2,016	2,092	2,138
Colorado	206	210	212	213	215	219	221	224	223
Hawaii	59	59	59	59	59	59	62	64	66
Idaho	80	80	80	80	81	82	84	85	85
Montana	52	52	51	51	50	50	50	50	49
Nevada	88	92	94	95	96	97	99	100	99
New Mexico	116	116	115	115	116	118	121	124	126
Oregon	166	167	166	166	166	168	170	171	170
Utah	156	157	158	160	164	169	172	175	176
Washington	306	307	306	305	305	309	314	318	318
Wyoming	32	32	31	31	31	31	32	32	32

NOTE: Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data Surveys. (This table was prepared September 1996.)

Table 50.—Percent change in grades 9–12 enrollment in public schools, by region and state, with projections: Fall 1989 to fall 2007

Region and state	Actual	Projected		
	1989 to 1995	1995 to 2001	2001 to 2007	1995 to 2007
United States	10.2	9.3	8.4	18.5
Northeast	5.6	9.1	6.1	15.7
Connecticut	9.3	10.2	1.5	11.9
Maine	-6.1	5.5	-6.3	-1.2
Massachusetts	2.3	19.5	8.9	30.2
New Hampshire	11.2	17.0	-0.4	16.5
New Jersey	2.0	8.1	9.5	18.4
New York	7.1	7.5	10.2	18.5
Pennsylvania	6.3	6.3	-0.3	6.0
Rhode Island	8.3	14.7	9.4	25.5
Vermont	18.4	11.1	-2.3	8.5
Midwest	7.6	4.3	1.0	5.3
Illinois	7.3	3.6	7.4	11.3
Indiana	4.4	2.5	7.1	9.8
Iowa	14.5	-1.9	-4.1	-5.9
Kansas	16.9	7.3	-0.1	7.2
Michigan	0.4	4.3	1.0	5.3
Minnesota	18.5	8.7	-5.6	2.6
Missouri	9.8	6.8	2.1	9.0
Nebraska	13.2	4.0	-1.2	2.7
North Dakota	11.7	4.3	-4.5	-0.4
Ohio	0.6	2.8	0.8	3.6
South Dakota	30.7	3.1	-7.0	-4.1
Wisconsin	15.9	6.7	-6.6	-0.3
South	9.4	9.5	9.5	20.0
Alabama	2.3	1.3	11.2	12.6
Arkansas	5.6	1.4	3.7	5.2
Delaware	16.2	14.8	8.9	25.0
District of Columbia	-11.5	2.5	5.2	7.8
Florida	16.3	18.3	8.0	27.8
Georgia	16.9	11.8	13.4	26.7
Kentucky	7.3	-1.5	2.8	1.3
Louisiana	10.0	1.4	1.6	3.1
Maryland	13.4	12.3	7.8	21.1
Mississippi	6.7	-1.9	8.3	6.2
North Carolina	0.8	16.5	14.1	32.9
Oklahoma	9.0	4.6	0.6	5.3
South Carolina	5.8	4.0	11.5	15.9
Tennessee	7.0	8.1	10.3	19.2
Texas	11.8	12.5	12.4	26.5
Virginia	7.0	13.0	11.3	25.7
West Virginia	-2.2	-11.1	-0.0	-11.1
West	18.3	14.4	15.8	32.5
Alaska	26.5	11.5	7.9	20.3
Arizona	31.3	23.6	11.4	37.7
California	14.3	15.7	24.2	43.7
Colorado	15.1	18.5	5.3	24.8
Hawaii	17.9	9.0	11.6	21.6
Idaho	27.3	7.4	6.6	14.6
Montana	19.1	4.1	-4.9	-1.0
Nevada	42.0	33.7	5.8	41.5
New Mexico	15.7	7.4	9.2	17.2
Oregon	16.2	8.3	2.1	10.6
Utah	30.2	5.6	11.5	17.8
Washington	23.3	10.6	3.9	14.9
Wyoming	14.6	0.5	2.7	3.2

NOTE: Calculations are based on unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys. (This table was prepared September 1996.)

Chapter 9

Public High School Graduates

The projected increases in public high school enrollment between 1995 and 2007 will cause corresponding increases in the number of public high school graduates. The number of public high school graduates is expected to increase by 21 percent between 1994–95 and 2006–07. This increase will be reflected in many states, with 46 states showing increases (table 51 and figure 69). Each region of the country is expected to reflect this increase in the number of public high school graduates. In the Midwest, South, and West, most of the growth in the number of public high school graduates will occur between 1994–95 and 2000–01. Projected trends in the number of public high school graduates by state could be impacted by changes in policies affecting graduation requirements.

The number of public high school graduates in the Northeast is expected to increase 23 percent between 1994–95 and 2006–07 (table 52 and figure 70). Large increases are expected in Connecticut (34 percent), Massachusetts (26 percent), New Hampshire (31 percent), New Jersey (26 percent), New York (18 percent), Pennsylvania (24 percent), Rhode Island (28 percent), and Vermont (24 percent). Maine is projected to decrease by 1 percent.

The number of public high school graduates in the Midwest is expected to increase by 14 percent between 1994–95 and 2006–07. Increases are expected in Illinois (16 percent), Kansas (20 percent), Minnesota (24 percent), Missouri (17 percent), South Dakota (25 percent), and Wisconsin (31 percent). Smaller increases are projected for Indiana (7 percent), Iowa (9 percent), Michigan (10 percent), Nebraska (9 percent), North Dakota (1 percent), and Ohio (7 percent).

Between 1994–95 and 2006–07, the number of public high school graduates in the South will increase by 20 percent. Significant increases are expected in Delaware (28 percent), Florida (43 percent), Georgia (31 percent), Maryland (36 percent), North Carolina (24 percent), Tennessee (19 percent), Texas (24 percent), and Virginia (20 percent). Other increases are projected for Oklahoma (12 percent) and South Carolina (9 percent). Smaller increases are projected for Alabama (5 percent), Arkansas (7 percent), Kentucky (1 percent), and Louisiana (6 percent). Despite an overall increase in the region, three Southern states are expected to have declines in the number of graduates. Decreases are expected in the District of Columbia (13 percent), Mississippi (1 percent), and West Virginia (12 percent).

The number of high school graduates in the West is expected to increase greatly, rising by 29 percent. Sizable increases are expected in Arizona (65 percent), Colorado (32 percent), Hawaii (45 percent), Nevada (102 percent), New Mexico (30 percent), and Washington (34 percent). Other increases are projected in Alaska (28 percent), California (24 percent), Idaho (27 percent), Montana (19 percent), Oregon (18 percent), and Utah (9 percent). Wyoming is expected to decrease by 2 percent.

Figure 69
Percent change in number of public high school graduates, by state: 1994-95 to 2006-07

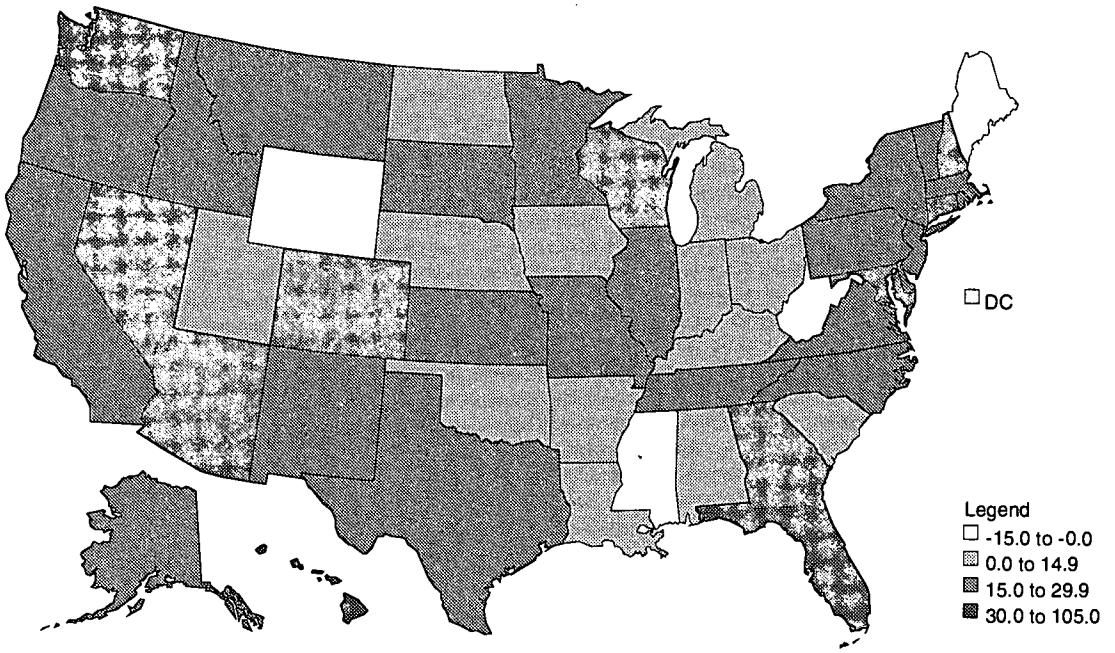


Figure 70
Percent change in number of public high school graduates, by region: 1994-95 to 2006-07

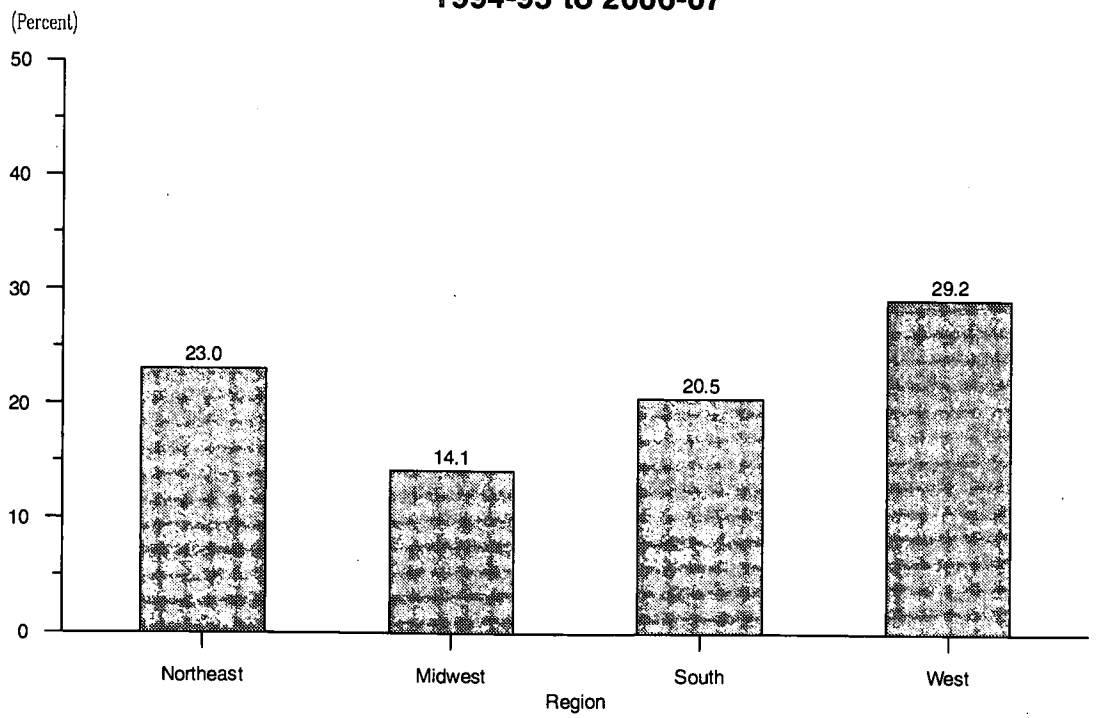


Table 51.—Number of high school graduates in public schools, by region and state, with projections: 1988–89 to 2006–07

Region and state	Actual						Projected			
	1988–89	1989–90	1990–91	1991–92	1992–93	1993–94	1994–95	1995–96	1996–97	1997–98
United States	2,458,800	2,320,337	2,234,893	2,226,016	2,233,241	2,221,098	2,228,673	2,287,420	2,298,240	2,373,850
Northeast	477,668	446,045	419,007	419,115	413,955	409,004	404,510	410,160	413,260	424,070
Connecticut	30,862	27,878	27,290	27,079	26,799	26,330	26,157	26,780	27,080	27,870
Maine	13,857	13,839	13,151	13,177	12,103	11,633	11,785	10,990	10,930	10,930
Massachusetts	57,328	55,941	50,216	50,317	48,321	47,453	46,683	46,970	47,630	48,060
New Hampshire	11,340	10,766	10,059	10,329	10,065	9,933	10,003	10,270	10,410	10,810
New Jersey	76,263	69,824	67,003	66,669	67,134	66,125	62,783	64,020	63,200	64,380
New York	154,580	143,318	133,562	134,573	132,963	132,708	132,693	133,710	134,140	137,810
Pennsylvania	118,921	110,527	104,770	103,881	103,715	101,958	101,025	103,520	105,800	109,460
Rhode Island	8,554	7,825	7,744	7,859	7,640	7,450	7,421	7,740	7,730	7,890
Vermont	5,963	6,127	5,212	5,231	5,215	5,414	5,961	6,180	6,360	6,850
Midwest	663,225	616,700	583,888	578,106	588,810	578,914	573,815	589,250	597,410	613,710
Illinois	116,660	108,119	103,329	102,742	103,628	102,126	102,529	105,270	104,640	108,060
Indiana	63,571	60,012	57,892	56,630	57,559	54,650	54,937	56,500	57,250	58,190
Iowa	34,294	31,796	28,593	29,224	30,677	30,247	30,169	31,590	32,310	33,640
Kansas	26,848	25,367	24,414	24,129	24,720	25,319	25,932	27,030	27,020	28,140
Michigan	101,784	93,807	88,234	87,756	85,302	83,385	81,174	81,820	82,540	83,150
Minnesota	53,122	49,087	46,474	46,228	48,002	47,514	48,751	49,950	51,440	53,720
Missouri	51,968	48,957	46,928	46,556	46,864	46,566	46,401	48,680	49,080	50,910
Nebraska	18,690	17,664	16,500	17,057	17,569	17,072	17,166	17,690	17,790	18,980
North Dakota	8,077	7,690	7,573	7,438	7,310	7,522	7,553	7,880	8,010	8,100
Ohio	125,036	114,513	107,484	104,522	109,200	107,700	102,626	102,940	105,570	105,890
South Dakota	8,181	7,650	7,127	7,261	7,952	8,442	8,801	8,790	9,130	9,950
Wisconsin	54,994	52,038	49,340	48,563	50,027	48,371	47,776	51,110	52,630	54,990
South	836,992	796,385	780,268	762,751	754,670	748,079	746,824	767,970	768,170	796,980
Alabama	43,437	40,485	39,042	38,680	36,007	34,447	34,744	36,340	35,560	36,270
Arkansas	27,920	26,475	25,668	25,845	25,655	24,990	24,873	24,870	24,890	26,340
Delaware	6,104	5,550	5,223	5,325	5,492	5,230	5,144	5,130	5,630	5,650
District of Columbia	3,565	3,626	3,369	3,385	3,136	3,207	3,035	2,940	2,830	2,680
Florida	90,759	88,934	87,419	93,674	89,428	88,032	90,819	90,990	92,260	97,910
Georgia	61,937	56,605	60,088	57,742	57,602	56,356	57,170	58,910	59,600	62,400
Kentucky	38,883	38,005	35,835	33,896	36,361	38,454	36,602	38,410	38,260	38,570
Louisiana	37,198	36,053	33,489	32,247	33,682	34,822	35,212	35,960	35,980	37,870
Maryland	45,791	41,566	39,014	39,720	39,523	39,091	38,990	41,450	41,200	42,920
Mississippi	24,241	25,182	23,665	22,912	23,597	23,379	23,194	23,440	22,870	23,370
North Carolina	69,970	64,782	62,792	61,157	60,460	57,738	56,218	57,580	56,120	58,360
Oklahoma	36,773	35,606	33,007	32,670	30,542	31,872	31,697	32,750	32,830	33,820
South Carolina	37,020	32,483	32,999	30,698	31,297	30,603	30,211	31,480	30,860	32,040
Tennessee	48,553	46,094	44,847	45,138	44,166	40,643	41,323	42,830	43,430	44,530
Texas	176,951	172,480	174,306	162,270	160,546	163,191	161,970	166,370	168,000	175,020
Virginia	65,004	60,605	58,441	57,338	56,948	56,140	55,773	58,170	57,680	59,560
West Virginia	22,886	21,854	21,064	20,054	20,228	19,884	19,848	20,360	20,160	19,700
West	480,915	461,207	451,730	466,044	475,806	485,101	503,524	520,040	519,400	539,080
Alaska	5,631	5,386	5,458	5,535	5,535	5,747	5,888	5,960	6,330	6,570
Arizona	31,919	32,103	31,282	31,264	31,747	31,799	32,617	34,790	36,140	38,720
California	244,629	236,291	234,164	244,594	249,320	253,083	263,526	271,010	266,000	270,670
Colorado	35,520	32,967	31,293	31,059	31,839	31,867	32,244	32,890	33,340	35,210
Hawaii	10,404	10,325	8,974	9,160	8,854	9,369	10,184	10,460	10,660	10,520
Idaho	12,520	11,971	11,961	12,734	12,974	13,281	13,819	14,500	14,820	15,760
Montana	10,490	9,370	9,013	9,046	9,389	9,601	9,801	10,140	10,380	10,660
Nevada	9,464	9,477	9,370	8,811	9,042	9,485	10,123	10,850	11,350	12,320
New Mexico	15,481	14,884	15,157	14,824	15,172	14,892	15,725	15,870	16,550	17,240
Oregon	26,903	25,473	24,597	25,305	26,301	26,338	27,466	27,910	28,330	29,150
Utah	22,934	21,196	22,219	23,513	24,197	26,407	28,406	29,880	28,540	31,640
Washington	48,941	45,941	42,514	44,381	45,262	47,235	47,684	49,650	50,730	53,940
Wyoming	6,079	5,823	5,728	5,818	6,174	5,997	6,040	6,130	6,240	6,670

Table 51.—Number of high school graduates in public schools, by region and state, with projections: 1988–89 to 2006–07—Continued

Region and state	Projected								
	1998–99	1999–2000	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07
United States	2,482,370	2,523,960	2,559,900	2,589,500	2,608,560	2,659,390	2,669,330	2,674,920	2,703,030
Northeast	436,640	446,420	453,800	461,150	467,120	479,310	485,390	491,120	497,400
Connecticut	29,100	29,640	30,680	31,400	32,820	33,790	34,160	34,610	35,060
Maine	10,610	11,550	11,700	11,970	12,020	12,140	12,050	11,370	11,670
Massachusetts	50,020	51,260	52,570	53,290	54,970	56,720	56,940	58,290	59,040
New Hampshire	11,200	11,960	12,340	12,700	12,770	13,380	13,350	13,570	13,070
New Jersey	65,970	67,770	68,860	69,540	71,040	73,230	74,590	76,680	79,290
New York	140,990	143,290	144,690	147,170	147,550	150,600	152,120	154,500	156,910
Pennsylvania	113,090	115,270	116,860	118,620	119,090	122,600	125,400	125,070	125,490
Rhode Island	8,290	8,350	8,580	8,630	8,940	8,970	9,040	9,310	9,490
Vermont	7,370	7,330	7,520	7,830	7,910	7,880	7,750	7,700	7,380
Midwest	637,680	643,780	644,390	647,430	650,640	661,910	659,980	653,720	654,830
Illinois	112,800	110,210	108,370	107,810	112,650	115,910	115,490	115,270	118,570
Indiana	59,420	59,780	59,740	58,960	58,060	57,800	57,360	56,850	58,900
Iowa	35,280	35,640	35,180	35,500	34,460	34,930	34,300	32,870	32,900
Kansas	30,200	31,040	31,390	31,820	31,550	32,050	31,710	31,140	30,990
Michigan	85,610	86,570	87,470	87,240	88,450	91,120	89,860	90,230	89,220
Minnesota	56,830	58,520	59,430	60,100	60,460	61,990	61,730	60,260	60,450
Missouri	52,150	52,020	51,910	54,210	53,840	55,380	55,220	54,440	54,360
Nebraska	19,490	20,090	19,950	19,860	20,040	19,790	19,450	19,000	18,770
North Dakota	8,400	8,660	8,730	8,610	8,360	8,310	8,040	7,700	7,620
Ohio	107,990	110,520	111,050	110,900	109,940	109,300	111,600	111,080	109,400
South Dakota	10,940	10,950	11,190	11,040	11,180	11,310	11,270	11,120	10,970
Wisconsin	58,570	59,780	59,970	61,380	61,670	64,020	63,940	63,760	62,690
South	840,560	848,680	860,990	869,330	874,660	890,370	891,370	893,400	900,280
Alabama	37,790	37,290	37,000	36,520	36,410	35,890	34,950	35,780	36,430
Arkansas	27,210	26,860	26,790	26,870	26,740	26,840	26,250	26,160	26,570
Delaware	6,130	6,280	6,300	6,370	6,420	6,460	6,580	6,410	6,560
District of Columbia	2,790	2,820	2,720	2,670	2,700	2,660	2,750	2,640	2,630
Florida	103,700	107,690	113,030	117,800	121,120	124,650	124,780	125,930	129,870
Georgia	67,200	67,810	68,440	69,570	70,070	70,880	71,820	73,570	75,050
Kentucky	39,760	39,330	39,020	39,030	38,360	38,170	41,070	38,120	36,850
Louisiana	39,270	39,020	39,130	39,480	39,080	39,940	39,450	38,330	37,390
Maryland	45,830	47,100	48,300	49,240	50,080	50,790	51,010	52,580	53,100
Mississippi	25,140	24,940	24,650	24,080	23,670	23,250	22,980	22,540	23,040
North Carolina	61,150	60,540	61,710	61,660	62,840	65,010	64,880	66,650	69,500
Oklahoma	35,840	36,350	37,580	37,820	37,170	37,060	36,510	35,760	35,600
South Carolina	33,470	33,300	33,420	32,840	32,590	33,150	33,000	32,790	32,910
Tennessee	45,760	46,340	46,580	46,630	46,700	47,940	48,280	48,070	49,150
Texas	187,050	190,420	192,830	195,070	196,570	201,440	201,710	202,950	201,090
Virginia	62,180	62,780	63,950	64,540	65,830	68,130	67,260	67,140	67,160
West Virginia	20,280	19,820	19,530	19,140	18,330	18,100	18,090	17,960	17,380
West	567,500	585,080	600,720	611,590	616,130	627,800	632,600	636,690	650,520
Alaska	6,940	7,170	7,320	7,270	7,550	7,710	7,750	7,530	7,520
Arizona	41,840	43,130	45,480	46,900	47,740	49,970	51,300	52,190	53,790
California	283,660	293,200	298,360	304,100	307,710	313,920	315,540	319,220	328,160
Colorado	37,210	38,780	40,220	41,300	41,340	42,240	43,010	42,640	42,730
Hawaii	12,370	12,490	12,950	13,270	13,630	13,590	14,090	14,320	14,790
Idaho	16,040	16,440	17,050	17,010	17,050	16,750	16,210	16,900	17,610
Montana	11,280	11,620	11,730	11,870	11,990	12,020	12,000	11,690	11,660
Nevada	13,450	14,240	15,080	16,080	16,670	17,720	18,690	19,410	20,480
New Mexico	19,000	19,750	20,410	21,030	20,210	20,440	20,490	20,490	20,370
Oregon	29,630	30,430	31,580	32,180	32,090	32,660	32,690	32,420	32,500
Utah	32,650	32,240	32,820	31,690	31,140	30,590	30,500	30,010	30,990
Washington	56,580	58,770	60,760	62,040	62,210	63,470	63,920	63,710	63,980
Wyoming	6,820	6,800	6,950	6,840	6,800	6,730	6,420	6,180	5,940

NOTE: Historical numbers may differ from those in previous editions. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data Surveys. (This table was prepared September 1996.)

Table 52.—Percent change in number of public high school graduates, by region and state, with projections: 1988–89 to 2006–07

Region and state	Actual	Projected		
	1988–89 to 1994–95	1994–95 to 2000–01	2000–01 to 2006–07	1994–95 to 2006–07
United States	-9.4	14.9	5.6	21.3
Northeast	-15.3	12.2	9.6	23.0
Connecticut	-15.2	17.3	14.3	34.0
Maine	-15.0	-0.7	-0.3	-0.9
Massachusetts	-18.6	12.6	12.3	26.5
New Hampshire	-11.8	23.3	5.9	30.6
New Jersey	-17.7	9.7	15.1	26.3
New York	-14.2	9.0	8.4	18.2
Pennsylvania	-15.0	15.7	7.4	24.2
Rhode Island	-13.2	15.6	10.6	27.9
Vermont	-0.0	26.1	-1.8	23.8
Midwest	-13.5	12.3	1.6	14.1
Illinois	-12.1	5.7	9.4	15.6
Indiana	-13.6	8.7	-1.4	7.2
Iowa	-12.0	16.6	-6.5	9.0
Kansas	-3.4	21.0	-1.3	19.5
Michigan	-20.2	7.8	2.0	9.9
Minnesota	-8.2	21.9	1.7	24.0
Missouri	-10.7	11.9	4.7	17.2
Nebraska	-8.2	16.2	-5.9	9.4
North Dakota	-6.5	15.6	-12.8	0.8
Ohio	-17.9	8.2	-1.5	6.6
South Dakota	7.6	27.2	-2.0	24.6
Wisconsin	-13.1	25.5	4.5	31.2
South	-10.8	15.3	4.6	20.5
Alabama	-20.0	6.5	-1.6	4.8
Arkansas	-10.9	7.7	-0.8	6.8
Delaware	-15.7	22.4	4.2	27.6
District of Columbia	-14.9	-10.5	-3.0	-13.2
Florida	0.1	24.5	14.9	43.0
Georgia	-7.7	19.7	9.7	31.3
Kentucky	-5.9	6.6	-5.6	0.7
Louisiana	-5.3	11.1	-4.4	6.2
Maryland	-14.9	23.9	9.9	36.2
Mississippi	-4.3	6.3	-6.5	-0.7
North Carolina	-19.7	9.8	12.6	23.6
Oklahoma	-13.8	18.6	-5.3	12.3
South Carolina	-18.4	10.6	-1.5	8.9
Tennessee	-14.9	12.7	5.5	18.9
Texas	-8.5	19.1	4.3	24.2
Virginia	-14.2	14.7	5.0	20.4
West Virginia	-13.3	-1.6	-11.0	-12.4
West	4.7	19.3	8.3	29.2
Alaska	4.6	24.3	2.8	27.8
Arizona	2.2	39.4	18.3	64.9
California	7.7	13.2	10.0	24.5
Colorado	-9.2	24.7	6.2	32.5
Hawaii	-2.1	27.2	14.2	45.2
Idaho	10.4	23.4	3.3	27.4
Montana	-6.6	19.6	-0.6	19.0
Nevada	7.0	49.0	35.8	102.3
New Mexico	1.6	29.8	-0.2	29.5
Oregon	2.1	15.0	2.9	18.3
Utah	23.9	15.5	-5.6	9.1
Washington	-2.6	27.4	5.3	34.2
Wyoming	-0.6	15.1	-14.5	-1.6

NOTE: Calculations are based on unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys. (This table was prepared September 1996.)

Technical Appendixes

Appendix A

Projection Methodology

The general procedure for *Projections* was to express the variable to be projected as a percent of a "base" variable. These percents were then projected and applied to projections of the "base" variable. For example, the number of 18-year-old college students was expressed as a percent of the 18-year-old population for each year from 1972 through 1994. This percent was then projected through the year 2007 and applied to projections of the 18-year-old population from the Bureau of the Census.

Enrollment projections are based primarily on population projections. Projections of classroom teachers, high school graduates, earned degrees conferred, and expenditures are based primarily on enrollment projections.

Exponential smoothing and multiple linear regression are the two major projection techniques used in this publication. Single exponential smoothing is used when the historical data have a basically horizontal pattern. On the other hand, double exponential smoothing is used when the time series is expected to change linearly with time. In general, exponential smoothing places more weight on recent observations than on earlier ones. The weights for observations decrease exponentially as one moves further into the past. As a result, the older data have less influence on projections. The rate at which the weights of older observations decrease is determined by the smoothing constant selected.

$$P = \alpha X_t + \alpha(1-\alpha)X_{t-1} + \alpha(1-\alpha)^2X_{t-2} + \alpha(1-\alpha)^3X_{t-3} + \ldots$$

Where:

P = projected value

α = smoothing constant ($0 < \alpha < 1$)

X_t = observation for time t

This equation illustrates that the projection is a weighted average based on exponentially decreasing weights. For a high smoothing constant, weights for earlier observations decrease rapidly. For a low smoothing constant, decreases are more moderate. Projections of enrollments and public high school graduates are based on a smoothing constant of $\alpha = 0.4$.

The farther apart the observations are spaced in time, it is more likely that there are changes in the underlying social, political, and economic structure. Since the observations are on an annual basis, major shifts in the underlying process are more likely in the time span of just a few observations than if the observations were available on a monthly or weekly basis. As a result, the underlying process tends to be unstable from one observation to the next. Another reason for using high smoothing constants for some time series is that most of the observations are fairly accurate, because most observations are population values rather than sample estimates. Therefore, large shifts tend to indicate actual changes in the process rather than noise in the data.

Multiple linear regression is also used in making projections, primarily in the areas of teachers, earned degrees, and expenditures. This technique is used when it is believed that a strong causal relationship exists between the variable being projected (the dependent variable) and independent causal variables. However, this technique is used only when accurate data and reliable projections of the independent variables are available.

The functional form primarily used is the multiplicative model. When used with two independent variables, this model takes the form:

$$Y = aX_1^{b_1}X_2^{b_2}$$

This equation can easily be transformed into the linear form by taking the natural log (ln) of both sides of the equation:

$$\ln Y = \ln(a) + b_1 \ln X_1 + b_2 \ln X_2$$

The multiplicative model has a number of advantages; it is a reasonable way to represent human behavior. Constant elasticities are assumed; this says that a 1 percent change in lnX will lead to a given percent change in lnY. This percent change is equal to b_1. And it lends itself easily to "a priori" analysis because the researcher does not have to worry about units of measurement when specifying relationships. In fact, the multiplicative model is considered the standard in economic problems. For additional information, see *Long-Range Forecasting: From Crystal Ball to Computer* by J. Scott Armstrong (John Wiley and Sons, 1978, pp. 180–181).

Caveats

Because projections are subject to errors from many sources, alternative projections are shown for some statistical series. These alternatives are not statistical confidence

intervals, but instead represent judgments made by the authors as to reasonable upper and lower bounds for each projected series. Alternative projections were developed for higher education enrollment, classroom teachers, and expenditures in public elementary and secondary schools and institutions of higher education.

Assumptions

All projections are based on underlying assumptions, and these assumptions determine projection results to a large extent. It is important that users of projections understand the assumptions to determine the acceptability of projected time series for their purposes. In each chapter of appendix A, there are descriptions of the primary assumptions upon which the projections of time series are based.

For most projections, low, middle, and high alternatives are shown. These alternatives reveal the level of uncertainty involved in making projections, and they also point out the sensitivity of projections to the assumptions on which they are based.

Many of the projections in this publication are demographically based. Bureau of the Census middle series projections of the population by age were used. These middle series population projections are based on the 1990 census. The future fertility rate assumption, which determines projections of the number of births, is the key assumption in making population projections. The middle series population projections assume an ultimate complete cohort fertility rate of 2.10 births per woman by the year 2007 and a net immigration of 820,000 per year. This assumption plays a major role in determining population projections for the age groups enrolled in nursery school, kindergarten, and elementary grades. The effects of the fertility rate assumption are more pronounced toward the end of the projection period.

For enrollments in secondary grades and college, the fertility assumption is of no consequence, since all students enrolled at these levels were already born when the population projections were made. For projections of enrollments in elementary schools, only middle series population projections were considered. Projections of high school graduates are based on projections of the percent of grade 12 enrollment that are high school graduates. Projections of associate, bachelor's, doctor's, and first-professional degrees are based on projections of college-age populations and higher education enrollment, by sex, attendance status and level enrolled by student, and by type of institution. Projections of higher education enrollment are based on projections of disposable income per capita and unemployment rates. Many of the projections of classroom teachers and expenditures of public elementary and secondary schools and institutions of higher education are based on projections of disposable income per capita and various revenue measures of state and local governments. Projections of disposable income per capita and unemployment rates were obtained from DRI/McGraw-Hill. Therefore, the many assumptions made in projecting disposable income per capita and unemployment rates also apply to those projections based on projections of these variables.

A1. Enrollment

National

Enrollment projections were based on projected enrollment rates, by age and sex, which were applied to population projections by age and sex developed by the Bureau of the Census. These enrollment rates were projected by taking into account the most recent trends, as well as the effects of economic conditions and demographic changes on a person's decision to enter college. The enrollment rates were then used in the Education Forecasting Model (EDMOD), which consists of age-specific rates by sex and by enrollment levels (nursery school through college). The model has 4 stages. See figure 71.

Education Forecasting Model

The first stage of EDMOD is an age-specific enrollment model in which enrollment rates are projected and applied to age-specific population projections. This stage, which is used separately for each sex, includes the following categories: (1) nursery and kindergarten, (2) elementary grades 1–8, (3) secondary grades 9–12, (4) full-time college enrollment, and (5) part-time college enrollment. For each of these enrollment categories, enrollment rates were projected by individual ages 3 through 24 and for the age groups 25 to 29, 30 to 34, and 35 years and over.

Enrollments by age and age groups from the Bureau of the Census were adjusted to NCES totals to compute enrollment rates for 1972 through 1994. Different assumptions were made to produce low, middle, and high alternative projections of enrollment rates to the year 2007.

Elementary Grades 1–8

Projections of elementary enrollment rates were considered for ages 5 through 18. Elementary enrollments are negligible for the remaining ages. Because most elementary enrollment rates have been close to 100 percent from 1972 to 1994, alternative enrollment rate projections were not computed. The only set of enrollment rate projections computed was based on the assumption that rates will remain constant through the year 2007 (table A1.1). Several of the rates in table A1.1 exceed 100 percent, as a result of several factors. The enrollment data by age were prorated to agree with NCES totals. The Bureau of the Census does not revise enrollment estimates by age, but population estimates are revised regularly.

Secondary Grades 9–12

Projections of secondary enrollment rates were considered for ages 12 through 34. Secondary enrollments are negligible for the remaining ages. Secondary enrollment rates have fluctuated within a narrow range from 1972 to 1994. Therefore, alternative enrollment rate projections were not calculated. The only set of projections computed was based on constant enrollment rates (table A1.2).

College Full-Time and Part-Time Enrollment

Projections of full-time and part-time college enrollments were considered only for ages 16 and over. College enrollment is negligible for earlier ages. Three alternative projections were made using various assumptions. Table A1.3 shows enrollment rates for 1994 and low, middle, and high alternative projected enrollment rates for 2002 and 2007.

Table A1.4 shows the equations used to project enrollment rates for men by attendance status. Table A1.5 shows the equations used to project enrollment rates for women by attendance status.

Enrollment in Public Elementary and Secondary Schools, by Grade Group and Organizational Level

The second stage of EDMOD projects public enrollment in elementary and secondary schools by grade group and by organizational level. Public enrollments by age were based on enrollment rate projections for nursery and kindergarten, grade 1, elementary ungraded and special, secondary ungraded and special, and postgraduate enrollment. Grade retention rate projections were used for grades 2 through 12. Table A1.6 shows the public school enrollment rates and table A1.7 shows the public grade-retention rates for 1994 and projections for 2002 and 2007. The projected rates in tables A1.6 and A1.7 were used to compute the projections of enrollments in elementary and secondary schools, by grade, shown in table 1.

College Enrollment, by Sex, Attendance Status, and Level Enrolled; and by Type and Control of Institution

The third stage of EDMOD projects enrollments in institutions of higher education, by sex, attendance status, and level enrolled by student and by type and control of institution. For each age group, the percent of total enrollment by age, attendance status, level enrolled, and type of institution was projected. These projections for 2002 and 2007 are shown in tables A1.8 and A1.9, along with actual values for 1994. For all projections, it was assumed that there was no enrollment in 2-year institutions at the postbaccalaureate level (graduate and first-professional).

The projected rates in tables A1.8 and A1.9 were then adjusted to agree with the projected age-specific enrollment rates in the first stage of EDMOD. The adjusted rates

were then applied to the projected enrollments by age group, sex, and attendance status from the first stage of EDMOD to obtain projections by age group, sex, attendance status, level enrolled, and type of institution.

For each enrollment category—sex, attendance status, level enrolled, and type of institution—public enrollment was projected as a percent of total enrollment. Projections for 2002 and 2007 are shown in table A1.10, along with actual percents for 1994. The projected rates were then applied to the projected enrollments in each enrollment category to obtain projections by control of institution.

For each category by sex, enrollment level, and type and control of institution, graduate enrollment was projected as a percent of postbaccalaureate enrollment. Actual rates for 1994 and projections for 2002 and 2007 are shown in table A1.11. The projected rates in table A1.11 were then applied to projections of postbaccalaureate enrollment to obtain graduate and first-professional enrollment projections by sex, attendance status, and type and control of institution.

Full-Time-Equivalent Enrollment, by Type and Control of Institution and by Level Enrolled

The fourth stage of EDMOD projects full-time-equivalent enrollment, by type and control of institution and by level enrolled. For each enrollment category by level enrolled and by type and control of institution, the full-time-equivalent of part-time enrollment was projected as a percent of part-time enrollment. Actual percents for 1994 and projections for 2002 and 2007 are shown in table A1.12.

These projected percents were applied to projections of enrollment by level enrolled and by type and control of institution from the third stage of EDMOD. The projections were added to projections of full-time enrollment (from the previous stage) to obtain projections of full-time-equivalent enrollment.

Projection Accuracy

An analysis of projection errors from the past 13 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for lead times of 1, 2, 5, and 10 years out for projections of public school enrollment in grades K–12 were 0.4, 0.6, 1.4, and 2.4 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 0.4 percent of the actual value, on the average. For projections of public school enrollment in grades K–8, the MAPEs for lead times of 1, 2, 5, and 10 years were 0.5, 0.8, 1.8, and 3.6 percent, respectively, while those for projections of public school enrollment in grades 9–12 were 0.7, 0.7, 1.0, and 3.8 percent for the same lead times.

For projections of enrollment in higher education, an analysis of projection errors based on the past ten editions of *Projections of Education Statistics* indicates that the MAPEs for lead times of 1, 2, and 5 years were 2.3, 3.4, and 6.7 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 2.1 percent of the actual value, on the average.

Basic Methodology

The notation and equations that follow describe the basic models used to project public elementary and secondary enrollment.

Public Elementary and Secondary Enrollment

Let:

i = Subscript denoting age

j = Subcript denoting grade

t = Subscript denoting time

K_t = Enrollment at the nursery and kindergarten level

G_{jt} = Enrollment in grade j

G_{1t} = Enrollment in grade 1

E_t = Enrollment in elementary special and ungraded programs

S_t = Enrollment in secondary special and ungraded programs

PG_t = Enrollment in postgraduate programs in secondary schools

P_{it} = Population age i

RK_t = Enrollment rate for nursery and kindergarten

RG_{1t} = Enrollment rate for grade 1

RE_t = Enrollment rate for elementary special and ungraded programs

RS_t = Enrollment rate for secondary special and ungraded programs

RPG_t = Enrollment rate for postgraduate programs

EG_t = Total enrollment in elementary grades (K–8)

SG_t = Total enrollment in secondary grades (9–12)

R_{jt} = Retention rate for grade j: the proportion that enrollment in grade j in year t is of enrollment in grade j–1 in year t–1.

Then:

$$EG_t = K_t + E_t + \sum_{j=1}^{8} G_{jt}$$

$$SG_t = S_t + PG_t + \sum_{j=9}^{12} G_{jt}$$

Where:

$K_t = RK_t(P_{5t})$

$G_{jt} = R_{jt}(G_{j-1,t-1})$

$$E_t = RE_t\left(\sum_{i=5}^{13} P_{it}\right)$$

$G_{1t} = RG_{1t}(P_{6t})$

$$S_t = RS_t\left(\sum_{i=14}^{17} P_{it}\right)$$

$PG_t = RPG_t(P_{18t})$

Higher Education Enrollment

For institutions of higher education, projections were computed separately by sex and attendance status of student. The notation and equations are:

Let:

i = Subscript denoting age except:

i = 25: ages 25–29

i = 26: ages 30–34

i = 27: ages 35 and over for enrollment (35–44 for population)

t = Subscript denoting year

E_{it} = Enrollment of students age i

P_{it} = Population age i

R_{it} = Enrollment rate for students age i

T_{it} = Total enrollment for particular subset of students: full-time men, full-time women, part-time men, part-time women

Then:

$$T_{it} = \sum_{i=16}^{27} E_{it}$$

Where:

$E_{it} = R_{it}(P_{it})$

Methodological Tables

The tables in this section give the rates used to calculate projections of enrollments, basic assumptions underlying enrollment projections (table A1.13), and methods used to estimate values for which data are not available (table A1.14).

Private School Enrollment

Projections of private school enrollment were derived in the following manner. From 1970 to 1994, the ratio of private school enrollment to public school enrollment was calculated by grade level. These ratios were projected using single exponential smoothing, yielding a constant value over the projection period. This constant was then applied to projections of public school enrollment by grade level to yield projections of private school enrollment. This method assumes that the future pattern in the trend of private school enrollment will be the same as that in public school enrollment. The reader is cautioned that a number of factors could alter the assumption of a constant ratio over the projection period.

State-Level

This edition contains projected trends in elementary and secondary enrollment by grade level in public schools from 1996 to the year 2007. This is the sixth report on state-level projections for public school elementary and secondary education statistics.

Public school enrollment data from the National Center for Education Statistics' Common Core of Data survey for 1970 to 1994 were used to develop these projections. This survey does not collect data on enrollment for private schools. In addition, population estimates for 1970 to 1995 and population projections for 1996 to 2007 from the U.S. Department of Commerce, Bureau of the Census were used to develop the projections.

Table A1.15 describes the number of years, projection methods, and smoothing constants used to project enrollments in public schools. Also included in table A1.15

is the procedure for choosing the different smoothing constants for the time series models.

The grade retention method and the enrollment rate method were used together to project public elementary and secondary school enrollment by state. The grade retention method starts with 6-year-olds entering first grade and then follows their progress through public elementary and secondary schools. The method requires calculating the ratio of the number of children in one year who "survive" the year and enroll in the next grade the following year. The enrollment rate method expresses the enrollment of a particular age group as a percent of the population for the same age group. The projections produced from these two methods were combined to yield a composite projection of enrollment.

First, projections of enrollment in public elementary and secondary schools by state were developed using primarily the grade retention method. Kindergarten and first grade enrollments are based on projected enrollment rates of 5- and 6-year-olds. These projected enrollment rates are applied to population projections of 5- and 6-year-olds developed by the Bureau of the Census.

Enrollments in grades 2 through 12 are based on projected grade retention rates in each state. These projected rates are then applied to the current enrollment by grade to yield grade-by-grade projections for future years. Enrollment rates of 5- and 6-year-olds and retention rates are projected using single exponential smoothing. Elementary ungraded and special enrollments and secondary ungraded and special enrollments are projected to remain constant at their 1994 levels. To obtain projections of total enrollment, projections of enrollments for the individual grades (kindergarten through 12) and ungraded and special classes were summed.

Second, projections of enrollments in public elementary and secondary schools by state were developed using the enrollment rate method. Enrollment in grades K–8 was expressed as a percent of the 5- to 13-year-old population for 1970 to 1994. Similarly, enrollment in grades 9–12 was expressed as a percent of the 14- to 17-year-old population. These percents were then projected using single exponential smoothing and applied to projections of the 5- to 13-year-old and 14- to 17-year-old populations developed by the Bureau of the Census.

The enrollment rate and grade retention methods assume that past trends in factors affecting public school enrollments will continue over the projection period. This assumption implies that all factors influencing enrollments will display future patterns consistent with past patterns. Therefore, this method has limitations when applied to states with unusual changes in migration rates. This method implicitly includes the net effect of such factors as migration, dropouts, deaths, nonpromotion, and transfers to and from private schools.

Combining Enrollment Projections

Projections of state public school enrollment are based on the grade retention and enrollment rate methods. Empirical research on national models suggests that the enrollment rate method is superior to the grade retention method as the lead time of the projection increases. For longer lead times, the mean absolute percentage errors of the projections of national public school enrollment based on the enrollment rate method are smaller than those based on the grade retention method. It is reasoned that because the projections based on the enrollment rate method depend on population projections, they reflect long-term shifts in state migration patterns as projected by the Bureau of the Census. On the other hand, the projections based on the grade retention method reflect the net effects of state in- and out-migration for the short term.

For a particular year, the projections of enrollments developed using the grade retention and enrollment rate methods were combined using a simple linear combination of the projections as follows:

$$E = bX_1 + (1\text{-}b)X_2$$

Where:

E = combined enrollment projection

X_1 = projection based on the grade retention rate

X_2 = projection based on the enrollment rate method

b = weight

Here, b is an adaptive parameter that changes in time to give the most weight for longer lead times to the most successful of the two projection methods, the enrollment rate. Table A1.16 presents the weights used to combine the two methods.

The sum of the weights b and 1-b is constrained to sum to 1. Empirical evidence suggests that the enrollment rate method is superior to the grade retention method for long lead times and that the grade retention method is more accurate for short lead times.

Adjustment to National Projections

The sum of the projections of state enrollments was adjusted to equal the national projections of public school K–12, K–8, and 9–12 enrollments shown in table 1. For details on the methods used to develop the national projections for this statistic, see the section on national enrollment projections in this appendix.

Figure 71

General structure and methodology of the Education Forecasting Model (EDMOD)

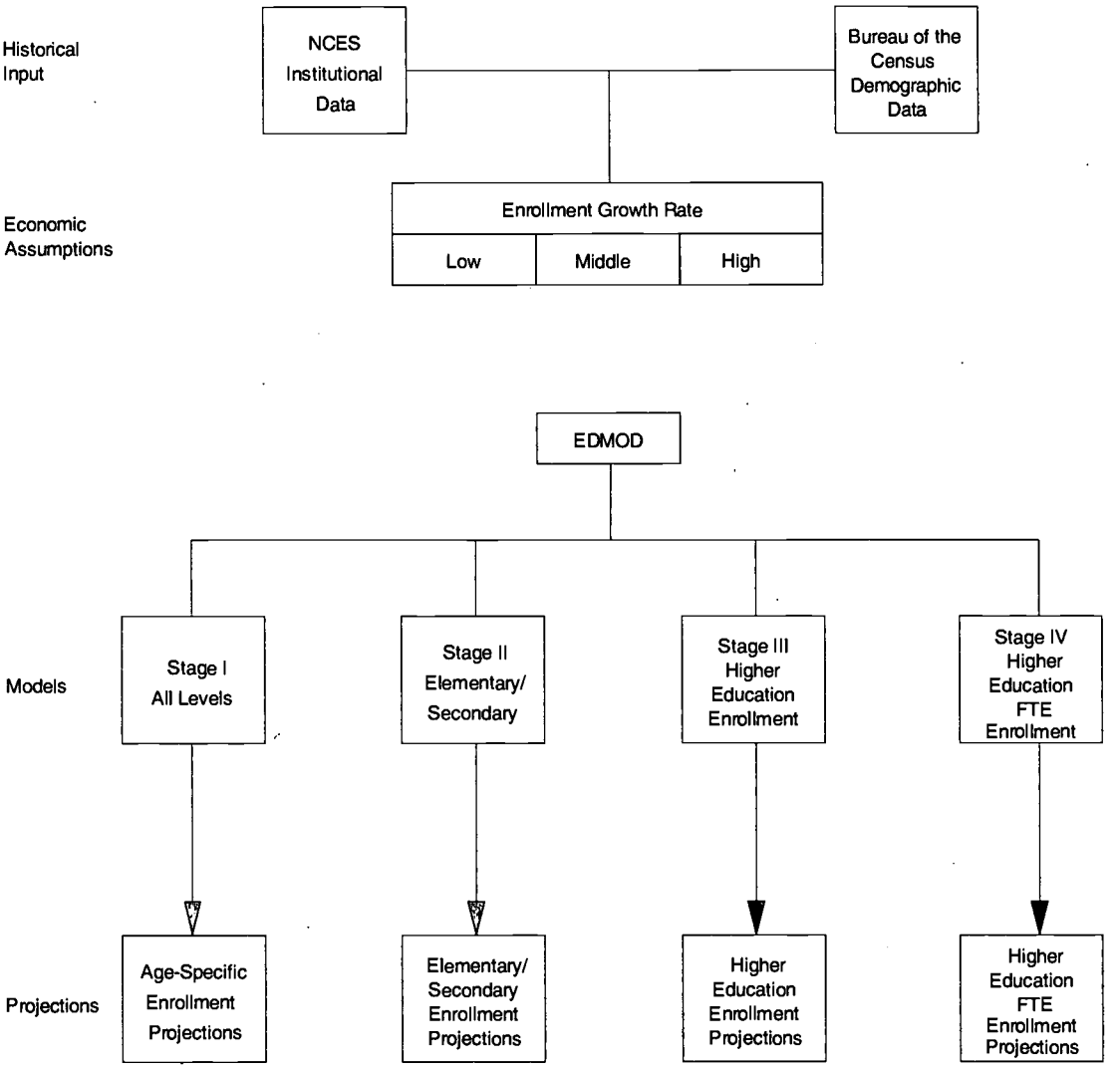


Table A1.1.—Elementary enrollment rates, by age and sex

Age	Boys		Girls	
	1994	1996–2007	1994	1996–2007
5	5.5	5.6	7.3	6.7
6	86.9	85.6	92.1	90.5
7	102.4	103.6	103.6	104.1
8	102.3	104.8	106.0	106.4
9	103.1	101.9	101.3	100.9
10	103.1	101.6	105.2	102.4
11	102.8	97.6	98.6	102.3
12	100.5	105.0	102.9	101.2
13	98.8	99.7	94.3	96.6
14	36.8	37.7	29.5	27.2
15	5.2	6.1	2.8	3.7
16	0.1	0.5	0.3	0.4
17	0.0	0.1	0.1	0.1
18	0.1	0.1	0.4	0.3

Table A1.2.—Secondary enrollment rates, by age and sex

Age	Boys		Girls	
	1994	1996–2007	1994	1996–2007
12	0.5	0.4	0.4	0.4
13	3.7	4.3	7.4	6.7
14	60.3	61.3	69.1	71.7
15	88.6	89.4	92.6	92.1
16	90.2	91.4	92.8	93.1
17	86.0	83.9	84.3	81.9
18	31.2	30.3	20.2	19.4
19	5.2	6.3	4.1	4.6
20	1.6	1.5	2.0	1.5
21	0.9	0.8	0.9	0.8
22	0.6	0.5	0.1	0.3
23	0.6	0.4	0.6	0.5
24	0.7	0.6	0.7	0.6
25–29	0.2	0.2	0.2	0.4
30–34	0.2	0.2	0.4	0.4

Table A1.3.—College enrollment rates, by age, sex, and attendance status, with alternative projections

Age, sex, and attendance status	1994	Low alternative		Middle alternative		High alternative	
		2002	2007	2002	2007	2002	2007
Men							
Full-time:							
16	0.0	0.1	0.1	0.1	0.1	0.1	0.1
17	2.7	3.9	3.9	3.9	4.0	3.9	4.1
18	28.5	30.6	30.7	30.6	31.0	30.7	31.2
19	32.2	31.9	32.0	32.0	32.3	32.0	32.5
20	28.3	27.4	27.5	27.4	27.7	27.4	27.9
21	28.9	25.5	25.6	25.5	25.8	25.5	26.0
22	17.1	17.0	17.1	17.0	17.3	17.0	17.5
23	13.8	12.3	12.4	12.4	12.6	12.3	12.8
24	11.2	10.0	9.9	10.0	10.0	10.0	10.2
25-29	4.7	4.3	4.3	4.3	4.4	4.3	4.5
30-34	1.7	1.7	1.7	1.7	1.8	1.7	1.8
35-44	1.1	0.8	0.8	0.8	0.8	0.8	0.8
Part-time:							
16	0.0	0.1	0.1	0.1	0.1	0.1	0.1
17	0.6	0.8	0.8	0.8	0.8	0.8	0.8
18	5.8	4.9	5.0	5.0	5.2	5.1	5.3
19	6.5	5.3	5.4	5.4	5.6	5.5	5.7
20	6.4	6.9	7.0	7.0	7.2	7.1	7.4
21	6.6	6.3	6.5	6.5	6.6	6.6	6.8
22	9.0	8.9	9.1	9.1	9.3	9.2	9.6
23	7.2	6.6	6.7	6.7	6.9	6.8	7.1
24	5.9	5.3	5.4	5.4	5.6	5.5	5.7
25-29	4.9	5.9	6.0	6.0	6.2	6.1	6.3
30-34	3.7	4.3	4.4	4.3	4.5	4.4	4.6
35-44	3.6	3.7	3.8	3.8	3.9	3.8	4.0
Women							
Full-time:							
16	0.0	0.1	0.1	0.1	0.1	0.1	0.1
17	3.9	5.9	6.5	6.2	7.2	6.6	8.0
18	34.2	39.3	39.8	39.7	40.6	40.1	41.5
19	38.7	38.7	39.2	39.1	40.1	39.6	41.0
20	34.2	33.5	34.1	34.0	35.3	34.5	36.4
21	33.0	31.0	31.5	31.5	32.7	32.1	34.0
22	15.6	16.3	17.0	16.8	18.2	17.4	19.5
23	13.0	13.0	13.4	13.4	14.5	13.9	15.7
24	11.1	10.6	11.0	11.0	12.0	11.4	13.0
25-29	4.3	4.5	4.7	4.6	5.1	4.8	5.6
30-34	2.2	2.6	2.7	2.7	3.0	2.8	3.3
35-44	2.0	2.0	2.2	2.1	2.4	2.2	2.6
Part-time:							
16	0.4	0.2	0.2	0.2	0.2	0.2	0.2
17	0.1	0.5	0.5	0.5	0.5	0.5	0.5
18	6.9	6.5	6.7	6.6	6.8	6.8	7.0
19	7.6	6.5	6.6	6.6	6.7	6.7	6.9
20	9.3	7.7	7.9	7.9	8.1	8.0	8.3
21	8.9	7.1	7.2	7.2	7.4	7.3	7.5
22	10.6	9.9	10.0	10.0	10.3	10.2	10.5
23	8.8	7.6	7.7	7.7	7.9	7.8	8.1
24	7.6	6.3	6.4	6.4	6.6	6.5	6.7
25-29	6.6	6.6	6.7	6.7	6.9	6.8	7.0
30-34	5.1	5.7	5.8	5.8	6.0	5.9	6.1
35-44	6.4	7.0	7.1	7.1	7.3	7.2	7.5

Table A1.4.—Full-time and part-time equations for college enrollment rates of men

Independent variable	Coefficient	Standard error	T-statistic	R^2	F-Statistic
Full-time					
Constant	-4.76	0.29	-16.4	.99	693.7
Dummy18	2.95	0.09	34.3		
Dummy19	3.06	0.10	31.2		
Dummy20	2.73.	0.10	27.4		
Dummy21	2.58	0.10	25.5		
Dummy22	1.87	0.13	14.1		
Dummy23	1.42	0.12	12.0		
Dummy24	1.13	0.16	7.0		
Dummy25-29	0.24	0.13	1.8		
Dummy30-34	-0.73	0.10	-7.3		
Dummy35-44	-1.51	0.17	-8.8		
LNURM	0.09	0.04	1.9		
LNPCIMA	0.57	0.10	5.8		
Rho17	0.12	0.23	0.5		
Rho18	0.44	0.21	2.1		
Rho19	0.38	0.21	1.8		
Rho20	0.43	0.22	2.0		
Rho21	0.26	0.25	1.0		
Rho22	0.63	0.18	3.6		
Rho23	0.44	0.22	2.0		
Rho24	0.73	0.17	4.4		
Rho25-29	0.63	0.15	4.3		
Rho30-34	0.32	0.13	2.4		
Rho35-44	0.70	0.13	5.4		
Part-time					
Constant	-6.80	0.27	-25.6	.94	130.6
Dummy18	1.96	0.06	31.6		
Dummy19	2.04	0.06	31.7		
Dummy20	2.34	0.05	47.7		
Dummy21	2.24	0.04	52.3		
Dummy22	2.64	0.07	36.0		
Dummy23	2.29	0.05	41.9		
Dummy24	2.04	0.06	32.2		
Dummy25-29	2.15	0.10	21.1		
Dummy30-34	1.80	0.09	19.2		
Dummy35-44	1.64	0.06	28.9		
LNPCIMA	0.65	0.09	6.9		
Rho17	-0.71	0.16	-4.4		
Rho18	0.21	0.24	0.8		
Rho19	0.41	0.24	1.7		
Rho20	0.36	0.22	1.6		
Rho21	0.51	0.21	2.4		
Rho22	0.15	0.23	0.6		
Rho23	-0.06	0.23	-0.3		
Rho24	0.29	0.22	1.3		
Rho25-29	0.63	0.15	4.2		
Rho30-34	0.70	0.14	5.1		
Rho35-44	0.59	0.12	4.9		

R^2 = Coefficient of determination.
F-Statistic = Obtained statistic for the F value.

Where:

Dummy(age) = 1 for each age and 0 otherwise.
Rho(age) = Autocorrelation coefficient for each age.

LNURM = Log unemployment rate
LNPCIMA = Log of four-period weighted average of per capita real disposable income.

NOTE: The regression method used to estimate the full-time and part-time equations was pooled least squares with first-order autocorrelation correction. The time period used to estimate the equations is from 1975 to 1994. The number of observations is 220.

Table A1.5.—Full-time and part-time equations for college enrollment rates of women

Independent variable	Coefficient	Standard error	T-statistic	R^2	F-Statistic
Full-time					
Constant	-9.74	0.41	-23.6	.99	736.8
Dummy18	3.29	0.32	10.4		
Dummy19	3.23	0.33	9.8		
Dummy20	2.80	0.35	7.9		
Dummy21	2.57	0.34	7.6		
Dummy22	1.37	0.32	4.2		
Dummy23	1.03	0.32	3.2		
Dummy24	0.77	0.31	2.5		
Dummy25-29	-0.08	0.35	-0.2		
Dummy30-34	-0.68	0.33	-2.0		
Dummy35-44	-0.92	0.34	-2.7		
LNURM	0.23	0.07	3.3		
LNPCIMA	2.51	0.11	23.6		
Rho17	0.82	0.14	5.8		
Rho18	-0.17	0.24	-0.7		
Rho19	0.16	0.24	0.7		
Rho20	0.55	0.22	2.4		
Rho21	0.66	0.22	3.0		
Rho22	0.53	0.20	2.7		
Rho23	0.69	0.18	3.8		
Rho24	0.67	0.22	3.1		
Rho25-29	0.52	0.21	2.5		
Rho30-34	0.01	0.23	0.0		
Rho35-44	-0.16	0.24	-0.7		
Part-time					
Constant	-7.10	0.61	-11.7	.74	24.6
Dummy18	2.72	0.57	4.8		
Dummy19	2.71	0.59	4.6		
Dummy20	2.92	0.58	5.0		
Dummy21	2.81	0.60	4.7		
Dummy22	3.21	0.59	5.5		
Dummy23	2.90	0.58	5.0		
Dummy24	2.68	0.58	4.6		
Dummy25-29	2.73	0.57	4.8		
Dummy30-34	2.57	0.57	4.5		
Dummy35-44	2.80	0.57	4.9		
LNPCIMA	0.60	0.08	7.4		
Rho17	0.38	0.23	1.7		
Rho18	0.22	0.23	0.9		
Rho19	0.58	0.20	2.8		
Rho20	0.17	0.25	0.6		
Rho21	0.46	0.24	1.9		
Rho22	0.40	0.22	1.8		
Rho23	0.48	0.22	2.2		
Rho24	0.58	0.23	2.6		
Rho25-29	0.44	0.20	2.2		
Rho30-34	0.56	0.19	2.9		
Rho35-44	0.05	0.22	0.2		

R^2 = Coefficient of determination.
F-Statistic = Obtained statistic for the F value.

Where:

Dummy(age) = 1 for each age and 0 otherwise.
Rho(age) = Autocorrelation coefficient for each age.

LNURM = Log unemployment rate.
LNPCIMA = Log of four-period weighted average of per capita real disposable income.

NOTE: The regression method used to estimate the full-time and part-time equations was pooled least squares with first-order autocorrelation correction. The time period used to estimate the equations is from 1975 to 1994. The number of observations is 220.

Table A1.6.—Enrollment rates in public schools, by grade level

Grade level	Population base age	1994	Projected	
			2002	2007
Kindergarten	5	104.0	102.3	102.3
Grade 1	6	94.7	95.2	95.2
Elementary ungraded and special	5–13	1.5	1.6	1.6
Secondary ungraded and special	14–17	1.6	1.7	1.7
Postgraduate	18	0.3	0.3	0.3

Table A1.7.—Public school grade retention rates

Grade	1994	Projected	
		2002	2007
1 to 2	97.5	96.7	96.7
2 to 3	100.3	100.2	100.2
3 to 4	99.7	100.0	100.0
4 to 5	100.3	100.3	100.3
5 to 6	100.9	101.0	101.0
6 to 7	101.4	101.8	101.8
7 to 8	98.4	98.4	98.4
8 to 9	110.9	111.0	111.0
9 to 10	89.8	90.9	90.9
10 to 11	90.1	90.7	90.7
11 to 12	90.4	90.9	90.9

Table A1.8.—Full-time enrollment, by level enrolled and type of institution, as a percent of total enrollment, for each age and sex classification

Age	Men			Women		
	1994	2002	2007	1994	2002	2007
			Undergraduate, 4-year institutions			
16-17 years old	53.1	66.5	66.5	83.7	74.4	74.4
18-19 years old	63.8	65.1	65.1	69.4	69.4	69.4
20-21 years old	81.9	80.3	80.3	81.8	80.1	80.1
22-24 years old	60.8	62.0	62.0	58.7	60.0	60.0
25-29 years old	47.0	45.6	45.6	33.4	36.6	36.6
30-34 years old	36.9	33.3	33.3	39.5	40.4	40.4
35 years and over	39.0	35.3	35.3	42.3	41.9	41.9
			Undergraduate, 2-year institutions			
16-17 years old	46.9	33.5	33.5	16.3	25.6	25.6
18-19 years old	35.8	34.7	34.7	30.4	30.5	30.5
20-21 years old	16.9	18.8	18.8	18.0	19.3	19.3
22-24 years old	17.7	17.3	17.3	21.0	18.8	18.8
25-29 years old	16.4	16.6	16.6	26.6	27.3	27.3
30-34 years old	22.1	23.0	23.0	36.7	37.5	37.5
35 years and over	28.4	28.5	28.5	39.9	37.2	37.2
			Postbaccalaureate, 4-year institutions			
16-17 years old	0.0	0.2	0.2	0.0	0.0	0.0
18-19 years old	0.5	0.2	0.2	0.2	0.1	0.1
20-21 years old	1.2	0.9	0.9	0.2	0.6	0.6
22-24 years old	21.5	20.6	20.6	20.3	21.1	21.1
25-29 years old	36.6	37.8	37.8	40.0	36.0	36.0
30-34 years old	40.9	43.7	43.7	23.8	22.0	22.0
35 years and over	32.6	36.2	36.2	17.8	20.9	20.9

NOTE: Projections shown for 2002 and 2007 were adjusted to add to 100 percent before computing projections shown in tables 3 through 22.

Table A1.9.—Part-time enrollment, by level enrolled and type of institution, as a percent of total enrollment, for each age and sex classification

Age	Men			Women		
	1994	2002	2007	1994	2002	2007
			Undergraduate, 4-year institutions			
16-17 years old	0.0	5.7	5.7	29.5	19.0	19.0
18-19 years old	23.1	21.6	21.6	24.0	18.8	18.8
20-21 years old	27.8	24.6	24.6	33.6	29.1	29.1
22-24 years old	29.6	31.5	31.5	31.2	31.5	31.5
25-29 years old	28.5	29.9	29.9	23.9	25.0	25.0
30-34 years old	28.2	28.0	28.0	21.4	24.2	24.2
35 years and over	23.8	24.4	24.4	24.4	25.3	25.3
			Undergraduate, 2-year institutions			
16-17 years old	100.0	83.7	83.7	78.9	61.4	61.4
18-19 years old	76.9	78.3	78.3	75.7	81.0	81.0
20-21 years old	72.2	75.1	75.1	65.5	70.4	70.4
22-24 years old	60.9	58.7	58.7	52.5	54.5	54.5
25-29 years old	52.7	51.4	51.4	56.0	55.2	55.2
30-34 years old	45.6	47.0	47.0	62.2	58.9	58.9
35 years and over	49.3	48.2	48.2	53.1	52.6	52.6
			Postbaccalaureate, 4-year institutions			
16-17 years old	0.0	0.0	0.0	0.0	0.0	0.0
18-19 years old	0.0	0.2	0.2	0.3	0.2	0.2
20-21 years old	0.0	0.3	0.3	0.9	0.5	0.5
22-24 years old	9.6	9.9	9.9	16.3	14.0	14.0
25-29 years old	18.8	18.6	18.6	20.1	19.8	19.8
30-34 years old	26.2	25.0	25.0	16.3	16.9	16.9
35 years and over	26.9	27.4	27.4	22.5	22.1	22.1

NOTE: Projections shown for 2002 and 2007 were adjusted to add to 100 percent before computing projections shown in tables 3 through 22.

Table A1.10.—Public college enrollment as a percent of total enrollment, by attendance status, sex, level enrolled, and type of institution

Enrollment category	Men			Women		
	1994	2002	2007	1994	2002	2007
Full-time, undergraduate, 4-year institutions	69.3	69.5	69.5	67.9	68.3	68.3
Part-time, undergraduate, 4-year institutions	72.3	72.5	72.5	68.2	68.8	68.8
Full-time, undergraduate, 2-year institutions	93.0	92.4	92.4	92.7	91.9	91.9
Part-time, undergraduate, 2-year institutions	97.7	97.7	97.7	97.9	98.0	98.0
Full-time, postbaccalaureate, 4-year institutions	54.9	55.5	55.5	57.6	58.3	58.3
Part-time, postbaccalaureate, 4-year institutions	58.3	58.5	58.5	63.9	64.9	64.9

Table A1.11.—Graduate enrollment as a percent of total postbaccalaureate enrollment, by sex, attendance status, and type and control of institution

Enrollment category	Men			Women		
	1994	2002	2007	1994	2002	2007
Full-time, 4-year, public	78.0	77.7	77.7	81.7	81.4	81.4
Part-time, 4-year, public	98.8	98.8	98.8	99.5	99.5	99.5
Full-time, 4-year, private	59.5	58.7	58.7	68.9	67.6	67.6
Part-time, 4-year, private	91.2	91.4	91.4	95.5	95.4	95.4

Table A1.12.—Full-time-equivalent of part-time enrollment as a percent of part-time enrollment, by level enrolled and by type and control of institution

Enrollment category	1994	2002	2007
Public, 4-year, undergraduate	40.3	40.3	40.3
Public, 2-year, undergraduate	33.6	33.6	33.6
Private, 4-year, undergraduate	39.4	39.5	39.5
Private, 2-year, undergraduate	39.5	39.4	39.4
Public, 4-year, graduate	36.2	36.2	36.2
Private, 4-year, graduate	38.3	38.2	38.2
Public, 4-year, first-professional	60.0	59.4	59.4
Private, 4-year, first-professional	57.7	56.1	56.1

Table A1.13.—Enrollment (assumptions)

Variables	Assumptions	Alternatives	Tables
Elementary and Secondary enrollment	Age-specific enrollment rates will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	1, 2
	Public enrollment rates and public grade retention rates will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	1, 2
	The percentage of 7th and 8th grade public students enrolled in school organized as secondary schools will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	2
College enrollment, by age			
Full-time	Age-specific enrollment rates by sex are a function of dummy variables by age, middle alternative log of four-period weighted average of real disposable income per capita, and middle alternative log unemployment rate by age group.	Middle	3–5 9–16
	Age-specific enrollment rates by sex are a function of dummy variables by age, low alternative log of four-period weighted average of real disposable income per capita, and low alternative log unemployment rate by age group.	Low	3–5 9–16
	Age-specific enrollment rates by sex are a function of dummy variables by age, high alternative log of four-period weighted average of real disposable income per capita, and high alternative log unemployment rate by age group.	High	3–5 9–16
Part-time	Age-specific enrollment rates by sex are a function of dummy variables by age and the middle alternative log of four-period weighted average of real disposable income per capita.	Middle	3–5 9–16
	Age-specific enrollment rates by sex are a function of dummy variables by age and the low alternative log of four-period weighted average of real disposable income per capita.	Low	3–5 9–16
	Age-specific enrollment rates by sex are a function of dummy variables by age and the high alternative log of four-period weighted average of real disposable income per capita.	High	3–5 9–16
College enrollment, by sex, attendance status, level enrolled, and type of institution	For each group and for each attendance status separately, percent of total enrollment by sex, level enrolled, and type of institution will follow past trends through 2007. For each age group and attendance status category, the sum of the percentages must equal 100 percent.	High, middle, and low	3–5 9–16
College enrollment, by control of institution	For each enrollment category, by sex, attendance status, level enrolled, and type of institution, public enrollment as a percent of total enrollment will remain constant at levels consistent with the most recent rates.	High, middle, and low	3–5 9–16
Graduate enrollment	For each enrollment category, by sex and attendance status of student, and by type and control of institution, graduate enrollment as a percent of postbaccalaureate enrollment will remain constant at levels consistent with the most recent rates.	High, middle, and low	17
Full-time-equivalent of part-time enrollment	For each enrollment category, by type and control of institution and level enrolled, the percent that full-time-equivalent of part-time enrollment is of part-time enrollment will remain constant at levels consistent with the most recent rates.	High, middle, and low	23–25

Table A1.14.—Enrollment (estimation methods)

Variables	Years	Estimation method	Tables
Enrollment in private elementary and secondary schools, by level	1988 1989 1990	Grade-by-grade data for private elementary, secondary, and combined schools were aggregated to estimate private school enrollment by grade level.	1 2
Enrollment in institutions of higher education, by age and attendance status	1987 1992 1995	For each sex, enrollment data from the Bureau of Census by individual ages and by attendance status for 2-year age groups were combined by assuming that within the 2-year age groups, age and attendance status were distributed independently. The resultant enrollment estimates by age and attendance status were then adjusted to NCES enrollment counts by attendance status.	6 7 8

Table A1.15—Number of years, projection methods, and smoothing constants used to project public school enrollments and high school graduates, by state

Projected state variable	Number of years (1970–1994)	Projection method	Smoothing constant	Choice of smoothing constant
Enrollment rates	25	Single exponential smoothing	0.4	Empirical research
Grade retention rates	25	Single exponential smoothing	0.4	Empirical research
Graduates/grade 12 enrollment	25	Single exponential smoothing	0.4	Empirical research

Table A1.16—Weights used to combine the enrollment projections, by projection method and lead time

Projection method	Lead time, in years											
	1	2	3	4	5	6	7	8	9	10	11	12
Grade retention	1	8/9	7/9	6/9	5/9	4/9	3/9	2/9	1/9	0	0	0
Enrollment rate	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1	1	1

A2. High School Graduates

National

Projections of public high school graduates were developed in the following manner. The number of public high school graduates was expressed as a percent of grade 12 enrollment in public schools for 1972 to 1994. This percent was projected using single exponential smoothing and applied to projections of grade 12 enrollment to yield projections of high school graduates in public schools. (The dropout rate is not related to this percent. This percent does not make any assumptions regarding the dropout rate.) The grade 12 enrollment was projected based on grade-by-grade retention rates and population projections developed by the Bureau of the Census. This percent was assumed to remain constant at levels consistent with the most recent rates. This method assumes that past trends in factors affecting graduation will continue over the projection period. However, the projected number of graduates could be impacted by changes in policies affecting graduation requirements.

Projections of private high school graduates were derived in the following manner. From 1970–71 to 1994–95, the ratio of private high school graduates to public school graduates was calculated. These ratios were projected using single exponential smoothing, yielding a constant value over the projection period. This constant value was then applied to projections of public high school graduates to yield projections of private high school graduates. This method assumes that the future pattern of private high school graduates will be the same as that of public high school graduates. The reader should be aware that a number of factors could alter the assumption of a constant ratio over the projection period.

Projection Accuracy

An analysis of projections from models used in the past 13 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for projections of public high school graduates were 0.6 percent for 1 year ahead, 1.1 percent for 2 years ahead, 1.4 percent for 5 years ahead, and 3.8 percent for 10 years ahead. For the 2-year-ahead prediction, this means that one would expect the projection to be within 1.1 percent of the actual value, on the average.

State-Level

This edition contains projections of high school graduates from public schools by state from 1995–96 to 2006–07. Public school graduate data from the National Center for Education Statistics' Common Core of Data survey for 1969–70 to 1994–95 were used to develop these projections. This survey does not collect graduate data for private schools.

Projections of public high school graduates by state were developed in the following manner. For each state, the number of public high school graduates was expressed as a percent of grade 12 enrollment in public schools for 1970 to 1994. This percent was projected using single exponential smoothing and applied to projections of grade 12 enrollment to yield projections of high school graduates in public schools. Projections of grade 12 enrollment were developed based on the grade retention method discussed in section A1, Enrollment. This percent was assumed to remain constant at levels consistent with the most recent rates. This method assumes that past trends in factors affecting public high school graduates will continue over the projection period.

A3. Earned Degrees Conferred

Projections of associate, bachelor's, master's, doctor's, and first-professional degrees by sex were based on demographic models that relate degree awards to college-age populations and college enrollment by level enrolled and attendance status.

Associate Degrees

Associate degree projections by sex were based on undergraduate enrollment by attendance status in 2-year institutions. Results of the regression analysis used to project associate degrees by sex are shown in table A3.1.

Bachelor's Degrees

Bachelor's degree projections by sex were based on the 18- to 24-year-old population and undergraduate enrollment by attendance status in 4-year institutions. Results of the regression analysis used to project bachelor's degrees by sex are shown in table A3.2.

Master's Degrees

Master's degree projections for men assume that the number of degrees will increase by 2,000 each year through 2006–07. Master's degree projections for women assume that the number of degrees will increase by 2,000 each year through 2006–07.

Doctor's Degrees

Doctor's degree projections for men assume that the number of degrees will increase by 100 each year through 1996–97 and then decrease by 100 each year through 2006–07. Doctor's degree projections for women were based on a time trend variable. The results of the regression analysis used to project doctor's degrees for women are shown in table A3.3.

First-Professional Degrees

First-professional degree projections by sex were based on first-professional enrollment by attendance status in 4-year institutions. Results of the regression analysis used to project first-professional degrees by sex are shown in table A3.4.

Methodological Tables

These tables describe equations used to calculate projections (tables A3.1 through A3.4), and basic assumptions underlying projections (table A3.5).

Projection Accuracy

An analysis of projection errors from similar models used in the past 11 editions of *Projections of Education Statistics* indicates that mean absolute percentage errors (MAPEs) for bachelor's degree projections were 2.0 percent for 1 year out, 3.3 percent for 2 years out, and 7.5 percent for 5 years out. For the 1-year-out prediction, this means that one would expect the projection to be within 2.0 percent of the actual value, on the average. For first-professional degrees, the MAPEs were 2.4, 3.4, and 1.9 percent, respectively. For doctor's degrees, based on the past ten editions of *Projections of Education Statistics*, the MAPEs were 2.4, 4.4, and 10.0 percent, respectively. MAPEs for master's degrees, based on the past nine editions of *Projections of Education Statistics*, were 2.3, 5.1, and 12.5, respectively. MAPEs for associate degrees, based on the past seven editions of *Projections of Education Statistics*, were 2.2 percent for 1 year out, 4.2 percent for 2 years out, and 7.2 percent for 3 years out.

Table A3.1.—Equations for associate degrees

		Equation	R^2	Durbin-Watson statistic [1]	Estimation technique
Men	ASSOCM	= 100,660 + 73.3UGFTM2 + 29.5UGPTM2 (1.5) (1.6)	0.76	1.6	AR1 [2]
Women	ASSOCW	= 26,616.0 + 257.8UGFTW2 (15.2)	0.99	1.6	AR1 [3]

R^2 = Coefficient of determination.

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251–252.

[2] AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. The maximum likelihood procedure of the Regression Analysis of Time Series (RATS) software was used to estimate rho. In this equation, rho is equal to 0.63 with a t-statistic of 2.8. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315-318.

[3] AR1 equals an estimation procedure for correcting the problem of first-order autocorrelation. Specifically, the maximum likelihood procedure of the statistical program RATS was used to estimate rho. In this equation, rho is equal to 0.71 with a t-statistic of 4.4.

Where:

ASSOCM =Number of associate degrees awarded to men
ASSOCW =Number of associate degrees awarded to women

UGFTM2 =Full-time male undergraduate enrollment in 2-year institutions lagged 2 years
UGPTM2 =Part-time male undergraduate enrollment in 2-year institutions lagged 2 years
UGFTW2 =Full-time female undergraduate enrollment in 2-year institutions lagged 2 years

NOTE: Numbers in parentheses are t-statistics. The time period of observations used in the equations is from 1970–71 to 1993–94.

Table A3.2.—Equations for bachelor's degrees

		Equation	R^2	Durbin-Watson statistic [1]	Estimation technique
Men	BACHM	= 251,385 - 12.2P1824M + 176.9UGFT4M (-3.4) (5.3)	0.85	1.7	AR1 [2]
Women	BACHW	= 246,422 - 18.2P1824W + 234.2UGFT4W (-4.0) (17.6)	0.99	1.4	AR1 [3]

R^2 = Coefficient of determination.

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251–252.

[2] AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. The maximum likelihood procedure of the Regression Analysis of Time Series (RATS) software was used to estimate rho. In this equation, rho is equal to 0.60 with a t-statistic of 3.3. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315-318.

[3] AR1 equals an estimation procedure for correcting the problem of first-order autocorrelation. The maximum likelihood procedure of the Regression Analysis of Time Series (RATS) software was used to estimate rho. In this equation, rho is equal to 0.71 with a t-statistic of 4.6.

Where:

BACHM =Number of bachelor's degrees awarded to men
BACHW =Number of bachelor's degrees awarded to women
P1824M =Population of 18- to 24-year-old men
P1824W =Population of 18- to 24-year-old women
UGFT4M =Full-time male undergraduate enrollment in 4-year institutions lagged 2 years
UGFT4W =Full-time female undergraduate enrollment in 4-year institutions lagged 3 years

NOTE: Numbers in parentheses are t-statistics. The time period of observations used in the equations is from 1970–71 to 1993–94.

Table A3.3.—Equation for doctor's degrees

			Equation	R^2	Durbin-Watson statistic [1]	Estimation technique
Women	DOCW	=	4,613.9 + 472.4TIME (39.5)	0.99	0.5	OLS [2]

R^2 = Coefficient of determination.

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251–252.

[2] OLS equals Ordinary Least Squares.

Where:

DOCW =Number of doctor's degrees awarded to women
TIME =Time trend, 1970–71 equals 1

NOTE: Numbers in parentheses are t-statistics. The time period of observations used in the equations is from 1970–71 to 1993–94.

Table A3.4.—Equations for first-professional degrees

		Equation	R^2	Durbin-Watson statistic [1]	Estimation technique
Men	FPROM	= 5,465.1 + 261.9FPFTM (8.4)	0.91	2.0	AR1 [2]
Women	FPROW	= -1,756.4 + 276.6FPFTW + 381.5FPPTW (16.1) (2.5)	0.99	1.8	OLS [3]

R^2 = Coefficient of determination.

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251–252.

[2] AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. The maximum likelihood procedure of the Regression Analysis of Time Series (RATS) software was used to estimate rho. In this equation, rho is equal to 0.51 with a t-statistic of 2.5. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315-318.

[3] OLS equals Ordinary Least Squares.

Where:

FPROM =Number of first-profesional degrees awarded to men
FPROW =Number of first-professional degrees awarded to women
FPFTM =Full-time male first-professional enrollment lagged 2 years
FPFTW =Full-time female first-professional enrollment lagged 1 year
FPPTW =Part-time female first-professional enrollment lagged 2 years

NOTE: Numbers in parentheses are t-statistics. The time period of observations used in the equations is from 1970–71 to 1993–94

Table A3.5.— Earned degrees conferred (assumptions)

Variables	Assumptions	Alternatives	Tables
Associate degrees			
Men	The number of associate degrees awarded to men is a linear function of full-time and part-time undergraduate enrollment in 2-year institutions lagged 2 years. This relationship will continue through 2006–07.	Middle	27
Women	The number of associate degrees awarded to women is a linear function of full-time undergraduate enrollment in 2-year institutions lagged 2 years. This relationship will continue through 2006–07.	Middle	27
Bachelor's degrees			
Men	The number of bachelor's degrees awarded to men is a linear function of full-time undergraduate enrollment in 4-year institutions lagged 2 years and the 18- to 24-year-old population. This relationship will continue through 2006–07.	Middle	28
Women	The number of bachelor's degrees awarded to women is a linear function of full-time undergraduate enrollment in 4-year institutions lagged 3 years and the 18- to 24-year-old population. This relationship will continue through 2006–07.	Middle	28
Master's degrees			
Men	The number of master's degrees awarded to men will increase by 2,000 each year through 2006–07.	Middle	29
Women	The number of master's degrees awarded to women will increase by 2,000 each year through 2006–07.	Middle	29
Doctor's degrees			
Men	The number of doctor's degrees awarded to men will increase by 100 each year through 1996–97 and then decrease by 100 through 2006–07.	Middle	30
Women	The number of doctor's degrees awarded to women is a linear function of time. This relationship will continue through 2006–07.	Middle	30
First-professional degrees			
Men	The number of first-professional degrees awarded to men is a linear function of full-time first-professional enrollment lagged 2 years. This relationship will continue through 2006–07.	Middle	31
Women	The number of first-professional degrees awarded to women is a linear function of full-time first-professional enrollment lagged 1 year and part-time first-professional enrollment lagged 2 years. This relationship will continue through 2006–07.	Middle	31

A4. Classroom Teachers

Public Classroom Teachers

Numbers of public elementary and secondary classroom teachers were projected using a model similar to that used in *Projections of Education Statistics to 2006*, but the coefficients were re-estimated. The number of public school teachers was projected separately for the elementary and secondary levels. The elementary teachers were modeled as a function of disposable income per capita, local education revenue receipts from state sources per capita, and elementary enrollment. Secondary teachers were modeled as a function of disposable income per capita, education revenue receipts from state sources per capita (lagged 3 years), and secondary enrollment. Both disposable income per capita and local education revenue receipts from state sources were in constant 1986–87 dollars.

The equations in this section should be viewed as forecasting rather than structural equations, as the limitations of time and available data precluded the building of a large-scale, structural teacher model. The particular equations shown were selected on the basis of their statistical properties, such as coefficients of determination (R^2s), the t-statistics of the coefficients, the Durbin-Watson statistic, and residual plots.

The multiple regression technique will yield good forecasting results only if the relationships that existed among the variables in the past continue throughout the projection period.

The public elementary classroom teacher model is:

$$ELTCH = b_0 + b_1PCI87 + b_2SGRANT + b_3ELENR$$

where:

ELTCH is the number of public elementary classroom teachers.

PCI87 is disposable income per capita in 1986–87 dollars;

SGRANT is the level of education revenue receipts from state sources per capita in 1986–87 dollars; and

ELENR is the number of students enrolled in public elementary schools.

Each variable affects the number of teachers in the expected way. As people receive more income, as the state spends more money on education, and as enrollment increases, the number of elementary teachers hired increases.

The public secondary classroom teacher model is:

$$SCTCH = b_0 + b_1PCI87 + b_2SGRANT3 + b_3SCENR$$

where:

SCTCH is the number of public secondary classroom teachers;

PCI87 is disposable income per capita in 1986–87 dollars;

SGRANT3 is the level of education revenue receipts from state sources per capita in 1986–87 dollars, lagged 3 years, and;

SCENR is the number of students enrolled in public secondary schools.

Each variable affects the number of teachers in the expected way. As people receive more income, as the state spends more money on education, and as enrollment increases, the number of secondary teachers hired increases.

Table A4.1 summarizes the results for the elementary and secondary public teacher models.

Enrollment is by organizational level, not by grade level. Thus, secondary enrollment is not the same as grade 9–12 enrollment because some states count some grade 7 and 8 enrollment as secondary. Therefore, the distribution of the number of teachers is also by organizational level, not by grade span.

Private Classroom Teachers

Projections of private classroom teachers were derived in the following manner. For 1960 to 1993, the ratio of private school teachers to public school teachers was calculated by organizational level. These ratios were projected using single exponential smoothing, yielding a constant value over the projection period. This constant value was then applied to projections of public school teachers by organizational level to yield projections of private school teachers. This method assumes that the future pattern in the trend of private school teachers will be the same as that for public school teachers. The reader is cautioned that a number of factors could alter the assumption of constant ratios over the projection period.

The total number of public school teachers, enrollment by organizational level, and education revenue receipts from state sources used in these projections were from the Common Core of Data (CCD) survey conducted by NCES. The proportion of public school teachers by organizational level was taken from the National Education Association and then applied to the total number of teachers

from CCD to produce the number of teachers by organizational level.

Disposable income was obtained from DRI/McGraw-Hill and population data, used for per capita calculations, were from the Bureau of the Census.

Projection Accuracy

An analysis of projection errors from the past 13 editions of *Projections of Education Statistics* indicated that the mean absolute percentage errors (MAPEs) for projections of classroom teachers in public elementary and secondary schools were 0.9 percent for 1 year out, 1.3 percent for 2 years out, 2.5 percent for 5 years out, and 3.4 percent for 10 years out. For the 2-year-ahead prediction, this means that one would expect the projection to be within 1.3 percent of the actual value, on the average.

Table A4.1.—Equations for public elementary and secondary classroom teachers

		Equation	R^2	Durbin-Watson statistic [1]	Estimation technique
Elementary	ELTCH	= - 219.7 + 0.037PCI87 + 0.8SGRANT (4.0) (1.8) + 0.03ELENR (4.6)	0.99	1.5	AR1 [2]
Secondary	SCTCH	= - 195.7 + 0.03PCI87 + 0.4SGRANT3 (6.0) (2.4) + 0.04SCENR (16.4)	0.96	1.1	OLS [3]

R^2 = Coefficient of determination.

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251–252.

[2] AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. In this equation, rho is equal to 0.87 with a t-statistic of 8.0. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315-318.

[3] OLS equals Ordinary Least Squares.

Where:

ELTCH =Number of public elementary classroom teachers
SCTCH =Number of public secondary classroom teachers
PCI87 =Disposable income per capita in 1986–87 dollars
SGRANT =Education revenue receipts from state sources per capita
SGRANT3 =Education revenue receipts from state sources per capita lagged 3 years
ELENR =Number of students enrolled in public elementary schools
SCENR =Number of students enrolled in public secondary schools

NOTE: Numbers in parentheses are t-statistics. The time period of observations used in the equation for elementary teachers is from 1960 to 1993. The time period used in the equation for secondary teachers is from 1965 to 1993.

A5. Expenditures of Public Elementary and Secondary Schools

Econometric techniques were used to produce the projections for current expenditures and average teacher salaries. The equations in this chapter should be viewed as forecasting equations rather than structural equations. The particular equations shown were selected on the basis of their statistical properties, such as coefficients of determination (R^2's), the t-statistics of the variables, the Durbin-Watson statistic, and residual plots. These econometric models will yield good forecasting results only if the relationships that existed among the variables in the past continue throughout the projection period.

The Elementary and Secondary School Current Expenditure Model

There has been a large body of work, both theoretical and empirical, on the demand for local public services such as education.* The elementary and secondary school current expenditure model is based on this work.

The model that is the basis for the elementary and secondary school current expenditure model has been called the median voter model. In brief, the theory states that spending for each public good in the community (in this case, education) reflects the preferences of the "median voter" in the community. This individual is identified as the voter in the community with the median income and median property value. Hence, the amount of spending in the community reflects the price of education facing the voter with the median income, as well as his income and tastes. There are competing models in which the level of spending reflects the choices of others in the community, such as the "bureaucrats." The median voter model was chosen as the basis of the elementary and secondary school current expenditure model as it has been the one most thoroughly studied.

There have been many empirical studies of the demand for education expenditures using the median voter model. In most instances, researchers have used cross-sectional data. The elementary and secondary school current expenditure model was built on the knowledge gained from these cross-sectional studies and was adapted from them for use in a time series study.

In a median voter model, the demand for education expenditures is typically linked to four different types of variables: 1) measures of the income of the median voter; 2) measures of intergovernmental aid for education going indirectly to the median voter; 3) measures of the price to the median voter of providing one more dollar of education expenditures per pupil; and 4) any other variables that may affect one's tastes for education. The elementary and secondary school current expenditure model contains variables reflecting the first three types of variables. The model is:

$$\ln(\text{CUREXP}) = b_0 + b_1\ln(\text{PCI}) + b_2\ln(\text{SGRNT}) + b_3\ln(\text{ADAPOP})$$

where:

ln indicates the natural log;

CUREXP equals current expenditures of public elementary and secondary schools per pupil in average daily attendance in constant 1982–84 dollars;

PCI equals disposable income per capita in constant 1992 dollars;

SGRNT equals local governments' education revenue receipts from state sources, per capita, in constant 1982–84 dollars; and

ADAPOP equals the ratio of average daily attendance to the population.

The model was estimated using the AR1 model for correcting for autocorrelation. This was done because the test statistics were significantly better than those from the ordinary least squares (OLS) estimation, and the Durbin-Watson statistic was in the inconclusive region when the model was estimated using OLS. This is the fifth edition of *Projections of Education Statistics* in which this method of estimation, rather than OLS, was used. Ordinary least squares was used in the previous four editions of *Projections of Education Statistics*. The sample period was from 1959–60 to 1993–94.

There are potential problems with using a model for local government education expenditures for the nation as a whole. Two such problems concern the variable SGRNT. First, the amount of money which local governments receive for education from state government varies substantially by state. Second, the formulas used to apportion state moneys for education among local governments vary by state.

Beginning in 1988–89, there was a major change in the survey form used to collect data on current expenditures. This new survey form produces a more complete measure of current expenditures; therefore, the values for current expenditures are not completely comparable to the previously collected numbers. In a crosswalk study, data

*For a review and discussion of this literature, see Inman, R. P. (1979), "The fiscal performance of local governments: an interpretive review," in *Current Issues in Urban Economics*, edited by P. Mieszkowski and M. Straszheim, Johns Hopkins Press, Baltimore, Maryland.

for a majority of states were also collected for 1986–87 and 1987–88 that were comparable to data from the new survey form. A comparison of these data with those from the old survey form suggests that the use of the new survey form may have increased the national figure for current expenditures by approximately 1.4 percent over what it would have been if the survey form had not been changed. When the model was estimated, all values for current expenditures before 1988–89 were increased by 1.4 percent.

The results for the model are shown in table A5.1. Each variable affects current expenditures in the direction that would be expected. As people receive more income, either directly (PCI) or from the state government (SGRNT), the level of spending increases. As the number of pupils increases relative to the population (that is, as ADAPOP increases), the level of spending per pupil falls.

From the cross-sectional studies of the demand for education expenditures, we have an estimate of how sensitive current expenditures are to changes in PCI and ADAPOP. We can compare the results from this model with those from the cross-sectional studies. For this model, an increase in PCI of 1 percent, with SGRNT and ADAPOP held constant, would result in an increase of current expenditures per pupil in average daily attendance of approximately 0.58 percent. With PCI and SGRNT held constant, an increase of 1 percent in ADAPOP would result in a decrease in current expenditures per pupil in average daily attendance of approximately 0.32 percent. Both numbers are well within the range of what has been found in cross-sectional studies.

The results from this model are not completely comparable with those from some of the previous editions of *Projections of Education Statistics*. First, as with the previous edition, the population number for each school year is the Bureau of the Census's July 1 population number for the upcoming school year. In earlier editions, each school year's population number was the average of the DRI/McGraw-Hill's estimated population numbers of each quarter in that school year. Second, there was a change in the definition of the disposable income.

Projections for total current expenditures were made by multiplying the projections for current expenditures per pupil in average daily attendance by projections for average daily attendance. The projections for total current expenditures were divided by projections for fall enrollment to produce projections of current expenditures per pupil in fall enrollment. Projections were developed in 1982–84 dollars and then placed in 1994–95 dollars using the Consumer Price Index. Current-dollar projections were produced by multiplying the constant-dollar projections by projections for the Consumer Price Index.

Three alternative sets of projections for current expenditures are presented: the middle alternative projections; the low alternative projections; and the high alternative projections. The alternative sets of projections differ because of varying assumptions about the growth paths for disposable income and revenue receipts from state sources.

The alternative sets of projections for the economic variables including disposable income were developed using variations of three economic scenarios developed by DRI for use on its U.S. Quarterly Model. The U.S. Quarterly model is an econometric model of the U.S. economy developed by DRI for the personal computer which projects more than 1,200 economic concepts. Periodically, DRI supplies alternative economic scenarios of the economy, including long-term scenarios. Users have the option of either producing projections directly from the scenarios supplied by DRI or first altering some of the underlying assumptions of the scenarios and then producing the projections. The May 1996 series of long-term scenarios was used as a base for the three sets of alternative economic projections used here, although there were some changes in the underlying assumptions.

DRI's trend scenario was used as a base for the middle alternative projections of the economic variables. DRI's trend scenario depicts a mean of possible paths that the economy could take over the forecast period, barring major shocks. The economy, in this scenario, evolves smoothly, if unspectacularly. The only change from DRI's trend scenario was that the most recent middle set of population projections as developed by the Bureau of the Census was substituted for DRI's population projections.

DRI's pessimistic scenario was used as a base for the low alternative projections. As with the middle set of projections, the Bureau of the Census's recent middle set of population projections was substituted for DRI's population projections. For the low alternative projections, some changes were made in some of DRI's assumptions concerning personal income that resulted in lower projections for disposable income.

Similarly, DRI's optimistic scenario was used as a base for the high alternative projections. The Bureau of the Census's recent middle set of population projections was substituted for DRI's population projections and some changes were made in some of DRI's assumptions concerning personal income that resulted in higher projections for disposable income.

Hence, using DRI's U.S. Quarterly Model and their May 1996 long-term scenarios, three sets of projections, the middle alternative projections, the low alternative projections, and the high alternative projections, were developed for the economic variables.

In the middle alternative projections, disposable income per capita rises each year from 1996–97 to 2006–07 at rates between 0.8 percent and 1.4 percent. In the low alternative projections, disposable income per capita ranges between 0.2 percent and 1.0 percent, and in the high alternative projections, disposable income per capita rises at rates between 1.3 percent and 2.1 percent.

The greatest differences among the three alternative projections for the percent changes for disposable income per capita occur in the first years of the projection period. This is because the three alternative sets of projections are based on quite different assumptions for the short term path of the economy. With the middle alternative projections, the economy is in a moderate recovery; with

the low alternative projections, the economy is growing slowly; and with the high alternative projections, the economy is booming. For the later years of the projection period, the economy is assumed to be growing at steady rates for each alternative set of projections. Hence, the percent changes for disposable income per capita (and many other economic variables) are similar for the three alternative sets of projections for the later years of the projection period.

The alternative projections for revenue receipts from state sources were produced using the following model:

$$\ln(SGRNT) = b_0 + b_1\ln(PERTAX1) + b_2\ln(ADAPOP) + b_3\ln(RCPIANN/RCPIANN1)$$

where:

ln indicates the natural log;

SGRNT equals local governments' education revenue receipts from state sources, per capita, in constant 1982–84 dollars;

PERTAX1 equals personal taxes and nontax receipts to state and local governments, per capita, in constant 1982–84 dollars lagged one period;

ADAPOP equals the ratio of average daily attendance to the population;

RCPIANN equals the inflation rate measured by the Consumer Price Index; and

RCPIANN1 equals the inflation rate measured by the Consumer Price Index lagged 1 period.

This equation was estimated using the AR1 model for correcting for autocorrelation. The sample period was from 1960–61 to 1993–94. Add factors were applied to each year's forecast. For most years, the add factor equaled the difference between the actual value for the last year in the sample period, 1993–94, and the predicted value. This resulted in forecasts that were somewhat less than those produced by the model. These models are shown in table A5.1.

The values of the coefficients in this model follow expectations. As state governments receive more revenue (higher PERTAX1), they have more money to send to local governments for education. As the enrollment increases relative to the population (higher ADAPOP), so does the amount of aid going to education. Finally, in years with rapidly increasing inflation (higher RCPIANN/RCPIANN1), the real dollar values of revenue receipts from state governments to local governments would fall, other things being equal.

This is the first edition of the *Projections of Education Statistics* that this model has been used to create projections of SGRNT. The model used in *Projections of Education Statistics to 2006* was identical to the model used in this edition except that it contained a second measure of state and local government revenue. In earlier editions, similar models were used except the variables were not in log form.

The three alternative sets of projections for SGRNT were produced using this model. Each is based on a different set of projections for personal taxes and the rate of change in the inflation rate. The middle set of projections was produced using the values for these variables from the middle set of alternative projections. The low set of projections was produced using the values from the low set of alternative projections and the high set of projections was produced using the values from the high set of alternative projections. In the middle set of projections, personal taxes and nontax receipts increase at rates between 1.6 percent and 2.5 percent. In the low set of projections, personal taxes and nontax receipts increase at rates between 1.2 percent and 1.9 percent. In the high set of projections, personal taxes and nontax receipts increase at rates between 1.8 percent and 3.5 percent.

In the middle set of projections, revenue receipts from state sources increase at rates between 0.9 percent and 2.0 percent for the period from 1996–97 to 2006–07. In the low set of projections, they increase at rates between 0.3 percent and 1.6 percent. In the high set of projections, they increase at rates between 1.2 percent and 2.5 percent.

The Elementary and Secondary Teacher Salary Model

Most studies conducted on teacher salaries, like those on current expenditures, have used cross-sectional data. Unlike current expenditures models, however, the models for teacher salaries from these existing cross-sectional studies cannot easily be reformulated for use with time-series data. One problem is that we do not have sufficient information concerning the supply of qualified teachers who are not presently teaching. Hence, the elementary and secondary salary model contains terms that measure the demand for teachers in the economy.

The elementary and secondary teacher salary model is:

$$\ln(SALRY) = b_0 + b_1\ln(CUREXP) + b_2\ln(ADAPOP) + b_3\ln(ADA1/ADA2)$$

where:

ln indicates the natural log;

SALRY equals the average annual salary of teachers in public elementary and secondary schools in constant 1982–84 dollars;

CUREXP equals current expenditures of public elementary and secondary schools per pupil in average daily attendance in constant 1982–84 dollars;

ADAPOP equals the ratio of average daily attendance to the population;

ADA1 equals the average daily attendance lagged 1 period; and

ADA2 equals the average daily attendance lagged 2 periods.

The model was estimated using the period from 1959–60 to 1993–94 as a sample period. The AR1 model for correcting for autocorrelation was used as the Durbin-Watson statistic was in the inconclusive region when the model was estimated using OLS.

While there are values for teacher salaries through 1995–96, the model was estimated using the period from 1959–60 to 1993–94 as there are values for current expenditures only through 1993–94. The actual values for teacher salaries for 1994–95 and 1995–96, not those estimated using the model, appear in table 36. The projected values for teacher salaries for the projection period from 1996–97 to 2006–07 also are not the numbers which appear in table 36. Rather, three new sets of projections for teacher salaries were calculated. Add factors were used for each projection from 1996–97 to 2006–07. In each case, the add factor equaled the difference between the actual value for 1995–96 and the value projected by the model.

Due to the effects on current expenditures caused by the change in survey forms discussed above, the values for current expenditures for 1959–60 to 1987–88 were increased by 1.4 percent when the salary model was estimated. The coefficients of the salary model are different than if the unadjusted numbers for current expenditures had been used and hence the forecasts are different.

The results for this model are also shown in table A5.1. There is no literature for comparing the sizes of the coefficients. However, the direction of the impact each variable has on salaries is as expected: As the level of spending per pupil increases (higher CUREXP), more teachers can be hired, so demand for teachers increases and salaries may increase; as the number of students increases (higher ADAPOP and ADA1/ADA2), demand for teachers increases, so salaries increase.

This model was also used to produce the projections of teacher salaries presented in the *Projections of Education Statistics to 2006*. In seven earlier editions, similar models were used except the variables were not in log form.

As with current expenditures, three different scenarios are presented for teacher salaries. The same projections for ADAPOP and ADA are used for each alternative projection; the sole difference between the projections is in the projection for current expenditures. The middle alternative projection for salaries uses the middle alternative projection for current expenditures. The low alternative projection for salaries uses the low alternative projection for current expenditures. The high alternative projection for salaries uses the high alternative projection for current expenditures.

Current expenditures, average teacher salaries, and the number of teachers are interrelated. Hence, an exercise was conducted to see whether the projections of these three time series were consistent.

The number of teachers was multiplied by the average salary and then divided by current expenditures for every school year from 1981–82 until 2006–07 (using the middle alternative projection for teachers, salaries, and current expenditures). The resulting value shows the portion of current expenditures that is spent on teacher salaries. The portion of current expenditures that goes toward teacher salaries has been in a slow downward trend, with the teacher salary share falling from 41 percent in 1981–82 to 39 percent in 1993–94. With the projected values, the portion of current expenditures that go toward teacher salaries continues to fall slowly, falling to 35 percent in 2006–07.

The results of this exercise indicate that the projections of these three time series are consistent.

Projection Accuracy

This is the ninth consecutive year in which *Projections of Education Statistics* has contained projections of current expenditures and teacher salaries. The actual values of current expenditures and teacher salaries can be compared with the projected values in the previous editions to examine the accuracy of the models.

The projections from the various editions of *Projections of Education Statistics* were placed in 1981–82 dollars using the Consumer Price Indices that appeared in each edition.

The same set of independent variables has been used in the production of the current expenditure projections presented in the last nine editions of the *Projections of Education Statistics* including this one. There have been some differences in the construction of the variables however. First, with the *Projections of Education Statistics to 1997-98*, calendar year data were used for disposable income, the population, and the Consumer Price Index. With the later editions, school year data were used. Second, there have twice been revisions in the disposable income time series with the most recent revision affecting the time series used in this edition. Third, there have been two changes to the population variable. In the more recent editions, including this one, the Census's July 1 number for the population has been used. In the earlier editions, an average of the quarterly values was used. Also in the more recent editions, the U.S. Bureau of the Census's population projections have been used. In the earlier editions, the population projections came from an economic consulting firm, either DRI-McGraw/Hill or the WEFA Group.

There has also been a change in the estimation procedure. In the more recent editions, the AR1 model for correcting for autocorrelation was used to estimate the model. In the earlier editions, ordinary least squares was used to estimate the model.

There are several commonly used statistics which can be used to evaluate projections. The values for one of

these, the mean absolute percentage error (MAPE), are presented in table A5.2. MAPEs are presented for total current expenditures, current expenditures per pupil in average daily attendance, and teacher salaries.

To calculate the MAPEs presented in table A5.2, the projections of each variable were first grouped by lead time, that is: all the projections of each variable that were a given number of years from the last year in the sample period were grouped together. Next, the percent differences between each projection and its actual value were calculated. Finally, for each variable, the mean of the absolute values of the percent differences were calculated, with a seperate average for each lead time. These means are the MAPEs. Hence, on table A6.2, there are a series of MAPEs for each variable with a different MAPE for each lead time.

For some editions of the *Projections of Education Statistics*, the first projection to be listed did not have a lead time of one year. For example, in *Projections of Education Statistics to 2002*, the first projection to appear was for 1990–91. This projection was calculated using a sample period ending in 1988–89, so it had a lead time of two years. The value that appeared for 1989–1990 was from NCES *Early Estimates*. Only those projections which appeared in an edition of *Projections of Education Statistics* were used in this evaluation.

Some of the differences between the actual values and the projected values for current expenditures and current expenditures per pupil are due to the change in the survey form for current expenditures that took place in 1988–89. The results of the crosswalk study suggest that values for current expenditures as presently collected are approximately 1.4 percent higher than they would have been if no change had been made. If the projections for 1988–89, 1989–90, and 1990–91 which appeared in *Projections of Education Statistics to 1997–98*, *Projections of Education Statistics to 2000*, *Projections of Education Statistics to 2001: An Update*, are increased by 1.4 percent, some MAPEs decrease. MAPEs for current expenditures and current expenditures per pupil after this adjustment has been made can also be found in table A5.2.

Projections for teacher salaries also appeared in the eight most recent editions of *Projections of Education Statistics*.

Beginning with the previous edition, *Projections of Education Statistics to 2006*, there was one major change in the model used for teacher salary projections; all the variables were placed in log form. With this change in functional form, there was also a change in the way the change in enrollment was measured. In this edition, the change in enrollment was measured by taking the ratio of the average daily attendance lagged one period to the average daily attendance lagged two periods. In the previous three editions of *Projections of Education Statistics*, the change in enrollment was measured by the change from the previous year in average daily attendance lagged one period. In *Projections of Education Statistics to 1997-*, *Projections of Education Statistics to 2000*, and *Projections of Education Statistics to 2001*, both the change in average daily attendance lagged one period and the change in average daily attendance lagged two periods were included in the model.

There was a major difference between the model used to produce the teacher salary projections in *Projections of Education Statistics to 1997–98* and those used in the later editions including this one: variables in the model were calculated using calendar year data for the population and the Consumer Price Index rather than school year data as in previous editions.

Sources of Past and Projected Data

Numbers from several different sources were used to produce these projections. In some instances, the time series used were made by either combining numbers from various sources or manipulating the available numbers. The sources and the methods of manipulation are described here.

The time series used for current expenditures was compiled from several different sources. For the school years ending in even numbers from 1959–60 to 1975–76, the numbers for current expenditures were taken from various issues of *Statistics of State School Systems*, published by NCES. The numbers for the school years ending in odd numbers during the 1960s were taken from various issues of the National Education Association's *Estimates of School Statistics*. For the school years ending in odd numbers during the 1970s, up to and including 1976–77, the numbers were taken from various issues of *Revenues and Expenditures for Public Elementary and Secondary Education*, published by NCES. For the school years from 1977–78 until 1993–94, the numbers were taken from the NCES Common Core of Data survey and unpublished data.

For 1974–75 and 1976–77, expenditures for summer schools were subtracted from the published figures for current expenditures. The value for 1972–73 was the sum of current expenditures at the local level, expenditures for administration by state boards of education and state departments of education, and expenditures for administration by intermediate administrative units.

Note that although the data from the different sources are similar, they are not entirely consistent. Also, the NCES numbers beginning with 1980–81 are not entirely consistent with the earlier NCES numbers, due to differing treatments of items such as expenditures for administration by state governments and expenditures for community services.

An alternative source for current expenditures would have been the Bureau of the Census's F-33 which offers statistics at the district level. This level of detail was not needed however.

For most years, the sources for the past values of average daily attendance were identical to the sources for current expenditures. For 1978–79, the number was taken from *Revenues and Expenditures for Public Elementary and Secondary Education*.

Projections for average daily attendance for the period from 1994–95 to 2006–07 were made by multiplying the projections for enrollment by the average value of the

ratios of average daily attendance to the enrollment from 1984–85 to 1993–94; this average value was approximately 0.93 .

The values for fall enrollment from 1959–60 to 1977–78 were taken from issues of the NCES publication *Statistics of Public Elementary and Secondary Schools*. The 1978–79 value was taken from the *NCES Bulletin* of October 23, 1979, "Selected Public and Private Elementary and Secondary Education Statistics." The values from 1979–80 to 1994–95 were taken from the NCES Common Core of Data survey. The projections for fall enrollment are those presented in Chapter 1.

For 1959–60 to 1993–94, the sources for revenue receipts from state sources were the two NCES publications *Statistics of State School Systems* and *Revenues and Expenditures for Public Elementary and Secondary Education* and the NCES Common Core of Data survey. The methods for producing the alternative projections for revenue receipts from state sources are outlined above.

The numbers for average teacher salaries were taken from various issues of the National Education Association's *Estimates of School Statistics*.

The projected values for disposable income, personal taxes and nontax receipts to state and local governments, and indirect business taxes and tax accruals to state and local governments, were developed using DRI/McGraw-Hill's U.S. Quarterly Model. Projected values of the Bureau of Labor Statistics' Consumer Price Index for all urban consumers, which was used for adjusting current expenditures, teacher salaries, revenue receipts from state sources, and the state revenue variables, were also developed using the U.S. Quarterly Model. As the DRI/McGraw-Hill's May 1996 projections ended in the fourth quarter of 2006, projections for the first two quarters of 2007 were developed using the percent changes from the third quarter of 2006 to the fourth quarter of that year. DRI/McGraw-Hill supplied the historic values for these variables.

Both the historic and projected values for the population were supplied by the U.S. Bureau of the Census.

The values of all the variables from DRI were placed in school-year terms. The school-year numbers were calculated by taking the average of the last two quarters of 1 year and the first two quarters of the next year.

The Elementary and Secondary School Price Index was considered as a replacement for the Consumer Price Index for placing current expenditures and teacher salaries in constant dollars. As projections of the price index are required for placing the forecasts into current dollars, and as there are no projections of the Elementary and Secondary School Price Index, the Consumer Price Index was used. There are other price indexes, such as the implicit price deflator for state and local government purchases, that could have been used instead of the Consumer Price Index. These alternatives would have produced somewhat different projections.

Table A5.1.—Equations for current expenditures per pupil in average daily attendance, average annual salaries of teachers, and education revenue receipts from state sources

Dependent variable	Equation	$\bar{R}^2$	Durbin-Watson statistic	Estimation technique*	Rho
Current expenditures per pupil	ln(CUREXP) = - 1.474 + 0.582ln(PCI) + 0.598ln(SGRNT) (-1.33) (2.84) (4.82) - 0.320ln(ADAPOP) (-2.58)	0.997	1.929	AR1	0.413 (2.47)
Average annual salaries	ln(SALRY) = 7.55 + 0.46ln(CUREXP) + 0.67ln(ADAPOP) (33.0) (11.99) (5.75) + 1.34ln(ADA1/ADA2) (3.54)	0.981	1.563	AR1	0.821 (7.14)
Education revenue receipts from state sources per capita	ln(SGRNT) = 2.4 + 0.70ln(PERTAX1) + 0.48ln(ADAPOP) (19.2) (27.1) (4.67) - 0.03ln(RCPIANN/RCPIANN1) (-1.96)	0.991	1.977	AR1	.452 (2.60)

*AR1 is an estimation procedure for correcting the problem of first-order autocorrelation. For a general discussion of the problem of autocorrelation, and the methods to correct it, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, chapter 8. For a discussion of the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315–318.

Where:

ln indicates the natural log
CUREXP =Current expenditures of public elementary and secondary schools per pupil in average daily attendance in constant 1982–84 dollars
SALRY =Average annual salary of teachers in public elementary and secondary schools in constant 1982–84 dollars
SGRNT =Local governments' education revenue receipts from state sources, per capita, in constant 1982–84 dollars
PCI =Disposable income per capita in constant 1992 dollars
ADAPOP =Ratio of average daily attendance to the population
PERTAX1 =Personal taxes and nontax receipts to state and local governments, per capita, in constant 1982–84 dollars lagged one period
RCPIANN =Inflation rate measured by the Consumer Price Index
RCPIANN1 =Inflation rate measured by the Consumer Price Index lagged 1 period
ADA1 =Average daily attendance lagged 1 period
ADA2 =Average daily attendance lagged 2 periods

NOTES: The time period of observations used in the equation for revenue receipts from state sources is from 1960–61 to 1993–94. The time period of observations used in the equations for current expenditures and teacher salaries is from 1959–60 to 1993–94. Numbers in parentheses are t-statistics. $\bar{R}^2$ = Coefficient of determination, adjusted for degrees of freedom. For an explanation of the Durbin-Watson statistic, see J. Johnston, (1972), pages 251–252. Rho is the first order autocorrelation coefficient estimated when AR1 is used. (This table was prepared September 1996.)

Table A5.2.—Mean absolute percentage errors by lead time for current expenditures in public elementary and secondary schools, current expenditures per pupil in average daily attendance (ADA) in public elementary and secondary schools, and average annual teacher salaries of classroom teachers in public elementary and secondary schools, all in constant dollars

Lead Time (years)	Mean absolute percentage errors				
	Current Expenditures		Current Expenditures - Adjusted [1]		Average annual salaries
	Total	Per pupil in ADA	Total	Per pupil in ADA	
One	1.4%	1.1%	0.9%	0.7%	1.3%
Two	2.1%	1.4%	1.4%	0.9%	1.6%
Three	1.8%	1.6%	1.4%	1.4%	2.4%
Four	2.1%	2.3%	1.8%	2.6%	4.7%
Five	1.4%	2.5%	2.2%	3.6%	7.8%
Six	1.1%	2.5%	2.5%	3.9%	9.9%
Seven	3.4%	3.9%	4.8%	5.4%	11.9%
Eight [2]	—	—	—	—	13.0%
Nine [2]	—	—	—	—	15.7%

[1] Values for current expenditures and current fund expenditures per pupil in average daily attendance from *Projections of Education Statistics to 1997–98*, *Projections of Education Statistics to 2000*, and *Projections of Education Statistics to 2001: An Update* were increased by 1.4 percent to compensate for the change in the survey for current expenditures which occurred in 1988–89.

[2] Actual values of current expenditures were not available to calculate mean absolute percentage errors of lead times of eight and nine years.

SOURCES: Various issues of *Projections of Education Statistics*. (This table was prepared September 1996.)

A6. Expenditures of Institutions of Higher Education

Six higher education expenditure models were estimated: one current-fund expenditure model and one educational and general expenditure model for each of three types of higher education institutions—public 4-year; public 2-year; and private 4-year. In each case, econometric techniques were used. Due to the lack of a consistent database for private 2-year schools, the last actual values, for 1993–94, were used as constants. These values for private 2-year schools were used in the tables for expenditures in all institutions (tables 37 and 38.)

The higher education econometric models were selected on the basis of their statistical properties, such as the coefficients of determination (R^2), the t-statistics of the variables, the Durbin-Watson statistic, and residual plots. These econometric models will yield good forecasting results only if the relationships that existed among the variables in the past continue throughout the projection period.

Higher Education Institutions Expenditure Models

Similar econometric models were developed for the three types of institutions. While there has been significantly less work by economists studying the factors influencing higher education finance data than those influencing elementary and secondary finance data, there have been some valuable studies. This body of work was used in building these models.

In Chapter 7, some of the factors that are historically associated with the level of expenditures are discussed. These are: (1) the state of the economy; (2) the inflation rate; and (3) enrollments. Each of the models presented here contains variables measuring at least two of these three factors. Either disposable income per capita or revenues of state and local governments per capita was used to measure the state of the economy. Two measures of the inflation rate were considered: the rate of change in the inflation rate; or a dummy for years with inflation rates greater than 8 percent. In each equation, an enrollment variable was included.

For each dependent variable, a number of alternative specifications were examined. In each case, the choice of the final specification was made after considering such factors as the coefficients of determination, the t-statistics of the variables, residual plots, and ex-post mean absolute percent errors. The final specification of each model has the dependent variables and some of the independent variables as first differences.

The Public 4-Year Institutions Expenditure Models

The public 4-year institutions current-fund expenditure model is:

$$\text{DPUTCUR4} = b_0 + b_1\text{DSTREV1} + b_2\text{DPUFTE4} + b_3\text{DUMMY}$$

where:

DPUTCUR4 is the change from the previous year in current-fund expenditures per student in full-time-equivalent (FTE) enrollment in public 4-year institutions in constant 1982–84 dollars;

DSTREV1 is the change from the previous year in the sum of personal tax and nontax receipts to state and local governments and indirect business taxes and tax accruals, excluding property taxes, to state and local governments, per capita, in constant 1982–84 dollars lagged one year;

DPUFTE4 is the change from the previous year in FTE enrollment in public 4-year institutions in thousands of students; and

DUMMY is a dummy variable equaling 1 when the inflation rate is greater than 8 percent and 0 otherwise.

This model and the other econometric models were estimated using a sample period from 1968–69 to 1993–94. Ordinary least squares was used to estimate all the public institution models.

The results for this model are in table A6.1. Each variable affects current-fund expenditures in a logical fashion. The more revenues that state and local governments receive, the more expenditures they can make for public institutions of higher education. In a year with high inflation (DUMMY equals 1), current-fund expenditures in constant dollars are lower than they would have been otherwise. The more students in public 4-year institutions, the less money to be spent per student.

Three projections were produced: the middle alternative set of projections, the low alternative set of projections, and the high alternative set of projections. Each set of projections was based on a different set of assumptions for the revenues of state and local governments per capita. The projections for revenues of state and local governments per capita and the other economic variables used to produce the higher education expenditure projections were produced using the U.S. Quarterly Model of DRI/McGraw–Hill's

(DRI). The development of these alternative sets of projections is discussed in Appendix A5.

In the middle set of alternative projections, the revenues of state and local governments per capita increase at rates between 1.1 percent and 2.4 percent. In the low set of alternative projections, the revenues of state and local governments per capita increase at rates between 0.6 percent and 1.5 percent. In the high set of alternative projections, the revenues of state and local governments per capita increase at rates between 1.6 percent and 3.5 percent.

Projections for total current-fund expenditures were made by multiplying the projections for current-fund expenditures per student in FTE enrollment by projections for FTE enrollment. Projections were developed in 1982–84 dollars and then placed in 1994–95 dollars using projections for the Consumer Price Index. Current dollar projections were produced by multiplying the constant dollar projections by projections for the Consumer Price Index. All the higher education total expenditure projections, all expenditure projections in 1994–95 dollars, and all the current dollar projections were calculated in similar fashion.

A model for educational and general expenditures of public 4-year institutions was developed using the same variables as the current-fund expenditure model. The model is:

$$DPUED4 = b_0 + b_1DSTREV1 + b_2DPUFTE4 + b_3DUMMY$$

where:

DPUED4 is the change from the previous year in educational and general expenditures per student in FTE enrollment in public 4-year institutions in constant 1982–84 dollars.

This model is also shown in table A6.1.

As with current-fund expenditures, each variable affects expenditures in the expected way.

The Public 2-Year Institutions Expenditure Models

The public 2-year institutions current-fund expenditure model has a form similar to the public 4-year institutions current-fund expenditure model except that the public 2-year institutions model does not contain any inflation variables. The model is:

$$DPUTCUR2 = b_0 + b_1DSTREV1 + b_2DPUFTE2$$

where:

DPUTCUR2 is the change from the previous year in current-fund expenditures per student in FTE enrollment in public 2-year institutions in constant 1982–84 dollars;

DPUFTE2 is the change from the previous year in FTE enrollment in public 2-year institutions in thousands of students.

The results for this model are in table A6.1. Again, DSTREV1 has the expected positive effect on expenditures and the FTE enrollment variable has the expected negative impact.

The public 2-year institutions educational and general expenditure model is virtually identical to its current-fund expenditures counterpart. It is:

$$DPUED2 = b_0 + b_1DSTREV1 + b_2DPUFTE2$$

where:

DPUED2 is the change from the previous year in educational and general expenditures per student in FTE enrollment in public 2-year institutions in constant 1982–84 dollars.

The results of this model appear in table A6.1.

The Private 4-Year Institutions Expenditure Models

The private 4-year institutions current-fund expenditure model is:

$$DPRTCUR4 = b_0 + b_1DPCI + b_2DPRFTE4 + b_3ININCR$$

where:

DPRTCUR4 is the change from the previous year in current-fund expenditures per student in FTE enrollment in private 4-year institutions in constant 1982–84 dollars;

DPCI is the change from the previous year in disposable income per capita in 1987 dollars;

DPRFTE4 is the change from the previous year in FTE enrollment in private 4-year institutions to the population in thousands; and

ININCR is the rate of change in the inflation rate measured by the Consumer Price Index.

The model was estimated using the AR1 method for correcting for autocorrelation.

The three alternative sets of projections for current-fund expenditures were produced using varying assumptions about the growth paths for disposable income and the rate of change in the inflation rate measured by the Consumer Price Index. These disposable income and inflation rate projections were also developed using the U.S. Quarterly Model of DRI/McGraw-Hill.

In the middle set of projections, disposable income per capita rises each year from 1996–97 to 2006–07 at rates

between 0.8 percent and 1.4 percent. In the low set of projections, disposable income per capita increases at rates between 0.2 percent and 1.0 percent. In the high set of projections, disposable income per capita increases at rates between 1.3 percent and 2.1 percent.

In the middle set of projections, the inflation rate varies between 2.8 percent and 4.1 percent. In low set of projections, it varies between 3.9 percent and 5.2 percent, and in the high set of projections, it varies between 2.1 percent and 4.0 percent.

The private 4-year institutions educational and general expenditure model is:

$$\text{DPRIED4} = b_0 + b_1\text{DPCI} + b_2\text{DPRFTE4} + b_3\text{ININCR}$$

where:

DPRIED4 is the change in educational and general expenditures per student in FTE enrollment in private 4-year institutions in constant 1982–84 dollars.

The results of this model appear in table A6.1.

The Private 2-Year Institutions Expenditure Models

Unlike the other higher education variables, econometric methods were not used for either private 2-year current-fund expenditures or private 2-year educational and general expenditures. This was due to a change in the sample universe for private 2-year institutions. The period for which the private 2-year universe is relatively consistent, from 1982–83 to 1993–94, has only twelve observations. This is too short a period for econometric techniques, so another means of projecting private 2-year institution expenditures was required. Hence, both current-fund expenditures per student and educational and general expenditures per student were assumed to stay constant at the last year for which there are data, 1993–94. These values for private 2-year schools were used in the tables for expenditures in all institutions (tables 37 and 38.)

Projection Accuracy

This is the sixth time in the past ten years that *Projections of Education Statistics* has contained projections of higher education expenditure data. The other five editions were the *Projections of Education Statistics to 2006*, *Projections of Education Statistics to 2005*, *Projections of Education Statistics to 2004*, *Projections of Education Statistics to 2003* and *Projections of Education Statistics to 2000*. The projections that appeared in the four most recent editions *Projections of Education Statistics* were developed using the same methodology as that presented here. Those that appeared in *Projections of Education Statistics to 2000* were produced using different models.

There are several commonly used statistics which can be used to evaluate projections. The values for one of these, the mean absolute percentage error (MAPE), are presented in table A6.2. MAPEs are presented for current-fund expenditures and for educational and general expenditures by several different breakdowns. Two alternative sets of MAPEs are presented: with one set, the projections from the last four editions of the *Projections of Education Statistics* were used in the calculations; with the other, the projections from the *Projections of Education Statistics to 2000* were also included.

To calculate the MAPEs presented in table A6.2, the projections of each variable were first grouped by lead time, that is: all the projections of each variable that were a given number of years from the last year in the sample period were grouped together. Next, the percent differences between each projection and its actual value were calculated. Finally, for each variable, the mean of the absolute values of the percent differences were calculated, with a seperate average for each lead time. These means are the MAPEs. Hence, in table A6.2, there are a series of MAPEs for each variable with a different MAPE for each lead time.

Sources of Data

The current-fund expenditure data and the educational and general expenditure data are from the "Financial Statistics of Institutions of Higher Education" and the Integrated Postsecondary Education Data System (IPEDS) "Finance" surveys of the National Center for Education Statistics (NCES). One manipulation of the educational and general expenditures numbers was required. From 1968–69 to 1973–74, student-aid expenditures were a separate component of current-fund expenditures. From 1974–75 on, scholarships and fellowships have been a component of educational and general expenditures. Hence, for the period 1968–69 to 1973–74, student aid was added to the published numbers for educational and general expenditures.

The full-time-equivalent (FTE) enrollment data are from the "Fall Enrollment in Colleges and Universities" surveys of NCES. The FTE enrollment figures for 1968–69, 1969–70, and 1970–71 were estimated using part-time and full-time enrollment data. Full-time-equivalent enrollment was derived by adding one-third of the part-time students to the number of full-time students for those three years.

The projected values for disposable income and the revenues of state and local governments per capita were developed using DRI/McGraw-Hill's U.S. Quarterly Model. Projected values of the Bureau of Labor Statistics' Consumer Price Index for all urban consumers, which were used for adjusting the higher education finance data, and the implicit price deflator for personal consumption expenditures, which was used for adjusting disposable income per capita, were also developed using the U.S. Quarterly Model. DRI/McGraw-Hill supplied the historic values for these variables.

Both the historic and projected values for the population were supplied by the U.S. Bureau of the Census.

The Higher Education Price Index was considered as a replacement for the Consumer Price Index for placing the higher education expenditures in constant dollars. As projections of the price index are required for placing the forecasts into current dollars, and as there are no projections of the Higher Education Price Index, the Consumer Price Index was used.

The values of all of the variables from DRI were placed in academic-year terms. The data were available in quarterly format so the academic-year numbers were calculated by taking the average of the last 2 quarters of 1 year with the first 2 of the next year.

Table A6.1.—Equations for current-fund expenditures per student in full-time-equivalent enrollment and educational and general expenditures per student in full-time-equivalent enrollment in public 4-year institutions, public 2-year institutions, and private 4-year institutions

Dependent variable	Equation	$\bar{R}^2$	Durbin-Watson statistic	Estimation technique*	Rho
Current-fund expenditures per student in public 4-year institutions	DPUTCUR4 = 275 + 2.34DSTREV1 - 0.002DPUFTE4 (5.48) (2.36) (-5.89) - 229DUMMY (-3.45)	0.708	1.91	OLS	
Current-fund expenditures per student in public 2-year institutions	DPUTCUR2 = 22.8 + 3.35DSTREV1 - 0.001DPUFTE2 (0.75) (4.82) (-4.46)	0.735	2.10	OLS	
Current-fund expenditures per student in private 4-year institutions	DPRTCUR4 = 466 + 0.29DPCI - 0.009DPRFTE4 (3.80) (2.03) (-5.84) - 489.0ININCR (-5.54)	0.760	1.98	AR1	0.72 (4.90)
Educational and general expenditures per student in public 4-year institutions	DPUED4 = 223 + 2.10DSTREV1 - 0.002DPUFTE4 (4.31) (2.06) (-5.98) - 216DUMMY (-3.16)	0.694	1.63	OLS	
Educational and general expenditures per student in public 2-year institutions	DPUED2 = 15.2 + 3.47DSTREV1 - 0.0006DPUFTE2 (0.46) (4.55) (-3.3)	0.666	1.77	OLS	
Educational and general expenditures per student in private 4-year institutions	DPRIED4 = 204.9 + 0.30DPCI - 0.004DPRFTE4 (1.66) (1.42) (-1.96) - 426.0ININCR (-3.2)	0.453	2.27	AR1	0.54 (2.76)

*OLS = Ordinary Least Squares. AR1 is an estimation procedure for correcting the problem of first-order autocorrelation. For a general discussion of the problem of autocorrelation, and the methods to correct it, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, chapter 8. For a discussion of the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315–318.

Where:

DPUTCUR4 =Change from the previous year in current-fund expenditures per student in full-time-equivalent (FTE) enrollment in public 4-year institutions in constant 1982–84 dollars

DPUTCUR2 =Change from the previous year in current-fund expenditures per student in FTE enrollment in public 2-year institutions in constant 1982–84 dollars

DPRTCUR4 =Change from the previous year in current-fund expenditures per student in FTE enrollment in private 4-year institutions in constant 1982–84 dollars

DPUED4 =Change from the previous year in educational and general expenditures per student in FTE enrollment in public 4-year institutions in constant 1982–84 dollars

DPUED2 =Change from the previous year in educational and general expenditures per student in FTE enrollment in public 2-year institutions in constant 1982–84 dollars

DPRIED4 =Change in educational and general expenditures per student in FTE enrollment in private 4-year institutions in constant 1982–84 dollars

DSTREV1 =Change from the previous year in the sum of personal tax and nontax receipts to state and local governments and indirect business taxes and tax accruals, excluding property taxes, to state and local governments, per capita, in constant 1982–84 dollars lagged one year

DPCI =Change from the previous year in disposable income per capita in 1987 dollars

DPUFTE4 =Change from the previous year in FTE enrollment in public 4-year institutions in thousands of students

DPUFTE2 =Change from the previous year in FTE enrollment in public 2-year institutions in thousands of students

DPRFTE4 =Change from the previous year in FTE enrollment in private 4-year institutions to the population in thousands

DUMMY =Dummy variable equaling 1 when the inflation rate is greater than 8 percent and 0 otherwise

ININCR =Rate of change in the inflation rate measured by the Consumer Price Index

NOTES: The time period of observations used in the equations is from 1968–69 to 1993–94. Numbers in parentheses are t-statistics. $\bar{R}^2$ = Coefficient of determination, adjusted for degrees of freedom. For an explanation of the Durbin-Watson statistic, see J. Johnston, (1972), pages 251–252. Rho is the first order autocorrelation coefficient estimated when AR1 is used. (This table was prepared September 1996.)

Table A6.2.—Mean absolute percentage errors by lead time for current-fund expenditures and educational and general expenditures in constant dollars in public and private institutions of higher education by type

Lead Time (years)	Mean absolute percentage errors								
	Total	Public					Private		
		Total	4-year		2-year		Total	4-year	
			Total	Per student in FTE	Total	Per student in FTE		Total	Per student in FTE
Current-fund expenditures									
Last four editions[1]									
One	0.2%	0.3%	0.4%	0.6%	1.7%	1.5%	0.4%	0.6%	0.5%
Two	0.7%	0.5%	1.0%	1.7%	4.6%	2.5%	1.3%	1.4%	1.9%
Three	0.5%	0.4%	1.4%	2.7%	6.1%	3.6%	0.6%	0.6%	1.7%
Four	0.7%	1.2%	2.7%	0.7%	5.8%	0.0%	0.0%	0.2%	0.1%
Five editions[2]									
One	0.9%	0.7%	1.1%	1.2%	1.8%	1.6%	1.4%	1.5%	1.4%
Two	1.4%	0.6%	1.2%	1.8%	4.8%	3.2%	3.0%	3.0%	3.3%
Three	1.1%	0.3%	1.2%	2.3%	5.5%	4.5%	2.6%	2.6%	2.6%
Four	3.1%	2.3%	3.5%	1.0%	3.3%	3.5%	4.6%	4.8%	3.7%
Five	6.5%	4.3%	5.2%	0.6%	0.4%	7.3%	10.2%	10.3%	7.6%
Six	6.8%	4.4%	5.2%	0.7%	0.7%	16.9%	10.9%	11.0%	5.8%
Seven	6.8%	4.9%	6.1%	1.0%	0.5%	21.3%	10.0%	9.8%	1.6%
Eight	7.1%	5.4%	6.7%	0.9%	0.7%	19.7%	10.0%	9.7%	0.7%
Educational and general expenditures									
Last four editions[1]									
One	0.2%	0.3%	0.8%	1.0%	1.8%	1.7%	1.0%	1.0%	1.0%
Two	0.2%	0.4%	1.3%	1.7%	5.0%	2.7%	1.1%	1.2%	1.9%
Three	0.6%	0.2%	1.9%	2.4%	6.6%	3.6%	1.8%	1.8%	3.6%
Four	0.5%	1.9%	4.1%	0.6%	6.3%	0.5%	4.7%	4.6%	4.9%
Five editions[2]									
One	0.9%	0.7%	1.3%	1.4%	1.9%	1.8%	2.1%	2.1%	2.1%
Two	1.0%	0.5%	1.5%	1.8%	5.1%	3.4%	3.1%	3.1%	3.6%
Three	1.2%	0.2%	1.6%	2.1%	5.9%	4.6%	3.7%	3.7%	4.2%
Four	3.2%	2.7%	4.3%	1.1%	3.6%	3.8%	7.7%	7.7%	6.9%
Five	6.6%	3.6%	4.5%	0.2%	0.3%	7.4%	12.1%	12.2%	9.5%
Six	6.3%	2.7%	3.4%	2.7%	0.3%	17.5%	12.8%	12.8%	7.7%
Seven	6.1%	2.9%	3.9%	3.4%	0.7%	21.6%	11.8%	11.6%	3.5%
Eight	6.4%	3.1%	4.1%	3.7%	0.7%	19.7%	12.4%	12.1%	2.0%

[1] *Projections of Education Statistics to 2003*, *Projections of Education Statistics to 2004*, *Projections of Education Statistics to 2005*, and *Projections of Education Statistics to 2006*.

[2] *Projections of Education Statistics to 2000*, *Projections of Education Statistics to 2003*, *Projections of Education Statistics to 2004*, *Projections of Education Statistics to 2005*, and *Projections of Education Statistics to 2006*. The projections presented in the *Projections of Education Statistics to 2000* were calculated using significantly different models than those presented in later editions including this one.

SOURCES: Various issues of *Projections of Education Statistics*. (This table was prepared September 1996.)

Appendix B

Supplementary Tables

Table B1.—Annual number of births (U.S. Census Projections, Middle Series): 50 States and D.C., 1947 to 2007

(In thousands)

Calendar Year	Number of Births
1947	3,834
1948	3,655
1949	3,667
1950	3,645
1951	3,845
1952	3,933
1953	3,989
1954	4,102
1955	4,128
1956	4,244
1957	4,332
1958	4,279
1959	4,313
1960	4,307
1961	4,317
1962	4,213
1963	4,142
1964	4,070
1965	3,801
1966	3,642
1967	3,555
1968	3,535
1969	3,626
1970	3,739
1971	3,556
1972	3,258
1973	3,137
1974	3,160
1975	3,144
1976	3,168
1977	3,327
1978	3,333
1979	3,494
1980	3,612
1981	3,629
1982	3,681
1983	3,639
1984	3,669
1985	3,761
1986	3,757
1987	3,809
1988	3,910
1989	4,041
1990	4,148
1991	4,111
1992	4,065
1993	4,000
1994	3,979
1995*	3,961
	Projected
1996	3,921
1997	3,907
1998	3,899
1999	3,896
2000	3,898
2001	3,907
2002	3,920
2003	3,940
2004	3,967
2005	4,001
2006	4,042
2007	4,089

* Projected.

NOTE: Historical numbers may differ from those in previous editions.

Table B1.—Annual number of births (U.S. Census Projections, Middle Series):—Continued 50 States and D.C., 1947 to 2007

(In thousands)

SOURCE: U.S. Department of Commerce, Bureau of the Census, "Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2050," *Current Population Reports*, Series P-25, No. 1130, February 1996; U.S. Department of Health and Human Services, National Center for Health Statistics (NCHS), Annual Summary of Births, Marriages, Divorces, and Deaths: United States, various years, *Monthly Vital Statistics Reports*; and unpublished tabulations. (This table was prepared August 1996.)

Table B2.—Preprimary school-age populations (U.S. Census projections, Middle Series): 50 States and D.C., 1982 to 2007

(In thousands)

Year (July 1)	3 years old	4 years old	5 years old	3-5 years old
1982	3,361	3,298	3,274	9,933
1983	3,478	3,398	3,296	10,172
1984	3,527	3,518	3,397	10,442
1985	3,566	3,568	3,518	10,652
1986	3,579	3,610	3,568	10,757
1987	3,508	3,623	3,610	10,741
1988	3,619	3,556	3,627	10,802
1989	3,646	3,669	3,559	10,874
1990	3,658	3,697	3,679	11,034
1991	3,718	3,717	3,702	11,137
1992	3,814	3,780	3,724	11,318
1993	3,970	3,880	3,790	11,640
1994	3,992	4,034	3,886	11,912
1995 *	3,965	4,056	4,039	12,060
		Projected		
1996	3,893	4,026	4,059	11,978
1997	3,849	3,956	4,031	11,836
1998	3,830	3,911	3,962	11,703
1999	3,807	3,891	3,917	11,615
2000	3,791	3,869	3,896	11,556
2001	3,781	3,853	3,874	11,508
2002	3,775	3,843	3,858	11,476
2003	3,777	3,838	3,848	11,463
2004	3,781	3,838	3,844	11,463
2005	3,792	3,844	3,845	11,481
2006	3,807	3,854	3,850	11,511
2007	3,830	3,871	3,861	11,562

* Projected.

NOTE: Because of rounding, details may not add to totals. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Commerce, Bureau of the Census, "U.S. Population Estimates, by Age, Sex, Race, and Hispanic Origin: 1980 to 1991," *Current Population Reports*, Series P-25, No. 1095, February 1993; U.S. Population Estimates by Age, Sex, Race, and Hispanic Origin: 1990 to 1995, Appendix B, PPL-41; and "Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2050," *Current Population Reports*, Series P-25, No. 1130, February 1996; and unpublished tabulations. (This table was prepared August 1996.)

Table B3.—School-age populations (U.S. Census projections, Middle Series), ages 5, 6, 5–13, and 14–17 years: 50 States and D.C., 1982 to 2007

(In thousands)

Year (July 1)	5 years old	6 years old	5–13 years old	14–17 years old
1982	3,274	3,133	30,528	15,059
1983	3,296	3,276	30,278	14,740
1984	3,397	3,298	30,063	14,726
1985	3,518	3,399	29,893	14,888
1986	3,568	3,518	30,078	14,825
1987	3,610	3,568	30,501	14,503
1988	3,627	3,611	31,030	14,023
1989	3,559	3,625	31,412	13,535
1990	3,679	3,561	31,996	13,310
1991	3,702	3,681	32,497	13,422
1992	3,724	3,707	33,012	13,655
1993	3,790	3,732	33,500	13,929
1994	3,886	3,795	33,873	14,426
1995*	4,039	3,888	34,383	14,765
		Projected		
1996	4,059	4,038	34,810	15,167
1997	4,031	4,059	35,206	15,464
1998	3,962	4,032	35,608	15,503
1999	3,917	3,963	35,846	15,662
2000	3,896	3,917	36,044	15,752
2001	3,874	3,898	36,198	15,853
2002	3,858	3,876	36,276	16,091
2003	3,848	3,860	36,249	16,300
2004	3,844	3,850	36,055	16,638
2005	3,845	3,846	35,852	16,985
2006	3,850	3,846	35,668	17,238
2007	3,861	3,851	35,572	17,332

*Projected.

NOTE: Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Commerce, Bureau of the Census, "U.S. Population Estimates, by Age, Sex, Race, and Hispanic Origin: 1980 to 1991," *Current Population Reports*, Series P-25, No. 1095, February 1993; U.S. Population Estimates by Age, Sex, Race, and Hispanic Origin: 1990 to 1995, Appendix B, PPL-41; and "Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2050," *Current Population Reports*, Series P-25, No. 1130, February 1996; and unpublished tabulations. (This table was prepared August 1996.)

Table B4.—College-age populations (U.S. Census projections, Middle Series), ages 18, 18–24, 25–29, 30–34, and 35–44 years: 50 States and D.C., 1982 to 2007

(In thousands)

Year (July 1)	18 years old	18–24 years old	25–29 years old	30–34 years old	35–44 years old
1982	4,137	30,433	20,816	18,782	28,096
1983	3,977	30,173	21,260	19,137	29,336
1984	3,774	29,707	21,584	19,576	30,576
1985	3,686	29,152	21,804	20,102	31,766
1986	3,623	28,468	22,018	20,552	33,081
1987	3,704	27,931	21,982	21,058	34,299
1988	3,803	27,584	21,869	21,470	35,258
1989	3,888	27,378	21,690	21,759	36,494
1990	3,603	27,036	21,359	21,990	37,847
1991	3,386	26,561	20,859	22,238	39,352
1992	3,313	26,101	20,280	22,313	39,938
1993	3,397	25,813	19,722	22,303	40,825
1994	3,352	25,407	19,274	22,222	41,683
1995 *	3,508	25,035	19,068	21,921	42,522
			Projected		
1996	3,547	24,736	19,073	21,428	43,369
1997	3,659	24,807	18,918	20,833	43,989
1998	3,847	25,279	18,637	20,247	44,448
1999	3,849	25,828	18,222	19,780	44,719
2000	3,940	26,376	17,791	19,570	44,718
2001	3,949	26,975	17,296	19,590	44,459
2002	3,883	27,345	17,214	19,436	43,928
2003	4,007	27,798	17,359	19,157	43,305
2004	4,031	28,170	17,698	18,744	42,745
2005	4,052	28,384	18,126	18,307	42,223
2006	4,116	28,656	18,604	17,804	41,723
2007	4,213	28,937	19,015	17,722	40,964

* Projected.

NOTE: Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Commerce, Bureau of the Census, "U.S. Population Estimates, by Age, Sex, Race, and Hispanic Origin: 1980 to 1991," *Current Population Reports*, Series P-25, No. 1095, February 1993; U.S. Population Estimates by Age, Sex, Race, and Hispanic Origin: 1990 to 1995, Appendix B, PPL-41; and "Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2050," *Current Population Reports*, Series P-25, No. 1130, February 1996; and unpublished tabulations. (This table was prepared August 1996.)

Table B5.—Average daily attendance (ADA) in public elementary and secondary schools, change in ADA, the population, and ADA as a proportion of the population: 50 States and D.C., 1981–82 to 2006–07

Year ending	ADA [1] (in thousands)	Change in ADA	Population (in millions)	ADA as a ratio of the the population
1982	37,095	–609,092	230.0	0.161
1983	36,636	–458,784	232.2	0.158
1984	36,363	–272,890	234.3	0.155
1985	36,404	41,283	236.3	0.154
1986	36,523	118,842	238.5	0.153
1987	36,864	340,764	240.7	0.153
1988	37,051	186,840	242.8	0.153
1989	37,268	217,365	245.0	0.152
1990	37,799	531,224	247.3	0.153
1991	38,427	627,247	249.9	0.154
1992	38,961	534,240	252.6	0.154
1993	39,570	609,679	255.4	0.155
1994	40,146	575,931	258.1	0.156
1995 [2]	40,921	775,058	260.7	0.157
		Projected		
1996	41,667	745,269	263.0	0.158
1997	42,398	730,814	265.6	0.160
1998	43,004	606,200	268.0	0.160
1999	43,423	419,721	270.3	0.161
2000	43,761	337,396	272.6	0.161
2001	44,037	275,672	274.9	0.160
2002	44,260	222,993	277.2	0.160
2003	44,449	189,067	279.5	0.159
2004	44,581	132,107	281.8	0.158
2005	44,698	117,746	284.0	0.157
2006	44,787	89,050	286.3	0.156
2007	44,826	38,587	288.6	0.155

[1] Projections of average daily attendance were made by multiplying the forecasts for enrollment reported in chapter 1 by the average value of the ratio of average daily attendance to the enrollment from 1985 to 1994, approximately 0.93 percent.

[2] Average daily attendance is projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Commerce, Bureau of the Census, "U.S. Population Estimates, by Age, Sex, Race, and Hispanic Origin: 1980 to 1991," Series P–25, No. 1095, February 1994 and unpublished tabulations; U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*; Common Core of Data survey; and the Early Estimates survey; DRI/McGraw–Hill, 'U.S. Quarterly Model.' (This table was prepared September 1996.)

Table B6.—Disposable income per capita (in constant 1994–95 dollars),[1] with alternative projections: 50 states and D.C., 1981–82 to 2006–07

Year ending	Disposable income per capita		
1982	$16,091	—	—
1983	16,087	—	—
1984	16,871	—	—
1985	17,642	—	—
1986	17,967	—	—
1987	18,188	—	—
1988	18,602	—	—
1989	18,982	—	—
1990	19,152	—	—
1991	19,080	—	—
1992	19,139	—	—
1993	19,332	—	—
1994	19,438	—	—
1995	19,860	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1996	20,251	$20,251	$20,251
1997	20,473	20,455	20,527
1998	20,749	20,600	20,941
1999	21,031	20,721	21,388
2000	21,317	20,864	21,829
2001	21,527	20,958	22,169
2002	21,692	21,008	22,454
2003	21,894	21,100	22,771
2004	22,127	21,235	23,104
2005	22,377	21,394	23,442
2006	22,655	21,581	23,809
2007	22,883	21,716	24,129

[1] Based on the price deflator for personal consumption expenditures, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: DRI/McGraw-Hill, "U.S. Quarterly Model." (This table was prepared September 1996.)

Table B7.—Education revenue receipts from state source per capita (in constant 1994–95 dollars),[1] with alternative projections: 50 states and D.C., 1981–82 to 2006–07

Year ending	Education revenue receipts from state sources per capita		
1982	$365	—	—
1983	372	—	—
1984	380	—	—
1985	404	—	—
1986	427	—	—
1987	443	—	—
1988	449	—	—
1989	465	—	—
1990	471	—	—
1991	473	—	—
1992	469	—	—
1993	469	—	—
1994	468	—	—
1995[2]	470	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1996	473	$473	$473
1997	477	474	479
1998	483	481	485
1999	488	486	491
2000	497	494	504
2001	505	500	515
2002	511	504	523
2003	516	507	530
2004	521	511	539
2005	527	515	547
2006	532	519	554
2007	537	523	563

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*; Common Core of Data survey; and Early Estimates survey; and National Education Association, annual *Estimates of State School Statistics*. (Latest edition 1995–96. Copyright 1996 by the National Education Association. All rights reserved.) (This table was prepared September 1996.)

Table B8.—Consumer Price Index (base year 1994–95), with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Consumer Price Index		
1982	0.626	—	—
1983	0.652	—	—
1984	0.676	—	—
1985	0.703	—	—
1986	0.723	—	—
1987	0.740	—	—
1988	0.770	—	—
1989	0.805	—	—
1990	0.844	—	—
1991	0.890	—	—
1992	0.919	—	—
1993	0.947	—	—
1994	0.972	—	—
1995	1.000	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1996	1.028	1.028	1.028
1997	1.059	1.068	1.055
1998	1.089	1.114	1.078
1999	1.123	1.169	1.103
2000	1.159	1.228	1.131
2001	1.199	1.292	1.162
2002	1.241	1.358	1.196
2003	1.284	1.426	1.233
2004	1.332	1.498	1.274
2005	1.382	1.573	1.320
2006	1.437	1.652	1.369
2007	1.496	1.735	1.424

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: DRI/McGraw-Hill "U.S. Quarterly Model." (This table was prepared September 1996.)

Table B9.—Rate of change for the inflation rate based on the Consumer Price Index, with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Rate of change for the inflation rate		
1982	–0.252	—	—
1983	–0.508	—	—
1984	–0.134	—	—
1985	0.059	—	—
1986	–0.259	—	—
1987	–0.231	—	—
1988	0.859	—	—
1989	0.100	—	—
1990	0.047	—	—
1991	0.148	—	—
1992	–0.419	—	—
1993	–0.021	—	—
1994	–0.165	—	—
1995	0.099	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1996	–0.035	–0.035	–0.035
1997	0.102	0.378	–0.023
1998	–0.082	0.124	–0.202
1999	0.123	0.142	0.108
2000	0.040	0.026	0.070
2001	0.045	0.016	0.087
2002	0.014	–0.011	0.050
2003	0.022	–0.013	0.067
2004	0.040	–0.002	0.079
2005	0.035	–0.003	0.062
2006	0.038	–0.001	0.063
2007	0.045	0.004	0.068

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: DRI/McGraw–Hill "U.S. Quarterly Model." (This table was prepared September 1996.)

Table B10.—Personal tax and nontax payments to state and local governments, per capita (in constant 1994–95 dollars),[1] with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Personal tax and nontax payments per capita		
1982	$457	—	—
1983	472	—	—
1984	521	—	—
1985	545	—	—
1986	564	—	—
1987	608	—	—
1988	607	—	—
1989	630	—	—
1990	648	—	—
1991	645	—	—
1992	663	—	—
1993	674	—	—
1994	671	—	—
1995	668	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1996	682	$682	$682
1997	694	695	695
1998	708	705	716
1999	726	718	740
2000	744	732	765
2001	757	741	783
2002	769	750	802
2003	784	761	823
2004	798	772	843
2005	813	783	864
2006	829	795	886
2007	845	807	909

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: DRI/McGraw–Hill "U.S. Quarterly Model." (This table was prepared September 1996.)

Table B11.—Indirect business taxes and nontax accruals, excluding property taxes, for state and local governments, per capita (in constant 1994–95 dollars),[1] with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Indirect business taxes and nontax accruals per capita		
1982	$820	—	—
1983	839	—	—
1984	909	—	—
1985	953	—	—
1986	996	—	—
1987	1,012	—	—
1988	1,026	—	—
1989	1,029	—	—
1990	1,032	—	—
1991	1,016	—	—
1992	1,030	—	—
1993	1,042	—	—
1994	1,061	—	—
1995	1,079	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1996	1,095	$1,095	$1,095
1997	1,111	1,106	1,116
1998	1,127	1,111	1,143
1999	1,154	1,126	1,183
2000	1,172	1,135	1,211
2001	1,180	1,137	1,226
2002	1,188	1,139	1,240
2003	1,199	1,143	1,256
2004	1,211	1,150	1,272
2005	1,225	1,160	1,289
2006	1,240	1,171	1,307
2007	1,255	1,181	1,325

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: DRI/McGraw-Hill, "U.S. Quarterly Model." (This table was prepared September 1996.)

Table B12.—Sum of personal tax and nontax payments and indirect business taxes and tax accruals, excluding property taxes, for state and local governments per capita (in constant 1994–95 dollars),[1] with alternative projections: 50 States and D.C., 1981–82 to 2006–07

Year ending	Tax and nontax payments per capita		
1982	$1,278	—	—
1983	1,311	—	—
1984	1,429	—	—
1985	1,498	—	—
1986	1,560	—	—
1987	1,619	—	—
1988	1,633	—	—
1989	1,659	—	—
1990	1,680	—	—
1991	1,660	—	—
1992	1,692	—	—
1993	1,716	—	—
1994	1,732	—	—
1995	1,748	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1996	1,777	$1,777	$1,777
1997	1,805	1,801	1,810
1998	1,836	1,816	1,859
1999	1,880	1,843	1,923
2000	1,915	1,866	1,976
2001	1,937	1,878	2,009
2002	1,957	1,889	2,041
2003	1,982	1,904	2,078
2004	2,009	1,922	2,115
2005	2,038	1,943	2,153
2006	2,070	1,966	2,194
2007	2,100	1,988	2,234

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: DRI/McGraw–Hill "U.S. Quarterly Model." (This table was prepared September 1996.)

Appendix C

Data Sources

Sources and Comparability of Data

The information in this report was obtained from many sources, including Federal and state agencies, private research organizations, and professional associations. The data were collected by many methods, including surveys of a universe (such as all colleges) or of a sample, and compilations of administrative records. Care should be used when comparing data from different sources. Differences in procedures, such as timing, phrasing of questions, and interviewer training mean that the results from the different sources are not strictly comparable. More extensive documentation of one survey's procedures than of another's does not imply more problems with the data, only that more information is available.

Accuracy of Data

The accuracy of any statistic is determined by the joint effects of "sampling" and "nonsampling" errors. Estimates based on a sample will differ from the figures that would have been obtained if a complete census had been taken using the same survey instruments, instructions, and procedures. Besides sampling errors, both surveys, universe and sample, are subject to errors of design, reporting, processing, and errors due to nonresponse. To the extent possible, these nonsampling errors are kept to a minimum by methods built into the survey procedures. In general, however, the effects of nonsampling errors are more difficult to gauge than those produced by sampling variability.

Sampling Errors

The standard error is the primary measure of sampling variability. It provides a specific range—with a stated confidence—within which a given estimate would lie if a complete census had been conducted. The chances that a complete census would differ from the sample by less than the standard error are about 68 out of 100. The chances that the difference would be less than 1.65 times the standard error are about 90 out of 100. The chances that the difference would be less than 1.96 times the standard error are about 95 out of 100. The chances that it would be less than 2.58 times as large are about 99 out of 100.

The standard error can help assess how valid a comparison between two estimates might be. The standard error of a difference between two sample estimates that are uncorrelated is approximately equal to the square root of the sum of the squared standard errors of the estimates. The standard error (se) of the difference between sample estimate "a" and sample estimate "b" is:

$$se_{a-b} = (se_a^2 + se_b^2)^{1/2}$$

Note that most of the standard errors in subsequent sections and in the original documents are approximations. That is, to derive estimates of standard errors that would be applicable to a wide variety of items and could be prepared at a moderate cost, a number of approximations were required. As a result, most of the standard errors presented provide a general order of magnitude rather than the exact standard error for any specific item.

Nonsampling Errors

Both universe and sample surveys are subject to nonsampling errors. Nonsampling errors are of two kinds—random and nonrandom. Random nonsampling errors may arise when respondents or interviewers interpret questions differently, when respondents must estimate values, or when coders, keyers, and other processors handle answers differently. Nonrandom nonsampling errors result from total nonresponse (no usable data obtained for a sampled unit), partial or item nonresponse (only a portion of a response may be usable), inability or unwillingness on the part of respondents to provide information, difficulty interpreting questions, mistakes in recording or keying data, errors of collection or processing, and overcoverage or undercoverage of the target universe. Random nonresponse errors usually, but not always, result in an understatement of sampling errors and thus an overstatement of the precision of survey estimates. Because estimating the magnitude of nonsampling errors would require special experiments or access to independent data, these magnitudes are seldom available.

To compensate for suspected nonrandom errors, adjustments of the sample estimates are often made. For example, adjustments are frequently made for nonresponse, both total and partial. An adjustment made for either type of nonresponse is often referred to as an imputation, that is, substitution of the "average" questionnaire response for the nonresponse. Imputations are usually made separately within various groups of sample members that have similar survey characteristics. Imputation for item

nonresponse is usually made by substituting for a missing item the response to that item of a respondent having characteristics that are similar to those of the nonrespondent.

Although the magnitude of nonsampling errors in the data used in this *Projections of Education Statistics* is frequently unknown, idiosyncrasies that have been identified are noted on the appropriate tables.

Federal Agency Sources

National Center for Education Statistics (NCES)

Common Core of Data

NCES uses the Common Core of Data (CCD) survey to acquire and maintain statistical data on the 50 states, the District of Columbia, and the outlying areas from the universe of state-level education agencies. Information about staff and students is collected annually at the school, LEA (local education agency or school district), and state levels. Information about revenues and expenditures is also collected at the state and school district level.

Data are collected for a particular school year (July 1 through June 30) via survey instruments sent to the states by October 15 of the subsequent school year. States have 2 years in which to modify the data originally submitted.

Since the CCD is a universe survey, the CCD information presented in this edition of *Projections of Education Statistics* is not subject to sampling errors. However, nonsampling errors could come from two sources—nonreturn and inaccurate reporting. Almost all of the states submit the CCD survey instruments each year, but submissions are sometimes incomplete or too late for publication.

Understandably, when 57 education agencies compile and submit data for over 85,000 public schools and approximately 15,000 local school districts, misreporting can occur. Typically, this results from varying interpretation of NCES definitions and differing recordkeeping systems. NCES attempts to minimize these errors by working closely with the Council of Chief State School Officers (CCSSO).

The state education agencies report data to NCES from data collected and edited in their regular reporting cycles. NCES encourages the agencies to incorporate into their own survey systems the NCES items they do not already collect so that those items will also be available for the subsequent CCD survey. Over time, this has meant fewer missing data cells in each state's response, reducing the need to impute data.

NCES subjects data from the education agencies to a comprehensive edit. Where data are determined to be inconsistent, missing, or out of range, NCES contacts the education agencies for verification. NCES-prepared state summary forms are returned to the state education agencies for verification. States are also given an opportunity to use their state-level aggregates from the previous survey cycle.

Questions concerning the Common Core of Data can be directed to:

John Sietsema
Surveys and Cooperative Systems Group
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208

Early Estimates System. The early estimates system is designed to allow NCES to report selected key statistics early in the school year. The information is collected through contact with public school state education agencies.

The source of universe statistical information about public elementary and secondary education is the Common Core of Data (CCD)—data collected annually by NCES from state education agencies. These data are reported to NCES in March, undergo NCES and state editing, and become available for publication in Fall—a full year after the beginning of the school year. High school graduate and fiscal data are reported a year later than student and teacher data. In contrast, the estimates included in this report are made in December of the school year to which they apply.

Forty-seven states, the District of Columbia, and three outlying areas participated in the public school early estimates survey in 1995. The estimates reported here were provided by state education agencies and represent the best information on public elementary and secondary schools available to states at this early stage of the school year. They are, however, subject to revision. The estimates for the remaining three states and two outlying areas were imputed by NCES.

The source of universe statistical information on private schools in the United States is the Private School Survey. The private school universe consists of a diverse population of schools, including those with a religious orientation (for example, Catholic, Lutheran, and Jewish) as well as nonsectarian schools that include programs ranging from regular to special emphasis and special education.

Questions concerning the Early Estimates System can be directed to:

Frank Johnson
Surveys and Cooperative Systems Group
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208

Private School Early Estimates System: 1992–93. Early in September 1992, advance questionnaires were mailed to a national probability sample of 1,167 private elementary and secondary schools. Telephone collection of the data began in early October and was completed in mid-October. The telephone data collection used Computer Assisted Telephone Interviewing (CATI) technology to collect the data and perform preliminary edits. The overall response rate was 93.3 percent: 1,045 of the 1,120 eligible schools. Some 47 of the original 1,167 schools in the sample were determined to be out-of-scope. After

adjusting for out-of-scope schools, the weighted estimate of private schools is 26,011.

The sampling frame used for the Private School Early Estimates Survey was the 1991–92 NCES Private School Survey (PSS). This survey collected information on the number of teachers and students in private schools, by school religious orientation and level as well as actual and projected counts of high school graduates. The PSS, and therefore the early estimates survey, uses two nonoverlapping frames: the list frame of approximately 24,000 eligible schools (the universe list), and an area frame developed by the Census Bureau, consisting of 355 schools identified in 124 sampled geographic areas (Primary Sampling Units or PSUs). The area frame is constructed from a sample survey designed to capture those schools not included in the universe list and is repeated every 2 years. The 355 schools identified in the sampled areas are weighted to a national estimate of the number of private schools not included in the universe list. This weighted number is then added to the universe count to produce an estimate of the total number of private schools in the United States.

For the early estimates, the list frame was stratified by level of school (elementary, secondary, and combined) and religious orientation (Catholic, other religious, and nonsectarian). Within strata, schools were further sorted by Census region (Northeast, Midwest, South, and West), by urbanicity (urban, suburban, and rural) within region, and by student membership size within urbanicity. Each school in the sorted frame was assigned a sampling measure of size equal to the square root of student membership.

The area frame was stratified by level of school (elementary, secondary, and combined) and religious orientation (Catholic, other religious, and nonsectarian). Within strata, schools were further sorted by FIPS (Federal Information Processing Standards) state code, by PSU within state, and by student membership within PSU. Samples were selected with probabilities proportionate to size from each stratum. The measure of size used for this purpose was the square root of student membership multiplied by the inverse of the probability of selection of the PSU in which the school is located.

The estimation procedure is a two-step process. The first step is to produce estimates based on the NCES frame for private schools (1991–92 Private School Survey). These estimates are adjusted for total school nonresponse, as well as item nonresponse. The second step is to update the PSS based estimates, using the data collected in the 1992 Early Estimates Survey (EES). This EES update is a ratio estimate of the 1992 estimate from EES divided by the 1991 estimate based on the 1991 PSS data for the EES sample. The estimates in the tables are the PSS based estimates times the EES update. The early estimates in this report incorporate the relevant estimates from the PSS and update them using data collected in the EES.

The private school early estimates are based on a sample; these estimates may differ somewhat from figures that would have been obtained if a complete census of private schools had been taken using the same questionnaire and procedures. The standard error indicates the magnitude of the sampling error, the variability due to sampling when estimating a statistic. It indicates how much variance there is in the population of possible estimates of a parameter for a given sample size. Standard errors can be used as a measure of the precision expected from a particular sample. If all possible samples were surveyed under similar conditions, intervals of 1.96 standard errors below to 1.96 standard errors above a particular statistic would include the true population parameter being estimated in about 95 percent of the samples. This is a 95 percent confidence interval. For example, for the ratio of private school pupils to private school teachers in 1992–93, the estimate for all private schools is 14.9 and the standard error is 0.2. The 95 percent confidence interval for this statistic extends from 14.9 - (0.2 times 1.96) to 14.9 + (0.2 times 1.96) or from 14.5 to 15.3. The standard error for the 4,964,258 students in private schools is 116,612. The 95 percent confidence interval for this statistic extends from 4,735,698 to 5,192,818.

Estimates of standard errors were computed using a variance estimation procedure for complex sample survey data known as balanced repeated replication (BRR)—a technique that splits the sample into several different half-samples. Weight adjusted estimates are computed from the half-samples. Finally, the standard error of the half-sample estimates is used as an approximation for the full-sample standard error. The standard errors for private school early estimates for school years 1991–92 and 1992–93 are shown in the table below.

Students (1992–93)	Teachers (1992–93)	Graduates (1991–92)
116,612.2	8,714.8	6,071.4

Survey estimates are also subject to errors of reporting and errors made in the collection and processing of the data. These errors, called nonsampling errors, can sometimes bias the data. While general sampling theory can be used to estimate the sampling variability of an estimate, nonsampling errors are not easy to measure and usually require either an experiment conducted as part of the data collection procedure or use of data external to the study.

Nonsampling errors may include such things as differences in the respondents' interpretation of the meaning of the questions, differences related to the particular time the survey was conducted, or errors in data preparation. The content of the survey was developed in consultation with representatives of private school associations attending NCES meetings for users of private school data. The questionnaire and instructions were reviewed extensively by NCES staff. The CATI instrument provided on-line internal consistency checks (i.e., totals equal sum of parts) as well as consistency checks with 1991 data for the sample school. Interviewers resolved discrepancies with the school during the course of the interview. Machine editing of the questionnaires was conducted to check the data for accuracy and consistency. Data inputs into the

CATI system were transferred directly to processing, avoiding potential keying errors.

Undercoverage in the list and area frames is another possible source of nonsampling error. The area frame was used to complement the list frame through the identification of schools missing from the list frame. The area frame represents approximately 10 percent of the total number of private schools. The 1991–92 list and area frame updates to the PSS were reflected in this year's early estimates, and so schools newly opened since 1989 are included in those new estimates.

Questions concerning the Private School Early Estimates System can be directed to:

Frank H. Johnson
Surveys and Cooperative Systems Group
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208

Integrated Postsecondary Education Data System

The Integrated Postsecondary Education Data System (IPEDS) surveys all postsecondary institutions, including universities and colleges, as well as institutions offering technical and vocational education beyond the high school level. This survey, which began in 1986, replaces and supplements the Higher Education General Information Survey (HEGIS).

The IPEDS consists of several integrated components that obtain information on who provides postsecondary education (institutions), who participates in it and completes it (students), what programs are offered and what programs are completed, and both the human and financial resources involved in the provision of institutionally based postsecondary education. Specifically, these components include: "Institutional Characteristics," including institutional activity; fall enrollment, including age and residence; fall enrollment in occupationally specific programs; completions; finance; staff; salaries of full-time instructional faculty; and academic libraries.

The higher education portion of this survey is a census of accredited 2- and 4-year colleges. Prior to 1993, data from the technical and vocational institutions were collected through a sample survey. Beginning in 1993, all data are gathered in a census of all postsecondary institutions. Thus, some portions of the data will be subject to sampling and nonsampling errors, while some portions will be subject only to nonsampling errors.

Prior to the establishment of IPEDS in 1986, HEGIS acquired and maintained statistical data on the characteristics and operations of institutions of higher education. Implemented in 1966, HEGIS was an annual universe survey of institutions listed in the latest NCES *Education Directory, Colleges and Universities.*

The information presented in this report draws on IPEDS surveys that solicited information concerning institutional characteristics, enrollment, degrees, and finances. The her education portion of this system is a census of redited 2- and 4-year colleges. Since these surveys cover all institutions in the universe, the data are not subject to sampling error.

However, they are subject to nonsampling error, the sources of which vary with the survey instrument. Each survey will therefore be discussed separately. Information concerning the nonsampling error of the enrollment and degrees surveys is drawn extensively from the HEGIS Post-Survey Validation Study conducted in 1979.

Institutional Characteristics. This survey provided the basis for the universe of institutions presented in the *Education Directory, Colleges and Universities.* The universe comprised institutions that met certain accreditation criteria and offered at least a 1-year program of college-level studies leading toward a degree. All of these institutions were certified as eligible by the U.S. Department of Education's Division of Eligibility and Agency Evaluation. Each fall, institutions listed in the previous year's *Directory* were asked to update a computer printout of their information.

Fall Enrollment. This survey has been part of the IPEDS or HEGIS series since 1966. The enrollment survey response rate was relatively high; the 1993 response rate was 97.0 percent. Major sources of nonsampling error for this survey were classification problems, the unavailability of needed data, interpretation of definitions, the survey due date, and operational errors. Of these, the classification of students appears to have been the main source of error. Institutions had problems in correctly classifying first-time freshmen, other first-time students, and unclassified students for both full-time and part-time categories. These problems occurred most often at 2-year institutions (private and public) and private 4-year institutions. In the 1977–78 HEGIS validation studies, the classification problem led to an estimated overcount of 11,000 full-time students and an undercount of 19,000 part-time students. Although the ratio of error to the grand total was quite small (less than 1 percent), the percentage of errors was as high as 5 percent for detailed student levels and even higher at certain aggregation levels.

Beginning with fall 1986, the survey system was redesigned with the introduction of the Integrated Postsecondary Education Data System (IPEDS) (see above). The new survey system comprises all postsecondary institutions, but also maintains comparability with earlier surveys by allowing HEGIS institutions to be tabulated separately. The new system also provides for preliminary and revised data releases. This allows the Center flexibility to release early data sets while still maintaining a more accurate final data base.

Completions. This survey was part of the HEGIS series throughout its existence. However, the degree classification taxonomy was revised in 1970–71, 1982–83, and 1991–92. Collection of degree data has been maintained through the IPEDS system.

Though information from survey years 1970–71 through 1981–82 is directly comparable, care must be taken if information before or after that period is included in any field of study comparison. The nonresponse rate did not appear to be a significant source of nonsampling error

for this survey. The return rate over the years was high, with the response rate for the 1991–92 survey at 94.1 percent. Because of the high return rate, nonsampling error caused by imputation was also minimal.

The major sources of nonsampling error for this survey were differences between the NCES program taxonomy and taxonomies used by the colleges, classification of double majors and double degrees, operational problems, and survey timing. In the 1979 HEGIS validation study, these sources of nonsampling were found to contribute to an error rate of 0.3 percent overreporting of bachelor's degrees and 1.3 percent overreporting of master's degrees. The differences, however, varied greatly among fields. Over 50 percent of the fields selected for the validation study had no errors identified. Categories of fields that had large differences were business and management, education, engineering, letters, and psychology. It was also shown that differences in proportion to the published figures were less than 1 percent for most of the selected fields that had some errors. Exceptions to these were: master's and doctor's programs in labor and industrial relations (20 percent and 8 percent); bachelor's and master's programs in art education (3 percent and 4 percent); bachelor's and doctor's programs in business and commerce, and in distributive education (5 percent and 9 percent); master's programs in philosophy (8 percent); and doctor's programs in psychology (11 percent).

Financial Statistics. This survey was part of the HEGIS series and has been continued under the IPEDS system. Changes were made in the financial survey instruments in fiscal years (FY) 1976, 1982, and 1987. The FY 76 survey instrument contained numerous revisions to earlier survey forms and made direct comparisons of line items very difficult. Beginning in FY 82, Pell Grant data were collected in Federal restricted grants and contracts revenues and restricted scholarships and fellowships expenditures. The introduction of the Integrated Postsecondary Education Data System (IPEDS) in the FY 87 survey included several important changes to the survey instrument and data processing procedures. While these changes were significant, considerable effort has been made to present only comparable information on trends in this report and to note inconsistencies. Finance tables for this publication have been adjusted by subtracting the largely duplicative Pell Grant amounts from the later data to maintain comparability with pre-FY 82 data.

Possible sources of nonsampling error in the financial statistics include nonresponse, imputation, and misclassification. The response rate has been about 85 to 90 percent for most of the years reported. The response rate for the FY 1991 survey was 86.7 percent.

Two general methods of imputation were used in HEGIS. If the prior years' data were available for a nonresponding institution, these data were inflated using the Higher Education Price Index and adjusted according to changes in enrollments. If there were no data for the previous four years, current data were used from peer institutions selected for location (state or region), control, level, and enrollment size of institution. In most cases, estimates for nonreporting institutions in IPEDS were made using data from peer institutions.

Beginning with FY 87, the new system (IPEDS) comprises all postsecondary institutions, but also maintains comparability with earlier surveys by allowing 2- and 4-year HEGIS institutions to be tabulated separately. The finance data tabulated for this publication reflect totals for the HEGIS or higher education institutions only.

To reduce reporting error, NCES used national standards for reporting finance statistics. These standards are contained in *College and University Business Administration: Administrative Services (1974 Edition)* and the *Financial Accounting and Reporting Manual for Higher Education (1990 Edition)* published by the National Association of College and University Business Officers; *Audits of Colleges and Universities* (as amended August 31, 1974), by the American Institute of Certified Public Accountants; and *HEGIS Financial Reporting Guide (1980)*, by NCES. Wherever possible, definitions and formats in the survey are consistent with those in these four accounting texts.

Questions concerning the surveys used as data sources for this report or other questions concerning HEGIS can be directed to:

Surveys and Cooperative Systems Group
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208

Bureau of the Census

Current Population Survey

Current estimates of school enrollment, as well as social and economic characteristics of students, are based on data collected in the Census Bureau's monthly survey of about 60,000 households. The monthly Current Population Survey (CPS) sample consists of 729 areas comprising 1,973 counties, independent cities, and minor civil divisions throughout the 50 states and the District of Columbia. The sample was initially selected from the 1980 census files and is periodically updated to reflect new housing construction.

The monthly CPS deals primarily with labor force data for the civilian noninstitutional population (i.e., excluding military personnel and their families living on posts and inmates of institutions). In addition, in October of each year, supplemental questions are asked about highest grade completed, level of current enrollment, attendance status, number and types of courses, degree or certificate objective, and type of organization offering instruction for each member of the household.

The estimation procedure used for the monthly CPS data involves inflating weighted sample results to independent estimates of characteristics of the civilian noninstitutional population in the United States by age, sex, and race. These independent estimates are based on statistics from decennial censuses that include statistics on births, deaths, immigration, and emigration and statistics on the population in the armed services. Generalized stand-

ard error tables are in the *Current Population Reports*. The data are subject to both nonsampling and sampling errors.

More information is available in the *Current Population Reports*, Series P-20, or by contacting:

Education and Social Stratification Branch
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233

School Enrollment. Each October, the Current Population Survey (CPS) includes supplemental questions on the enrollment status of the population 3 years old and over. The main sources of nonsampling variability in the responses to the supplement are those inherent in the survey instrument. The question concerning educational attainment may be sensitive for some respondents who may not want to acknowledge their lack of a high school diploma. The question of current enrollment may not be answered accurately for various reasons. Some respondents may not know current grade information for every student in the household, a problem especially prevalent for households with members in college or in nursery school. Confusion over college credits or hours taken by a student may make it difficult to determine the year in which the student is enrolled. Problems may occur with the definition of nursery school (a group or class organized to provide educational experiences for children) where respondents' interpretations of "educational experiences" vary.

Questions concerning the CPS "School Enrollment" survey may be directed to:

Education and Social Stratification Branch
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233

State population projections. These state population projections were prepared using a cohort-component method by which each component of population change—births, deaths, state-to-state migration flows, international in-migration, and international out-migration—was projected separately for each birth cohort by sex, race, and Hispanic origin. The basic framework was the same as in past Census Bureau projections. Detailed components necessary to create the projections were obtained from vital statistics, administrative records, census data, and national projections.

The cohort-component method is based on the traditional demographic accounting system:

$$P_1 = P_0 + B - D + DIM - DOM + IIM - IOM$$

where:

P_1 = population at the end of the period

P_0 = population at the beginning of the period

B = births during the period

D = deaths during the period

DIM = domestic in-migration during the period

DOM = domestic out-migration during the period

IIM = international in-migration during the period

IOM = international out-migration during the period

To generate population projections with this model, the Census Bureau created separate data sets for each of these components. In general, the assumptions concerning the future levels of fertility, mortality, and international migration are consistent with the assumptions developed for the national population projections of the Census Bureau.

Once the data for each component were developed, it was a relatively straightforward process to apply the cohort-component method and produce the projections. For each projection year the base population for each state was disaggregated into eight race and Hispanic categories (non-Hispanic White; non-Hispanic Black; non-Hispanic American Indian, Eskimo, and Aleut; non-Hispanic Asian and Pacific Islander, Hispanic White; Hispanic Black; Hispanic American Indian, Eskimo, and Aleut; and Hispanic Asian and Pacific Islander), by sex, and single year of age (ages 0 to 85+). The next step was to survive each age-sex-race-ethnic group forward 1 year using the pertinent survival rate. The internal redistribution of the population was accomplished by applying the appropriate state-to-state migration rates to the survived population in each state. The projected out-migrants were subtracted from the state of origin and added to the state of destination (as in-migrants). Next, the appropriate number of immigrants from abroad were added to each group. The populations under age 1 were created by applying the appropriate age-race-ethnic-specific birth rates to females of childbearing age. The number of births by sex and race/ethnicity were survived forward and exposed to the appropriate migration rate to yield the population under age 1. The final results of the projection process were adjusted to be consistent with the national population projections by single years of age, sex, race, and Hispanic origin. The entire process was then repeated for each year of the projection.

More information is available in the Census Bureau Population Paper Listing 47 (PPL-47) and Current Population Report P25-1130. These reports may be obtained from:

Statistical Information Staff
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233
(301) 457-2422

INTERNET: http://www.census.gov

1201 16th Street NW
Washington, DC 20036

Other Sources

National Education Association

Estimates of School Statistics

The National Education Association (NEA) reports teacher, revenue, and expenditure data in its annual publication, *Estimates of School Statistics*. Each year, NEA prepares regression-based estimates of financial and other education statistics and submits them to the states for verification. Generally, about 30 states adjust these estimates based on their own data. These preliminary data are published by NEA along with revised data from previous years. States are asked to revise previously submitted data as final figures become available. The most recent publication contains all changes reported to the NEA.

Additional information is available from:

National Education Association—Research

DRI/McGraw-Hill

DRI/McGraw-Hill provides an information system that includes more than 125 databases: simulation and planning models; regular publications and special studies; data retrieval and management systems; and access to experts on economic, financial, industrial, and market activities. One service is the DRI U.S. Annual Model Forecast Data Bank, which contains annual projections of the U.S. economic and financial conditions, including forecasts for the federal government, incomes, population, prices and wages, and state and local government, over a long-term (10 to 25-year) forecast period.

Additional information is available from:

DRI/McGraw-Hill
24 Hartwell Avenue
Lexington, MA 02173

Appendix D

Glossary

Data Terms

Associate degree: A degree granted for the successful completion of a subbaccalaureate program of studies, usually requiring at least 2 years (or the equivalent) of full-time college-level study. This term includes degrees granted in a cooperative or work–study program.

Average daily attendance (ADA): The aggregate attendance of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered days in session.

Average daily membership (ADM): The aggregate membership of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered as days in session. The average daily membership for groups of schools having varying lengths of terms is the average of the average daily memberships obtained for the individual schools.

Bachelor's degree: A degree granted for the successful completion of a baccalaureate program of studies, usually requiring at least 4 years (or the equivalent) of full-time college-level study. This term includes degrees granted in a cooperative or work–study program.

Classroom teacher: A staff member assigned the professional activities of instructing pupils in self-contained classes or courses, or in classroom situations. Usually expressed in full-time equivalents.

Cohort: A group of individuals that have a statistical factor in common, for example, year of birth.

College: A postsecondary school that offers a general or liberal arts education, usually leading to an associate, bachelor's, master's, doctor's, or first-professional degree. Junior colleges and community colleges are included in this term.

Constant dollars: Dollar amounts that have been adjusted by means of price and cost indexes to eliminate inflationary factors and allow direct comparison across years.

Consumer Price Index (CPI): This price index measures the average change in the cost of a fixed market basket of goods and services purchased by consumers.

Current dollars: Dollar amounts that have not been adjusted to compensate for inflation.

Current expenditures (elementary/secondary): The expenditures for operating local public schools, excluding capital outlay and interest on school debt. These expenditures include such items as salaries for school personnel, fixed charges, student transportation, school books and materials, and energy costs.

Current expenditures per pupil in average daily attendance: Current expenditures for the regular school term divided by the average daily attendance of full-time pupils (or full-time-equivalency of pupils) during the term. See also *current expenditures* and *average daily attendance.*

Current-fund expenditures (higher education): Money spent to meet current operating costs, including salaries, wages, utilities, student services, public services, research libraries, scholarships and fellowships, auxiliary enterprises, hospitals, and independent operations. Excludes loans, capital expenditures, and investments.

Current Population Survey: See Appendix C, Data Sources.

Disposable income: Current income received by persons less their contributions for social insurance, personal tax, and nontax payments. It is the income available to persons for spending and saving. Nontax payments include passport fees, fines and penalties, donations, and tuitions and fees paid to schools and hospitals operated mainly by the government. See also *personal income.*

Doctor's degree: An earned degree carrying the title of doctor. The Doctor of Philosophy degree (Ph.D.) is the highest academic degree and requires mastery within a field of knowledge and demonstrated ability to perform scholarly research. Other doctorates are awarded for fulfilling specialized requirements in professional fields, such as education (Ed.D.), musical arts (D.M.A.), business administration (D.B.A.), and engineering (D.Eng. or D.E.S.). Many doctor's degrees in both academic and professional fields require an earned master's degree as a prerequisite. First-professional degrees, such as M.D. and D.D.S., are not included under this heading.

Educational and general expenditures: The sum of current funds expenditures on instruction, research, public service, academic support, student services, institutional support, operation and maintenance of plant, and awards from restricted and unrestricted funds.

Elementary school: A school classified as elementary by state and local practice and composed of any span of grades not above grade 8. A preschool or kindergarten school is included under this heading only if it is an integral part of an elementary school or a regularly established school system.

Elementary and secondary schools: As used in this publication, includes only regular schools, that is, schools that are part of state and local school systems and also most private elementary and secondary schools, both religiously affiliated and nonsectarian. Schools not included in this term are subcollegiate departments of institutions of higher education, American residential schools for exceptional children, federal schools for Indians, and federal schools on military posts and other federal installations.

Enrollment: The number of students registered in a given school unit at a given time, generally in the fall of a year.

Expenditures: Charges incurred, whether paid or unpaid, that are presumed to benefit the current fiscal year. For elementary and secondary schools, these include all charges for current outlays plus capital outlays and interest on school debt. For institutions of higher education, these include current outlays plus capital outlays. For government, these include charges net of recoveries and other correcting transactions other than for retirement of debt, investment in securities, or extension of credit. Government expenditures include only external transactions, such as the provision of perquisites or other payments in kind. Aggregates for groups of governments exclude intergovernmental transactions.

Expenditures per pupil: Charges incurred for a particular period of time divided by a student unit of measure, such as average daily attendance or average daily membership.

First-professional degree: A degree that signifies both completion of the academic requirements for beginning practice in a given profession and a level of professional skill beyond that normally required for a bachelor's degree. This degree is based on a program requiring at least 2 academic years of work before entrance and a total of at least 6 academic years of work to complete the degree program, including both prior required college work and the professional program itself. By NCES definition, first-professional degrees are awarded in the fields of dentistry (D.D.S. or D.M.D.), medicine (M.D.), optometry (O.D.), osteopathic medicine (D.O.), pharmacy (D.Phar.), podiatric medicine (D.P.M.), veterinary medicine (D.V.M.), chiropractic (D.C. or D.C.M.), law (LL.B. or J.D.), and theological professions (M.Div. or M.H.L.).

First-professional enrollment: The number of students enrolled in a professional school or program that requires at least 2 years of academic college work for entrance and a total of at least 6 years for a degree. By NCES definition, first-professional enrollment includes only students in certain programs. (See *first-professional degree* for a list of programs.)

Full-time enrollment: The number of students enrolled in higher education courses with total credit load equal to at least 75 percent of the normal full-time course load.

Full-time-equivalent (FTE) enrollment: For institutions of higher education, enrollment of full-time students, plus the full-time equivalent of part-time students as reported by institutions. In the absence of an equivalent reported by an institution, the FTE enrollment is estimated by adding one-third of part-time enrollment to full-time enrollment.

Full-time worker: In educational institutions, an employee whose position requires being on the job on school days throughout the school year at least the number of hours the schools are in session; for higher education, a member of an educational institution's staff who is employed full time.

Graduate: An individual who has received formal recognition for the successful completion of a prescribed program of studies.

Graduate enrollment: The number of students who hold the bachelor's or first-professional degree, or the equivalent, and who are working toward a master's or doctor's degree. First-professional students are counted separately. These enrollment data measure those students who are registered at a particular time during the fall. At some institutions, graduate enrollment also includes students who are in postbaccalaureate classes but not in degree programs.

High school: A secondary school offering the final years of high school work necessary for graduation, usually including grades 10, 11, and 12 (in a 6-3-3 plan), or grades 9, 10, 11, and 12 (in a 6-2-4 plan).

Higher education: Study beyond secondary school at an institution that offers programs terminating in an associate, baccalaureate, or higher degree.

Higher education institutions (traditional classifications):

4-year institution: An institution legally authorized to offer and offering at least a 4-year program of college-level studies wholly or principally creditable toward a bachelor's degree. A university is a postsecondary institution that typically includes one or more graduate professional schools.

2-year institution: An institution legally authorized to offer and offering at least a 2-year program of college-level studies that terminates in an associate degree or is principally creditable toward a baccalaureate.

Higher Education Price Index: A price index which measures average changes in the prices of goods and services purchased by colleges and universities through current-fund education and general expenditures (excluding expenditures for sponsored research and auxiliary enterprises).

Instructional staff: Full-time-equivalent number of positions, not the number of individuals occupying the positions during the school year. In local schools, it includes all public elementary and secondary (junior and senior high) day-school positions that are in the nature of teaching or the improvement of the teaching–learning situation. Includes consultants or supervisors of instruction, principals, teachers, guidance personnel, librarians, psychological personnel, and other instructional staff. Excludes administrative staff, attendance personnel, clerical personnel, and junior college staff.

Master's degree: A degree awarded for successful completion of a program generally requiring 1 or 2 years of full-time college-level study beyond the bachelor's degree. One type of master's degree, including the Master of Arts degree (M.A.) and the Master of Science degree (M.S.), is awarded in the liberal arts and sciences for advanced scholarship in a subject field or discipline and demonstrated ability to perform scholarly research. A second type of master's degree is awarded for the completion of a professionally oriented program, for example, an M.Ed. in education, an M.B.A. in business administration, an M.F.A. in fine arts, an M.M. in music, an M.S.W. in social work, or an M.P.A. in public administration. A third type of master's degree is awarded in professional fields for study beyond the first-professional degree, for example, the Master of Laws (LL.M.) and Master of Science in various medical specializations.

Part-time enrollment: The number of students enrolled in higher education courses with a total credit load of less than 75 percent of the normal full-time credit load.

Personal income: Current income received by persons from all sources minus their personal contributions for social insurance. Classified as "persons" are individuals (including owners of unincorporated firms), nonprofit institutions serving individuals, private trust funds, and private noninsured welfare funds. Personal income includes transfers (payments not resulting from current production) from government and business such as social security benefits, military pensions, and so forth, but excludes transfers among persons.

Postbaccalaureate enrollment: The number of graduate and first-professional students working toward advanced degrees and students enrolled in graduate-level classes but not enrolled in degree programs. See also *graduate enrollment* and *first-professional enrollment.*

Private institution: A school or institution that is controlled by an individual or agency other than a state, a subdivision of a state, or the federal government; that is usually supported primarily by other than public funds; and the operation of whose program rests with other than publicly elected or appointed officials.

Property tax: The sum of money collected from a tax levied against the value of property.

Public school or institution: A school or institution controlled and operated by publicly elected or appointed officials and deriving its primary support from public funds.

Pupil–teacher ratio: The enrollment of pupils at a given period of time, divided by the full-time-equivalent number of classroom teachers serving these pupils during the same period.

Revenues: All funds received from external sources, net of refunds and correcting transactions. Noncash transactions such as receipt of services, commodities, or other receipts "in kind" are excluded, as are funds received from the issuance of debt, liquidation of investments, or nonroutine sale of property.

Revenue receipts: Additions to assets that do not incur an obligation that must be met at some future date and do not represent exchanges of property for money. Assets must be available for expenditures.

Salary: The total amount regularly paid or stipulated to be paid to an individual, before deductions, for personal services rendered while on the payroll of a business or organization.

School: A division of the school system consisting of students in one or more grades or other identifiable groups and organized to give instruction of a defined type. One school may share a building with another school or one school may be housed in several buildings.

Secondary instructional level: The general level of instruction provided for pupils in secondary schools (generally covering grades 7 through 12 or 9 through 12)

and any instruction of a comparable nature and difficulty provided for adults and youth beyond the age of compulsory school attendance.

Secondary school: A school including any span of grades beginning with the next grade following an elementary or middle school (usually 7, 8, or 9) and ending with or below grade 12. Both junior high schools and senior high schools are included.

Senior high school: A secondary school offering the final years of high school work necessary for graduation.

Student: An individual for whom instruction is provided in an educational program under the jurisdiction of a school, school system, or other educational institution. No distinction is made between the terms "student" and "pupil," although "student" may refer to one receiving instruction at any level while "pupil" refers only to one attending school at the elementary or secondary level. The term "student" is used to include individuals at all instructional levels. A student may receive instruction in a school facility or in another location, such as at home or in a hospital. Instruction may be provided by direct student-teacher interaction or by some other approved medium, such as television, radio, telephone, or correspondence.

Tax base: The collective value of objects, assets, and income components against which a tax is levied.

Total expenditure per pupil in average daily attendance: Includes all expenditures allocable to per pupil costs divided by average daily attendance. These allocable expenditures include current expenditures for regular school programs, interest on school debt, and capital outlay. Beginning in 1980-81, expenditures for administration by state governments are excluded and expenditures for other programs (summer schools, community colleges, and private schools) are included.

Unclassified students: Students who are not candidates for a degree or other formal award, although they are taking higher education courses for credit in regular classes with other students.

Undergraduate students: Students registered at an institution of higher education who are working in a program leading to a baccalaureate or other formal award below the baccalaureate, such as an associate degree.

Statistical Terms

Auto-Correlation: Correlation of the error terms from different observations of the same variable. Also called *serial correlation.*

Degrees of freedom: The number of free or linearly independent sample observations used in the calculation of a statistic.

Dependent variable: A mathematical variable whose value is determined by that of one or more other variables in a function. In regression analysis, when a random variable, y, is expressed as a function of variables x_1, x_2,..., plus a stochastic term, then y is known as the "dependent variable."

Double exponential smoothing: A method that takes a single smoothed average component of demand and smoothes it a second time to allow for estimation of a trend effect.

Durbin-Watson statistic: A statistic testing the independence of errors in least squares regression against the alternative of first-order serial correlation. The statistic is a simple linear transformation of the first-order serial correlation of residuals and, although its distribution is unknown, it is tested by bounding statistics that follow R. L. Anderson's distribution.

Econometrics: The quantitative examination of economic trends and relationships using statistical techniques, and the development, examination, and refinement of those techniques.

Estimate: A numerical value obtained from a statistical sample and assigned to a population parameter. The particular value yielded by an estimator in a given set of circumstances or the rule by which such particular values are calculated.

Estimating equation: An equation involving observed quantities and an unknown that serves to estimate the latter.

Estimation: Estimation is concerned with inference about the numerical value of unknown population values from incomplete data, such as a sample. If a single figure is calculated for each unknown parameter, the process is called point estimation. If an interval is calculated within which the parameter is likely, in some sense, to lie, the process is called interval estimation.

Exogenous variable: Variables for which the values are determined outside the model but which influence the model.

ponential smoothing: A method used in time series smooth or to predict a series. There are various forms, but all are based on the supposition that more remote history has less importance than more recent history.

Ex-Ante forecast: When forecasting a dependent variable for some time period t using a model with at least one independent variable, the forecast of the dependent variable is an ex-ante forecast if the values for the independent variables for time period t are themselves not known.

Ex-Post forecast: When forecasting a dependent variable for some time period t using a model with at least one independent variable, the forecast of the dependent variable is an ex-post forecast if the values for the independent variables for time period t are the actual values. Ex-post forecasts are often used in forecast evaluation.

First-Order serial correlation: When errors in one time period are correlated directly with errors in the ensuing time period. Also called *auto-correlation.*

Forecast: An estimate of the future based on rational study and analysis of available pertinent data, as opposed to subjective prediction.

Forecasting: Assessing the magnitude which a quantity will assume at some future point in time: as distinct from "estimation," which attempts to assess the magnitude of an already existent quantity.

Forecast horizon: The number of time periods into the future which are forecasted. Forecasts for next year are said to have a 1-year forecast horizon.

Function: A mathematical correspondence that assigns exactly one element of one set to each element of the same or another set. A variable that depends on and varies with another.

Functional form: A mathematical statement of the relationship among the variables in a model.

Independent variable: In regression analysis, when a random variable, y, is expressed as a function of variables x_1, x_2,..., plus a stochastic term, the x's are known as "independent variables."

Lag: An event occurring at time $t + k$ $(k>0)$ is said to lag behind an event occurring at time t, the extent of the lag being k. An event occurring k time periods before another may be regarded as having a negative lag.

Maximum likelihood estimation: A method of estimating a parameter or parameters of a population by that value (or values) that maximizes (or maximize) the likelihood of a sample.

Mean absolute percentage error (MAPE): The average value of the absolute value of errors expressed in percentage terms.

Model: A system of postulates, data, and inferences presented as a mathematical description of a phenomenon such as an actual system or process. The actual phenomenon is represented by the model in order to explain it, to predict it, and to control it.

Ordinary least squares (OLS): The estimator that minimizes the sum of squared residuals.

Parameter: A quantity that describes a statistical population.

Projection: In relation to a time series, an estimate of future values based on a current trend.

R^2: The coefficient of determination; the square of the correlation coefficient between the dependent variable and its OLS estimate.

$\bar{R}^2$(also called the adjusted R^2): The coefficient of determination adjusted for the degrees of freedom.

Regression analysis: A statistical technique for investigating and modeling the relationship between variables.

Rho: A measure of the correlation coefficient between errors in time period t and time period t minus 1.

Serial correlation: Correlation of the error terms from different observations. Also called *auto-correlation.*

Standard error of estimate: An expression for the standard deviation of the observed values about a regression line. An estimate of the variation likely to be encountered in making predictions from the regression equation.

Time series: A set of ordered observations on a quantitative characteristic of an individual or collective phenomenon taken at different points in time. Usually the observations are successive and equally spaced in time.

Time series analysis: The branch of quantitative forecasting in which data for one variable are examined for patterns of trend, seasonality, and cycle.

Variable: A quantity that may assume any one of a set of values.

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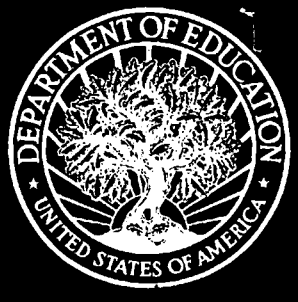

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