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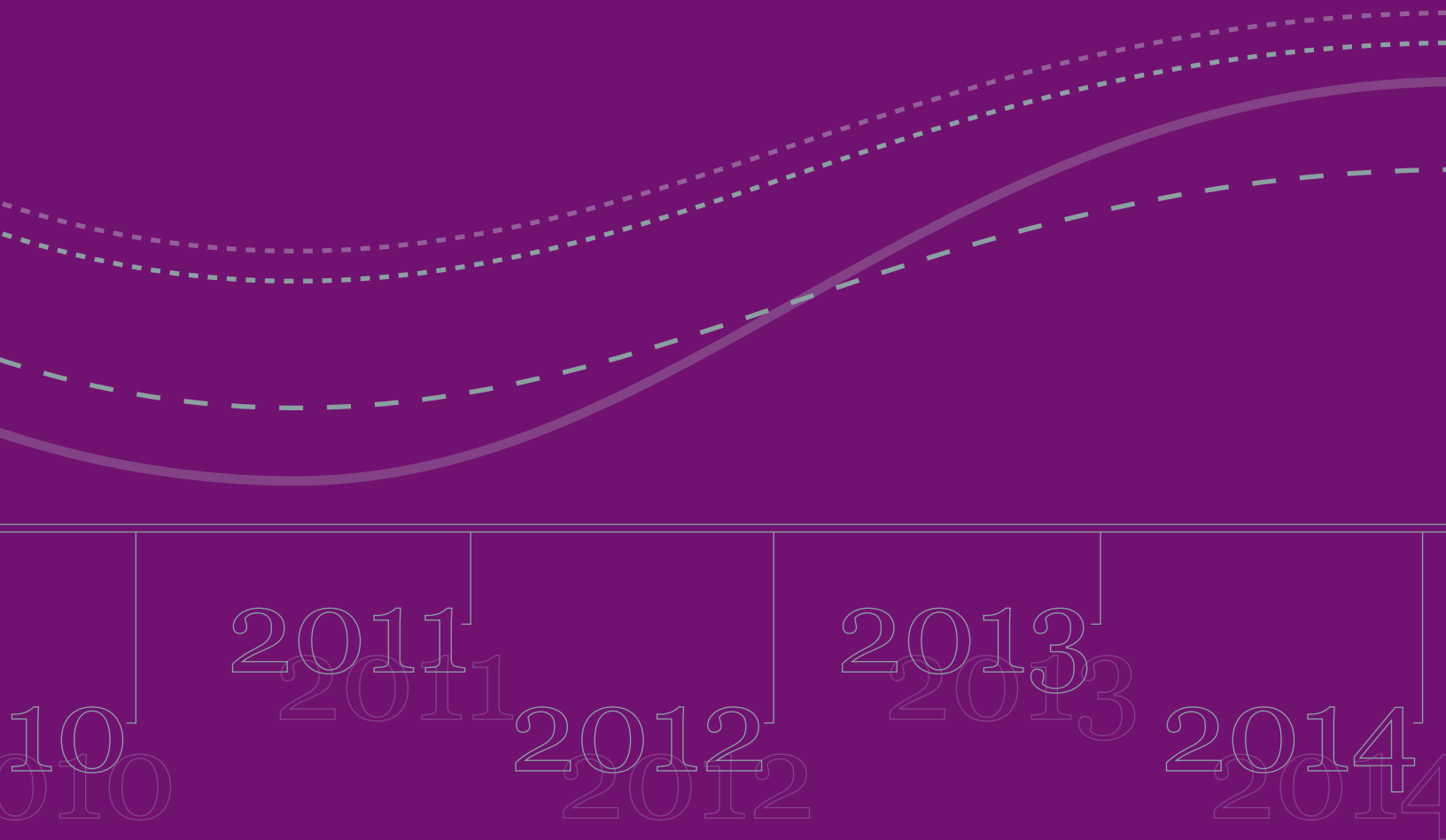
NCES 2005–074

Projections of Education Statistics to 2014

Thirty-third Edition



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Thirty-third Edition

September 2005

William J. Hussar
**National Center for
Education Statistics**

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Margaret Spellings
Secretary

Institute of Education Sciences
Grover J. Whitehurst
Director

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Grover J. Whitehurst
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1990 K Street NW
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Content Contact:
William J. Hussar
(202) 502-7359
william.hussar@ed.gov

Foreword

Projections of Education Statistics to 2014 is the 33rd report in a series begun in 1964. This report provides revisions of projections shown in *Projections of Education Statistics to 2013*. It includes statistics on elementary and secondary schools and degree-granting institutions. Included are projections of enrollment, graduates, teachers, and expenditures to the year 2014.

In addition to projections at the national level, the report includes projections of public elementary and secondary school enrollment and public high school graduates to the year 2014 at the state level. These projections were produced by the National Center for Education Statistics (NCES) to provide researchers, policy analysts, and others with state-level projections developed using a consistent methodology. They are not intended to supplant detailed projections prepared in individual states.

Assumptions regarding the population and the economy are the key factors underlying the projections of education statistics. NCES projections do not reflect changes in national, state, or local education policies that may affect enrollment levels.

Appendix A of this report outlines the projection methodology, describing the models and assumptions used to develop the national and state projections. The enrollment models use enrollment data and population estimates and projections from NCES and the U.S. Census Bureau. The models are based on the mathematical projection of past data patterns into the future. The models also use projections of economic variables from Global Insight, Inc., an economic forecasting service.

The projections presented in this report are based on the 2000 census and assumptions for the fertility rate, internal migration, net immigration, and mortality rate. For further information, see appendix A.

Most of the projections of education statistics include three alternatives, based on different assumptions about demographic and economic 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 range of outcomes.

This report's Summary of Projections presents highlights of key education statistics. In addition, a brief overview of the projections in this report is available in a pocket-sized booklet, *Pocket Projections: Projections of Education Statistics to 2014*.

Val Plisko, Associate Commissioner
Early Childhood, International, and
Crosscutting Studies Division

September 2005

Acknowledgments

Projections of Education Statistics to 2014 was produced by the National Center for Education Statistics (NCES) in the Early Childhood, International, and Crosscutting Studies Division under the general direction of Thomas D. Snyder, Director of the Annual Reports Program. The report was prepared by William J. Hussar, financial economist. He was supported by Tabitha Bailey, Geoffrey Green, and Maria Kulikova of Global Insight, Inc., who implemented the projection models.

Many people have contributed to the development of the *Projections of Education Statistics* series since its inception in 1964. Foremost among these contributors is Debra Gerald, who worked on every edition of the series from 1978 until her retirement in 2003, and served as project director for most of those issues. Along with her work on *Projections of Education Statistics*, Debra Gerald was the founder and first chair of the Federal Forecasters Consortium, an organization dedicated to bringing together forecasters from across the federal government to address forecasting issues and share solutions.

Robin Gurley and Heather Block of the Education Statistics Services Institute (ESSI) coordinated the production and design. The cover was designed by Elina Hartwell.

The technical review was done by Bruce Taylor of NCES. Kevin Bromer, Nina Emerson, Geeta Kotak, Pia Peltola, and Zeyu Xu of ESSI assisted in the technical review of this report. Valuable assistance was also provided by the following reviewers: Frank Johnson, Frank Morgan, and Duc-Le To.

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List of Abbreviations

ADA	average daily attendance
BLS	Bureau of Labor Statistics
CCD	Common Core of Data
CPI	Consumer Price Index
EDMOD	Education Forecasting Model
ESSI	Education Statistics Services Institute
FTE	full-time-equivalent
IPEDS	Integrated Postsecondary Education Data System
MAPE	mean absolute percentage error
NCES	National Center for Education Statistics

About This Report

Guide to This Edition

This edition of *Projections of Education Statistics* provides projections for key education statistics, including enrollment, graduates, teachers, and expenditures in elementary and secondary schools and degree-granting institutions. Included are national data on enrollment and graduates for the past 15 years and projections to the year 2014, as well as state-level data on enrollment in public elementary and secondary schools and public high school graduates to the year 2014.

State-level data on enrollment and graduates in private schools are not included. Further research and model development are needed to develop reliable projections of private school enrollment and graduates by state. Projections also exclude the number of students who are homeschooled because national data are available for a limited time period.

Similar methodologies were used to obtain a uniform set of projections for each of the 50 states and the 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 contained in this report.

The summary of projections provides highlights of the national and state data, while the reference tables and figures present more detail. While rounded numbers are presented in the tables, percentages are based on unrounded numbers.

Appendix A describes the methodology and assumptions used to develop the projections, appendix B presents supplementary tables, appendix C describes data sources, and 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, such as the properties of the 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 author as to reasonable upper and lower bounds.

The mean absolute percentage error is one way to express the forecast accuracy of past projections. This measure expresses the average value of the absolute value of errors in percentage terms. For example, the mean absolute percentage errors of public school enrollment in grades K–12 for lead times of 1, 2, 5, and 10 years were 0.3, 0.5, 1.1, and 2.6 percent, respectively. In contrast, mean absolute percentage errors for doctor's degrees for lead times of 1, 2, and 5 years were 2.2, 3.5, and 2.5 percent, respectively. For more information on mean absolute percentage errors, see table A2 in appendix A.

Alternative projections are presented for enrollment in degree-granting institutions, earned degrees conferred, elementary and secondary teachers, and expenditures of public educational institutions.

Summary of Projections

Section 1. Elementary and Secondary Enrollment

Introduction

Total public and private elementary and secondary school enrollment reached a record 55 million in fall 2002, representing a 19 percent increase since fall 1989. Between 2002 and 2014, a further increase of 4 percent is expected, with increases projected in both public and private schools. In the regions, increases are expected in the West and South, and decreases are expected in the Northeast and Midwest.

Factors affecting the projections

The projected changes in enrollment reflect factors such as internal migration, legal and illegal immigration, the relatively high level of births in the 1990s, and resultant changes in the population (reference figure 1), rather than changes in attendance rates.

Factors that were not considered

The projections do not assume changes in policies or attitudes that may affect enrollment levels. For example, they do not account for changing state and local policies on prekindergarten and kindergarten programs. Expansion of these programs could lead to higher enrollments at the elementary school level. Projections also exclude the number of students who are homeschooled because national data are available for only a limited time period.

National

After increasing by about one-fifth between 1989 and 2002, enrollments in both public and private schools are expected to increase at slower rates between 2002 and 2014. Small enrollment increases are expected at both the K–8 and 9–12 grade spans (figures A and B; reference figures 2 and 3 and table 1).

Total enrollment

Total elementary and secondary enrollment

- increased 19 percent between 1989 and 2002; and
- is projected to increase an additional 4 percent between 2002 and 2014.

Enrollment in grades PK–8

Enrollment in prekindergarten through grade 8

- increased 18 percent between 1989 and 2002; and
- is projected to increase an additional 5 percent between 2002 and 2014.

Enrollment in grades 9–12

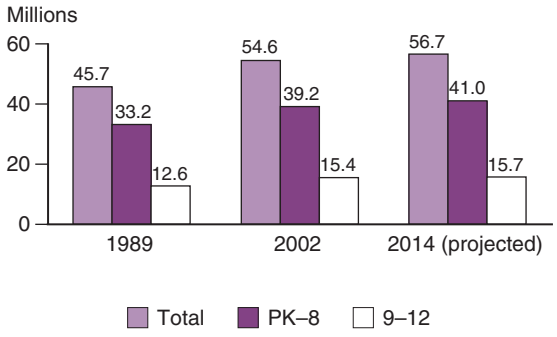
Enrollment in grades 9–12

- increased 23 percent between 1989 and 2002; and
- is projected to increase an additional 2 percent between 2002 and 2014.

The grade progression rate method

The method used to project school enrollments assumes that future trends in factors affecting enrollments will be consistent with past patterns. It implicitly includes the net effect of factors such as dropouts, deaths, nonpromotion, and transfers to and from public schools. See appendix A for more details.

Figure A. Actual and projected numbers for elementary and secondary enrollment, total and by grade level: Selected years, 1989–2014



NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys, various years; Private School Universe Survey, various years; and National Elementary and Secondary School Enrollment Model. (See reference table 1.)

Public elementary and secondary enrollment

Enrollment in public elementary and secondary schools

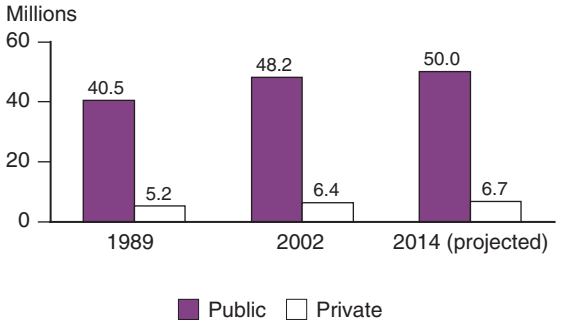
- increased 19 percent between 1989 and 2002; and
- is projected to increase an additional 4 percent between 2002 and 2014.

Private elementary and secondary enrollment

Enrollment in private elementary and secondary schools

- increased 23 percent between 1989 and 2002; and
- is projected to increase an additional 5 percent between 2002 and 2014.

Figure B. Actual and projected numbers for elementary and secondary enrollment, by control of school: Selected years, 1989–2014



SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys, various years; Private School Universe Survey, various years; and National Elementary and Secondary School Enrollment Model. (See reference table 1.)

State and Regional (Public School Data)

Between 2002 and 2014, enrollment in public elementary and secondary schools is expected to increase in 23 states and decrease in 27 states and the District of Columbia (tables A and B; reference figure 5 and tables 4–9). In the regions, public school enrollment during the same period is expected to increase in the South and West, and decrease in the Northeast and Midwest.

States

The expected 4 percent national increase in public school enrollment between 2002 and 2014 plays out differently for most states.

- Increases are projected for 23 states, with
  - increases of more than 15 percent projected for 2 states;
  - increases between 5 and 15 percent projected for 11 states; and
  - increases of less than 5 percent projected for 10 states.

Table A. Projected percent increases in public elementary and secondary school enrollment, by state: 2002 to 2014

State	Percent increase	State	Percent increase
Nevada	28.4	Hawaii	5.0
Texas	15.6	Washington	4.1
Utah	14.9	New Jersey	3.5
Arizona	14.5	North Carolina	3.3
California	14.2	Indiana	2.5
Idaho	13.8	Virginia	2.1
Colorado	10.9	Illinois	1.6
Florida	9.9	Wyoming	0.9
Georgia	8.7	Oklahoma	0.3
Alaska	7.7	Kansas	0.1
Oregon	6.7	Tennessee	0.1
New Mexico	5.7		

SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys and State Public Elementary and Secondary Enrollment Model. (See reference table 5.)

- Decreases are projected for 27 states and the District of Columbia, with
  - decreases of 5 percent or more projected for 11 states; and
  - decreases between 4.99 and 0.1 percent projected for 16 states and the District of Columbia.

Regions

Between 2002 and 2014, public elementary and secondary enrollment is projected to

- increase 13 percent in the West;
- increase 5 percent in the South;
- decrease 2 percent in the Midwest; and
- decrease 5 percent in the Northeast.

Table B. Projected percent decreases in public elementary and secondary school enrollment, by state: 2002 to 2014

State	Percent decrease	State	Percent decrease
Nebraska	-0.2	Alabama	-4.1
Arkansas	-0.5	Ohio	-4.7
Connecticut	-0.6	Mississippi	-4.8
Maryland	-1.0	Montana	-5.9
Missouri	-1.6	New York	-6.0
Delaware	-2.0	Iowa	-6.3
Minnesota	-2.5	Massachusetts	-6.5
South Carolina	-2.7	Kentucky	-6.5
District of Columbia	-2.8	New Hampshire	-7.1
Michigan	-3.2	Pennsylvania	-7.7
Louisiana	-3.3	West Virginia	-9.8
Rhode Island	-3.6	North Dakota	-10.2
South Dakota	-3.6	Maine	-12.8
Wisconsin	-3.9	Vermont	-15.2

SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys and State Public Elementary and Secondary Enrollment Model. (See reference table 5.)

Accuracy of Projections

An analysis of projection errors from the past 21 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 0.3, 0.5, 1.1, and 2.6 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 0.3 percent of the actual value, on average. For projections of public school enrollment in grades K–8, the MAPEs for lead times of 1, 2, 5, and 10 years out were 0.3, 0.6, 1.1, and 3.7 percent, respectively, while the MAPEs for projections of public school enrollment in grades 9–12 were 0.4, 0.7, 1.2, and 2.4 percent, respectively, for the same lead times.

Projections of public elementary and secondary enrollment produced by the National Center for Education Statistics (NCES) over the last 21 years have been more accurate than projections of public high school graduates produced by NCES over the same period. For more information, see table A2 in appendix A.

Section 2. Enrollment in Degree-Granting Institutions

Introduction

Total enrollment in degree-granting institutions is expected to increase between 2002 and 2014. Degree-granting institutions provide study beyond secondary school and offer programs terminating in an associate's, baccalaureate, or higher degree. Differential growth is expected by student characteristics such as age, sex, and attendance status (part-time or full-time). Enrollment is expected to increase in both public and private degree-granting institutions.

Factors affecting the projections

Changes in age-specific enrollment rates and college-age populations will affect enrollment levels between 2002 and 2014. The most important factor is the expected increase in the traditional college-age population of 18- to 24-year-olds.

Three alternative sets of projections

Middle, low, and high sets of projections were made for total enrollment in degree-granting institutions and for enrollment by age, sex, attendance status, level (undergraduate, graduate, or first-professional), and control of institution.

Assumptions underlying the projections

The middle alternative uses a base-line scenario of the economy for projections of disposable income and unemployment rates. The low and high alternatives are based on the low and high scenarios of the economy, respectively, to provide other possible outcomes. For more information, see appendix A.

Factors that were not considered

The enrollment projections do not take into account such factors as the cost of a college education, the economic value of an education, and the impact of distance learning due to technological changes. These factors may produce changes in enrollment levels.

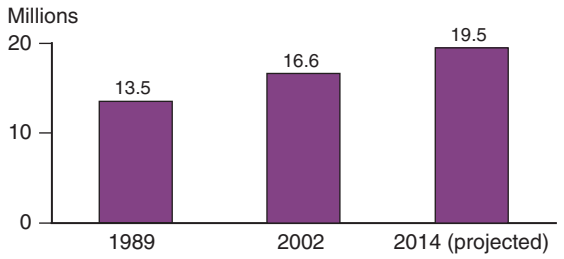
Total Enrollment

Total enrollment in degree-granting institutions increased 23 percent from 1989 to 2002 (figure C; reference figure 10 and table 10).

Between 2002 and 2014, total enrollment is projected to increase

- 17 percent, to 19.5 million, in the middle alternative projections;
- 15 percent, to 19.1 million, in the low alternative projections; and
- 20 percent, to 20.0 million, in the high alternative projections.

Figure C. Actual and middle alternative projected numbers for total enrollment in degree-granting institutions: Selected years, 1989–2014



SOURCE: U.S. Dept. of Education, NCES: Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey," various years; and Enrollment in Degree-Granting Institutions Model. (See reference table 10.)

Enrollment by Selected Characteristics and Control of Institution

Enrollment by age of student

Between 2002 and 2014, in the middle alternative projections, enrollment (figure D; reference figures 11–13 and tables 11–13) is projected to increase

- 16 percent for students who are 18 to 24 years old; and
- 5 percent for students who are 35 years old and over.

Enrollment by sex of student

Between 2002 and 2014, in the middle alternative projections, enrollment (reference figure 14 and tables 10–21) is projected to increase

- 12 percent for men; and
- 21 percent for women.

Enrollment by attendance status

Between 2002 and 2014, in the middle alternative projections, enrollment (reference figure 15 and tables 10–22) is projected to increase

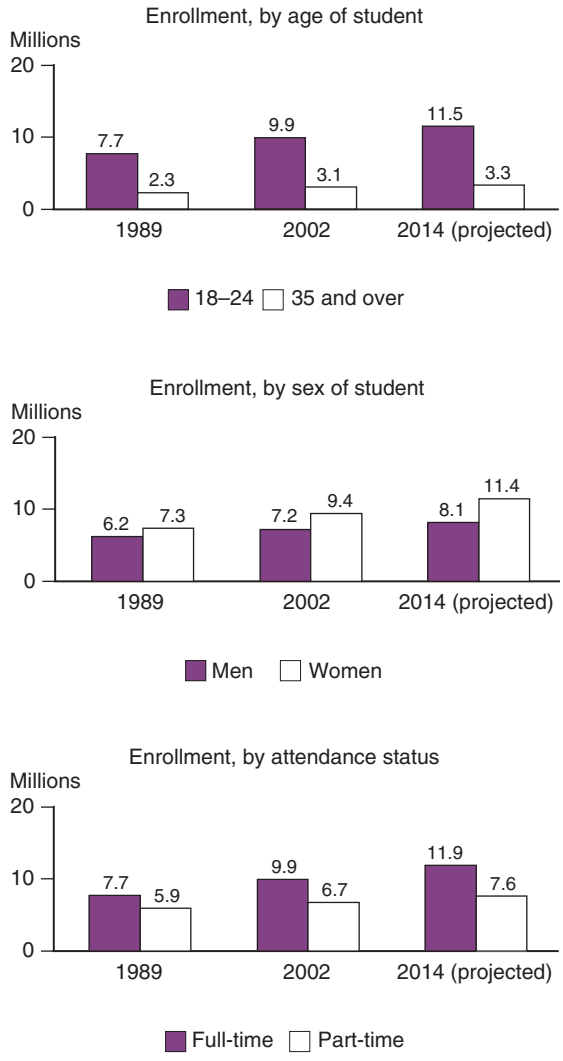
- 20 percent for full-time students; and
- 14 percent for part-time students.

Enrollment by level

Between 2002 and 2014, in the middle alternative projections, enrollment (reference figures 18 and 19 and tables 19–21) is projected to increase

- 16 percent for undergraduate students;
- 21 percent for graduate students; and
- 32 percent for first-professional students.

Figure D. Actual and middle alternative projected numbers for total enrollment in degree-granting institutions, by selected characteristics: Selected years, 1989–2014



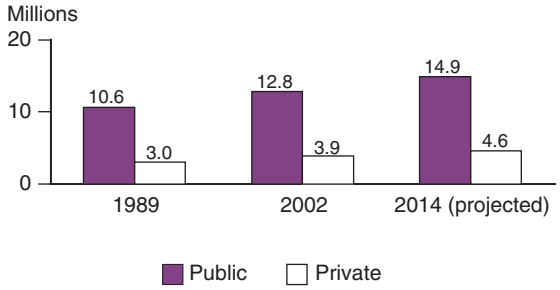
SOURCE: U.S. Dept. of Education, NCES: Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey," various years; and Enrollment in Degree-Granting Institutions Model. (See reference tables 10 and 11.)

Enrollment in public and private institutions

Between 2002 and 2014, in the middle alternative projections, enrollment (figure E; reference figure 16 and tables 10 and 15–22) is projected to increase

- 17 percent in public institutions; and
- 19 percent in private institutions.

Figure E. Actual and middle alternative projected numbers for total enrollment in degree-granting institutions, by control of institution: Selected years, 1989–2014



SOURCE: U.S. Dept. of Education, NCES: Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey," various years; and Enrollment in Degree-Granting Institutions Model. (See reference table 10.)

Accuracy of Projections

For projections of total enrollment in degree-granting institutions, an analysis of projection errors based on the past seven editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for lead times of 1, 2, and 5 years out were 1.8, 2.6, and 4.0 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 1.8 percent of the actual value, on average.

NCES projections of college enrollment produced over the past 7 years have been more accurate than projections of master's degrees but less accurate than projections of public elementary and secondary enrollment produced over the same period. For more information, see table A2 in appendix A.

Section 3. High School Graduates

Introduction

Between 2001–02 and 2013–14, the number of high school graduates is projected to increase nationally by 10 percent. Increases are expected in each region of the country, especially in the West. Both public and private schools are expected to have increases in high school graduates.

Factors affecting the projections

Projected increases in the number of graduates reflect changes in the 18-year-old population over the projection period, rather than changes in the graduation rates of 12th-graders. However, projections of graduates could be impacted by changes in policies affecting graduation requirements.

Definition

A *high school graduate* is defined as an individual who has received formal recognition from school authorities, by the granting of a diploma, for completing a prescribed course of study. This definition does not include other high school completers or high school equivalency recipients.

National

Total number of high school graduates

The total number of high school graduates (figure F; reference figures 21 and 22 and table 23)

- increased 6 percent between 1988–89 and 2001–02; and
- is projected to increase an additional 10 percent between 2001–02 and 2013–14.

Public high school graduates

The number of public high school graduates

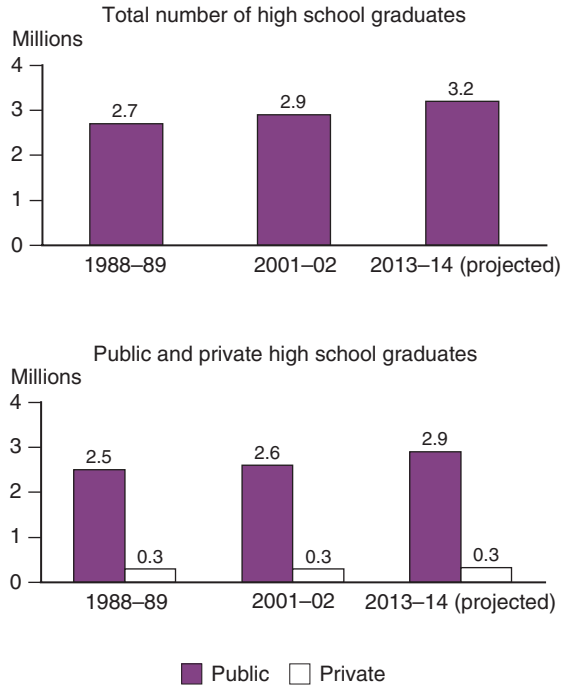
- increased 7 percent between 1988–89 and 2001–02; and
- is projected to increase an additional 9 percent between 2001–02 and 2013–14.

Private high school graduates

The number of private high school graduates

- increased less than 1 percent between 1988–89 and 2001–02; and
- is projected to increase an additional 15 percent between 2001–02 and 2013–14.

Figure F. Actual and projected numbers for high school graduates, total and by control of school: Selected years, 1988–89 to 2013–14



SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys, various years; Private School Universe Survey, various years; and National High School Graduates Model. (See reference table 23.)

State and Regional (Public School Data)

Between 2001–02 and 2013–14, the number of public high school graduates is expected to increase in over half the states (table C) and in all four regions (reference figure 23 and tables 24 and 25).

States

The expected 9 percent national increase in public high school graduates between 2001–02 and 2013–14 plays out differently among the states.

- Increases are projected for 23 states, with
  - increases of more than 15 percent projected for 2 states;
  - increases between 5 and 15 percent projected for 11 states; and
  - increases of less than 5 percent projected for 10 states.
- Decreases are projected for 23 states.

Regions

Between 2001–02 and 2013–14, the number of public high school graduates is projected to

- increase 17 percent in the West;
- increase 12 percent in the South;
- increase 4 percent in the Northeast; and
- increase 3 percent in the Midwest.

Table C. Projected percent changes in the number of public high school graduates, by state: 2001–02 to 2013–14

State	Percent increase	State	Percent decrease
Nevada	59.2	Arkansas	-0.2
Arizona	31.6	Alabama	-0.4
New Jersey	29.6	Ohio	-1.5
Florida	22.6	Alaska	-2.5
California	21.9	New Hampshire	-3.1
Michigan	20.3	New York	-3.3
Texas	20.2	Wisconsin	-4.5
Colorado	18.2	Nebraska	-5.7
Virginia	18.0	Kansas	-6.0
North Carolina	17.9	Hawaii	-6.1
Georgia	17.8	Mississippi	-6.4
South Carolina	11.2	New Mexico	-7.2
Rhode Island	11.0	Minnesota	-7.3
Indiana	9.1	Oklahoma	-8.8
Illinois	8.3	West Virginia	-10.2
Delaware	8.2	Iowa	-11.9
Connecticut	8.0	Maine	-12.8
Maryland	6.6	South Dakota	-13.1
Idaho	6.5	Louisiana	-14.3
Utah	6.1	Montana	-18.9
Tennessee	5.9	Vermont	-22.0
Massachusetts	5.6	Wyoming	-23.8
Oregon	4.2	North Dakota	-25.5
Missouri	2.7		
Kentucky	0.6		
Washington	0.5		
District of Columbia	0.3		
Pennsylvania	0.1		

SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys and State Public High School Graduates Model. (See reference table 25.)

Accuracy of Projections

For NCES projections of public high school graduates produced over the last 14 years, the mean absolute percentage errors (MAPEs) for lead times of 1, 2, 5, and 10 years out were 0.8, 0.9, 1.2, and 4.2, respectively. NCES projections of public high school graduates have been less accurate than projections of public elementary and secondary enrollment, but more accurate than projections of earned degrees by level. For more information, see table A2 in appendix A.

Section 4. Degrees Conferred

Introduction

Historical growth in enrollment in degree-granting institutions, with particularly large increases among women, has led to a substantial increase in the number of degrees conferred. Increases in the number of degrees conferred are expected to continue between 2002–03 and 2013–14.

Three alternative sets of projections

Middle, low, and high sets of projections were developed for the total number of degrees conferred at each level—associate's, bachelor's, master's, doctor's, and first-professional—as well as for the number conferred at each level, by sex of recipient.

About the projections

Projections of degrees by level and sex were based primarily on college-age populations and college enrollment by level and attendance status. Some factors that may affect future numbers of degrees, such as choice of degree and demand for occupations, were not included in the projection models.

Degrees, by Level of Degree and Sex of Recipient

Between 1988–89 and 2002–03, the number and proportion of degrees awarded to women rose at all levels. In 2002–03, women earned the majority of associate's, bachelor's, and master's degrees; 47 percent of doctor's degrees; and 48 percent of first-professional degrees. Between 2002–03 and 2013–14, continued increases are expected in the number of degrees awarded to women at all levels (figure G; reference figures 24–28 and tables 26–30).

Associate's degrees

Between 2002–03 and 2013–14, in the middle alternative projections, the number of associate's degrees is projected to

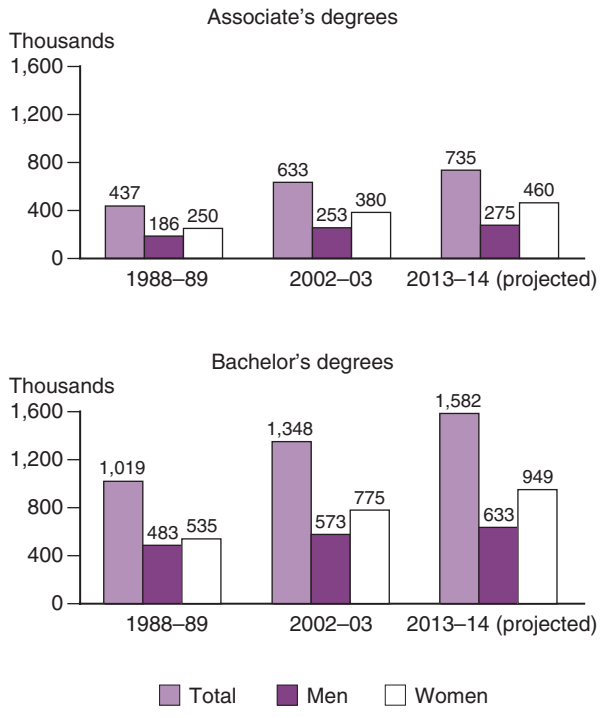
- increase 16 percent overall;
- increase 9 percent for men; and
- increase 21 percent for women.

Bachelor's degrees

Between 2002–03 and 2013–14, in the middle alternative projections, the number of bachelor's degrees is projected to

- increase 17 percent overall;
- increase 10 percent for men; and
- increase 22 percent for women.

Figure G. Actual and middle alternative projected numbers for degrees conferred, by level and sex of recipient: Selected years, 1988–89 to 2013–14



See notes at end of figure (on next page).

Master's degrees

Between 2002–03 and 2013–14, in the middle alternative projections, the number of master's degrees is projected to

- increase 35 percent overall;
- increase 30 percent for men; and
- increase 39 percent for women.

Doctor's degrees

Between 2002–03 and 2013–14, in the middle alternative projections, the number of doctor's degrees is projected to

- increase 19 percent overall;
- increase 12 percent for men; and
- increase 28 percent for women.

In each set of alternative projections, women are projected to receive at least as many doctor's degrees as men in 2012–13, and are projected to receive more doctor's degrees than men in the following year.

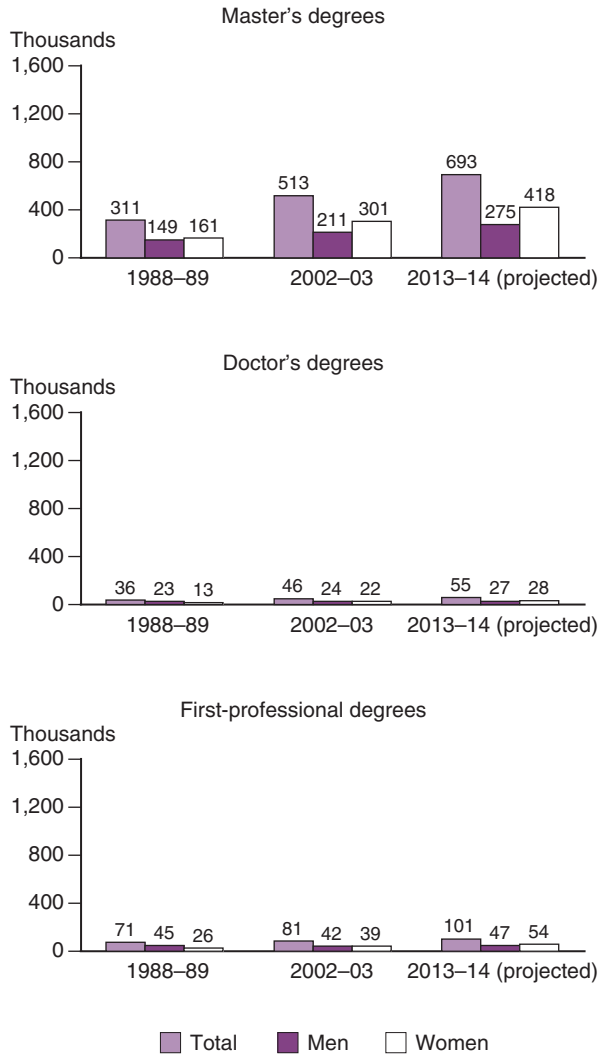
First-professional degrees

Between 2002–03 and 2013–14, in the middle alternative projections, the number of first-professional degrees is projected to

- increase 25 percent overall;
- increase 13 percent for men; and
- increase 38 percent for women.

Beginning in 2004–05, women are projected to receive more first professional degrees than men in each set of alternative projections.

Figure G. Actual and middle alternative projected numbers for degrees conferred, by level and sex of recipient: Selected years, 1988–89 to 2013–14—Continued



NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Dept. of Education, NCES: Integrated Postsecondary Education Data System (IPEDS), "Completions Survey," various years; and Degrees Conferred Model. (See reference tables 26 through 30.)

Definition

A *first-professional degree* is one that signifies both completion of the academic requirements for beginning practice in a given profession and a level of professional skill beyond that required for a bachelor's degree. A first-professional degree is based on a program requiring at least 2 academic years of work beyond the bachelor's degree. Degree fields include dentistry, medicine, law, and theological professions.

Accuracy of Projections

An analysis of projection errors from the past eight editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for associate's degree projections were 2.5 percent for 1 year out, 2.9 percent for 2 years out, and 5.6 percent for 5 years out. The MAPEs for bachelor's degree projections were 1.0, 2.0, and 5.7 percent, respectively, for lead times of 1, 2, and 5 years out. The MAPEs for master's degrees were 1.2, 4.1, and 11.3 percent, respectively. For doctor's degrees, the MAPEs were 2.2, 3.5, and 2.5 percent, respectively. For first-professional degrees, the MAPEs were 1.3, 1.3, and 5.5 percent, respectively.

NCES projections of degrees by level produced over the last 8 years have been less accurate than NCES projections of public elementary and secondary enrollment produced over the same period. For more information on the MAPEs of different NCES projection series, see table A2 in appendix A.

Section 5. Elementary and Secondary Teachers

Introduction

Between 2002 and 2014, the number of teachers in elementary and secondary schools is projected to rise. The numbers of both public and private school teachers are projected to grow.

Factors affecting the projections

The projected increase in the number of elementary and secondary teachers is related to levels of enrollments and to education revenue receipts from state sources per capita.

Three alternative sets of projections

Middle, low, and high sets of projections were produced for the number of teachers and the pupil/teacher ratio, by control of school (public or private).

Factors that were not considered

The projections do not take into account possible changes in the number of teachers due to the effects of government policies.

Assumptions underlying the projections

In order to provide a range of possible outcomes, the alternative projections make varying economic assumptions about the growth path for one of the key variables used to project the number of public school teachers—assistance by state governments to local governments.

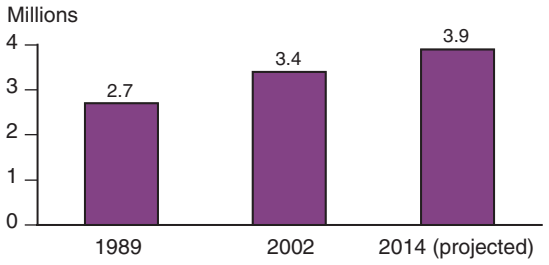
Teachers in Elementary and Secondary Schools

Total elementary and secondary teachers

The total number of elementary and secondary teachers (figure H; reference figure 29 and table 31)

- increased 25 percent between 1989 and 2002; and
- is projected to increase an additional 13 percent between 2002 and 2014 in the middle alternative projections.

Figure H. Actual and middle alternative projected numbers for elementary and secondary teachers: Selected years, 1989–2014



SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys, various years; and Elementary and Secondary Teacher Model. (See reference table 31.)

Public school teachers

The number of teachers in public elementary and secondary schools (figure I; reference figure 30 and table 31)

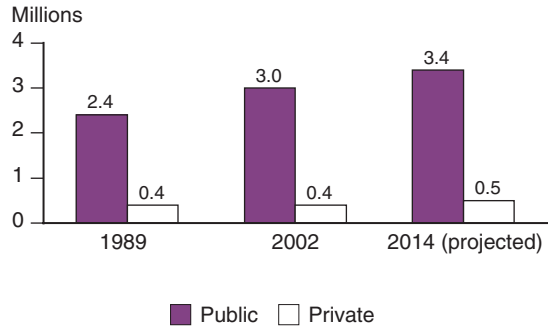
- increased 29 percent between 1989 and 2002; and
- is projected to increase an additional 13 percent between 2002 and 2014 in the middle alternative projections.

Private school teachers

The number of teachers in private elementary and secondary schools

- increased 5 percent between 1989 and 2002; and
- is projected to increase an additional 14 percent between 2002 and 2014 in the middle alternative projections.

Figure I. Actual and middle alternative projected numbers for elementary and secondary teachers, by control of school: Selected years, 1989–2014



SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys, various years; Private School Universe Survey, various years; and Elementary and Secondary Teacher Model. (See reference table 31.)

Pupil/Teacher Ratios

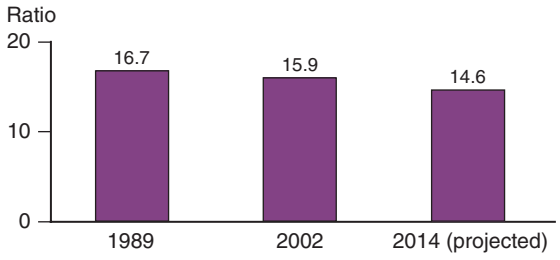
The pupil/teacher ratio in elementary and secondary schools (figure J; reference figures 31 and 32 and table 32)

- decreased from 16.7 to 15.9 between 1989 and 2002; and
- is projected to be 14.6 in 2014 in the middle alternative projections.

About pupil/teacher ratios

The overall elementary and secondary pupil/teacher ratio and pupil/teacher ratios for public and private schools were computed based on elementary and secondary enrollment and the number of classroom teachers by control of school.

Figure J. Actual and middle alternative projected numbers for the pupil/teacher ratio in elementary and secondary schools: Selected years, 1989–2014



SOURCE: U.S. Dept. of Education, NCES: Common Core of Data surveys, various years; Private School Universe Survey, various years; and Elementary and Secondary Teacher Model. (See reference table 32.)

Accuracy of Projections

An analysis of projection errors from the past 14 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for projections of classroom teachers in public elementary and secondary schools were 1.0 percent for 1 year out, 1.5 percent for 2 years out, 2.7 percent for 5 years out, and 5.4 percent for 10 years out. NCES projections of public elementary and secondary teachers produced over the last 14 years have been less accurate than NCES projections of public elementary and secondary enrollment produced over the same period. For more information on the MAPEs of different NCES projection series, see table A2 in appendix A.

Section 6. Expenditures of Public Elementary and Secondary Schools

Introduction

Current expenditures and average annual teacher salaries in public elementary and secondary schools are both projected to increase in constant dollars between school years 2001–02 and 2013–14, with current expenditures projected to increase more rapidly.

Three alternative sets of projections

Middle, low, and high sets of projections were made for total current expenditures, current expenditures per pupil, and teacher salaries.

Assumptions underlying the projections

Each set of projections is based on alternative assumptions concerning economic growth and assistance by state governments to local governments. For more details, see appendix A.

Current Expenditures

Between 2001–02 and 2013–14, increases are expected in the current expenditures and current expenditures per pupil of public elementary and secondary schools (figure K; reference figures 33 and 34 and tables 33 and 34).

Current expenditures

Current expenditures in constant 2002–03 dollars increased 45 percent from 1988–89 to 2001–02.

From 2001–02 to 2013–14, current expenditures in constant 2002–03 dollars are projected to increase

- 32 percent, to $498 billion, in the middle alternative projections;
- 26 percent, to $473 billion, in the low alternative projections; and
- 39 percent, to $525 billion, in the high alternative projections.

Current expenditures per pupil

Current expenditures per pupil in constant 2002–03 dollars increased 22 percent from 1988–89 to 2001–02.

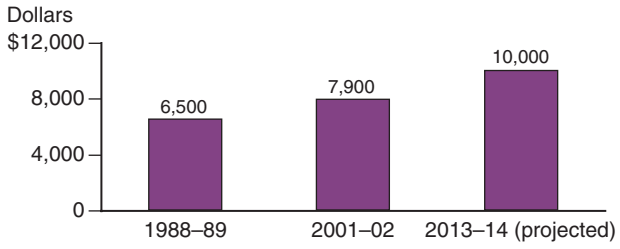
From 2001–02 to 2013–14, current expenditures in constant 2002–03 dollars per pupil in fall enrollment are projected to increase

- 27 percent, to $10,000, in the middle alternative projections;
- 21 percent, to $9,500, in the low alternative projections; and
- 34 percent, to $10,600, in the high alternative projections.

Other factors that may affect the projections

Many factors that may affect future school expenditures and teacher salaries were not considered in the production of these projections. Such factors include policy initiatives, as well as potential changes in the distribution of elementary and secondary teachers as older teachers retire and are replaced by younger teachers.

Figure K. Actual and middle alternative projected numbers for current expenditures per pupil in elementary and secondary schools in 2002–03 dollars: Selected years, 1988–89 to 2013–14



NOTE: Data were placed in constant 2002–03 dollars using the Consumer Price Index for all urban consumers (BLS, U.S. Dept. of Labor).
SOURCE: U.S. Dept. of Education, NCES: Common Core of Data, "National Public Education Finance Survey," various years; National Elementary and Secondary Enrollment Model; and Elementary and Secondary School Current Expenditures Model. (See reference table 33.)

Teacher Salaries

Teacher salaries are projected to increase between 2003–04 and 2013–14 (reference figure 35 and table 35).

Teacher salaries in constant 2002–03 dollars

- increased 3 percent between 1988–89 and 2003–04; and
- are projected to increase an additional 6 percent between 2003–04 and 2013–14 in the middle alternative projections.

Constant versus current dollars

Throughout this section, projections of current expenditures and teacher salaries are presented in constant 2002–03 dollars. The reference tables, later in this report, present these data both in constant 2002–03 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 B6 in appendix B). Three alternative sets of projections for the CPI were used, one with each set of projections (low, middle, and high).

Accuracy of Projections

Historically, the average difference between the actual values and the projections of current expenditures, current expenditures per pupil, and teacher salaries has been about 2 percent for projections that are 2 or 3 years out from the year of the last actual data. Projections for years that are further out from the last year with actual data tend to be less accurate. The average difference between the actual values and projections 7 or more years out from the last year with actual data generally has been over 4 percent for current expenditures and current expenditures per pupil, and over 8 percent for teacher salaries.

Long-term projections that are economically based, such as projections of current expenditures and teacher salaries, are generally less accurate than long-term demographic projections, such as projections of elementary and secondary enrollment. Recent NCES projections of current expenditures generally have been less accurate than recent NCES projections of public elementary and secondary enrollment, but more accurate than projections of teacher salaries. Projections of teacher salaries generally have been less accurate than projections of public elementary and secondary enrollment, and similar in accuracy to projections of first-professional degrees. See appendix A for further discussion of the accuracy of recent projections of current expenditures and teacher salaries, and see table A2 in appendix A for the mean absolute percentage errors (MAPEs) of these projections.

Section 7. Expenditures of Public Degree-Granting Institutions

Introduction

Current-fund expenditures in both public 4-year and public 2-year degree-granting institutions are projected to increase in constant dollars between school years 2000–01 and 2013–14.

Three alternative sets of projections

Middle, low, and high sets of projections were produced for total current-fund expenditures, as well as for educational and general expenditures, for both public 4-year and public 2-year degree-granting institutions.

About the projections

Each set of projections is based on alternative assumptions concerning economic growth and receipts to state and local governments. Many other factors that may affect future expenditures were not considered in the production of these projections. See appendix A for more details.

Public Institutions

Between 2000–01 and 2013–14, increases are expected in the current-fund expenditures of public degree-granting institutions (figure L; reference figure 36 and tables 36 and 38).

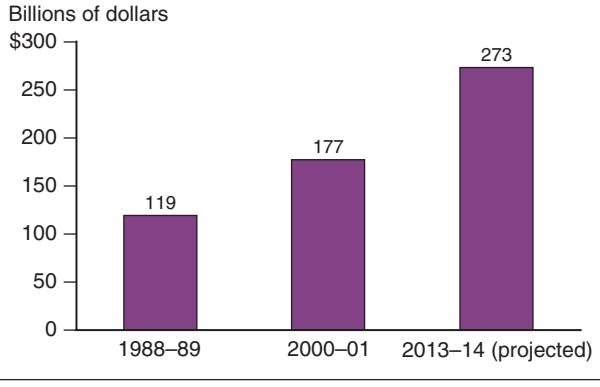
Current-fund expenditures

Current-fund expenditures in constant 2002–03 dollars of 4-year and 2-year degree-granting institutions combined increased 49 percent from 1988–89 to 2000–01.

From 2000–01 to 2013–14, current-fund expenditures in constant 2002–03 dollars are projected to increase

- 54 percent, to $273 billion, in the middle alternative projections;
- 44 percent, to $255 billion, in the low alternative projections; and
- 67 percent, to $296 billion, in the high alternative projections.

Figure L. Actual and middle alternative projected numbers for current-fund expenditures in public degree-granting institutions: Selected years, 1988–89 to 2013–14



NOTE: Data were placed in constant 2002–03 dollars using the Consumer Price Index for all urban consumers (BLS, U.S. Dept. of Labor).
SOURCE: U.S. Dept. of Education, NCES: Integrated Postsecondary Education Data System (IPEDS), "Finance Survey," various years; and Expenditures in Degree-Granting Institutions Model. (See reference tables 36 and 38.)

Public 4-Year Institutions

Between 2000–01 and 2013–14, increases are expected in the current-fund expenditures and the educational and general expenditures of public 4-year degree-granting institutions (figure M; reference figure 36 and tables 36 and 37). Both overall increases and increases per student in full-time-equivalent (FTE) enrollment are expected.

Current-fund expenditures

Current-fund expenditures in constant 2002–03 dollars increased 49 percent from 1988–89 to 2000–01.

From 2000–01 to 2013–14, public 4-year institutions' current-fund expenditures in constant 2002–03 dollars are projected to increase

- 53 percent, to $223 billion, in the middle alternative projections;
- 42 percent, to $207 billion, in the low alternative projections; and
- 66 percent, to $242 billion, in the high alternative projections.

Current-fund expenditures per student

Current-fund expenditures in constant 2002–03 dollars per student in FTE enrollment increased 33 percent from 1988–89 to 2000–01.

From 2000–01 to 2013–14, current-fund expenditures in constant 2002–03 dollars per student in FTE enrollment are projected to increase

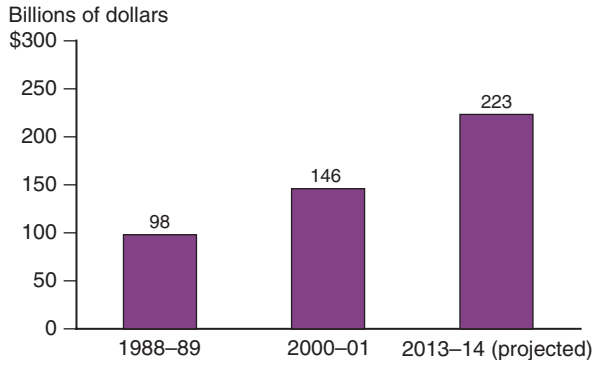
- 18 percent, to $34,400, in the middle alternative projections;
- 12 percent, to $32,600, in the low alternative projections; and
- 25 percent, to $36,400, in the high alternative projections.

Educational and general expenditures

In the middle alternative projections, from 2000–01 to 2013–14, educational and general expenditures in constant 2002–03 dollars are projected to increase

- 50 percent overall, from $113 billion to $169 billion; and
- 16 percent per student in FTE enrollment, from $22,500 to $26,100.

Figure M. Actual and middle alternative projected numbers for current-fund expenditures in public 4-year degree-granting institutions: Selected years, 1988–89 to 2013–14



NOTE: Data were placed in constant 2002–03 dollars using the Consumer Price Index for all urban consumers (BLS, U.S. Dept. of Labor).
SOURCE: U.S. Dept. of Education, NCES: Integrated Postsecondary Education Data System (IPEDS), "Finance Survey," various years; and Expenditures in Degree-Granting Institutions Model. (See reference table 36.)

Projections for public institutions only

Projections are presented for public institutions only. This is because private institutions began using a new accounting model to report financial data beginning with data for 1996–97, and there are not yet enough data to produce projections with the new accounting model. The new model measures economic changes, while the old model measured financial flows. Also, the terms current-fund expenditures and educational and general expenditures are not used in the new accounting model for private institutions.

A subset of current-fund expenditures

Educational and general expenditures consist of those current-fund expenditures that are for activities directly related to the education of students. Expenditures for such activities as auxiliary enterprises (e.g., student dormitories, cafeterias, and bookstores) and university hospitals are excluded from educational and general expenditures, but are included in total current-fund expenditures.

Public 2-Year Institutions

Between 2000–01 and 2013–14, increases are expected in the current-fund expenditures and the educational and general expenditures of public 2-year degree-granting institutions (figure N; reference figure 36 and tables 38 and 39). Both overall increases and increases per student in FTE enrollment are expected.

Current-fund expenditures

Current-fund expenditures in constant 2002–03 dollars increased 51 percent from 1988–89 to 2000–01.

From 2000–01 to 2013–14, public 2-year institutions' current-fund expenditures in constant 2002–03 dollars are projected to increase

- 62 percent, to $50 billion, in the middle alternative projections;
- 55 percent, to $48 billion, in the low alternative projections; and
- 74 percent, to $54 billion, in the high alternative projections.

Current-fund expenditures per student

Current-fund expenditures in constant 2002–03 dollars per student in FTE enrollment increased 21 percent from 1988–89 to 2000–01.

From 2000–01 to 2013–14, current-fund expenditures in constant 2002–03 dollars per student in FTE enrollment are projected to

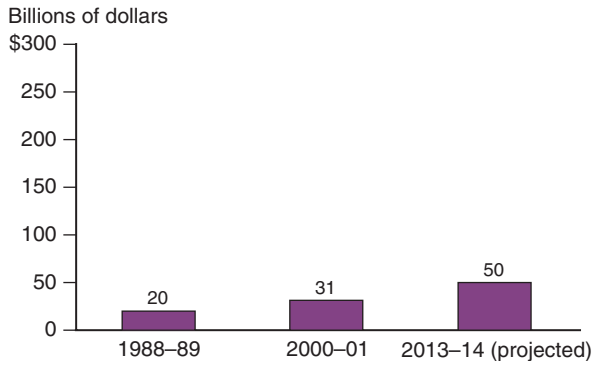
- increase 27 percent, to $12,100, in the middle alternative projections;
- increase 24 percent, to $11,800, in the low alternative projections; and
- increase 33 percent, to $12,700, in the high alternative projections.

Educational and general expenditures

In the middle alternative projections, from 2000–01 to 2013–14, educational and general expenditures in constant 2002–03 dollars are projected to increase

- 63 percent overall, from $29 billion to $47 billion; and
- 28 percent per student in FTE enrollment, from $9,000 to $11,500.

Figure N. Actual and middle alternative projected numbers for current-fund expenditures in public 2-year degree-granting institutions: Selected years, 1988–89 to 2013–14



NOTE: Data were placed in constant 2002–03 dollars using the Consumer Price Index for all urban consumers (BLS, U.S. Dept. of Labor).
SOURCE: U.S. Dept. of Education, NCES: Integrated Postsecondary Education Data System (IPEDS), "Finance Survey," various years; and Expenditures in Degree-Granting Institutions Model. (See reference table 38.)

Constant versus current dollars

Throughout this section, projections of current-fund expenditures and educational and general expenditures are presented in constant 2002–03 dollars. The reference tables, later in this report, present these data both in constant 2002–03 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 B6 in appendix B). Three alternative sets of projections for the CPI were used, one with each set of projections (low, middle, and high).

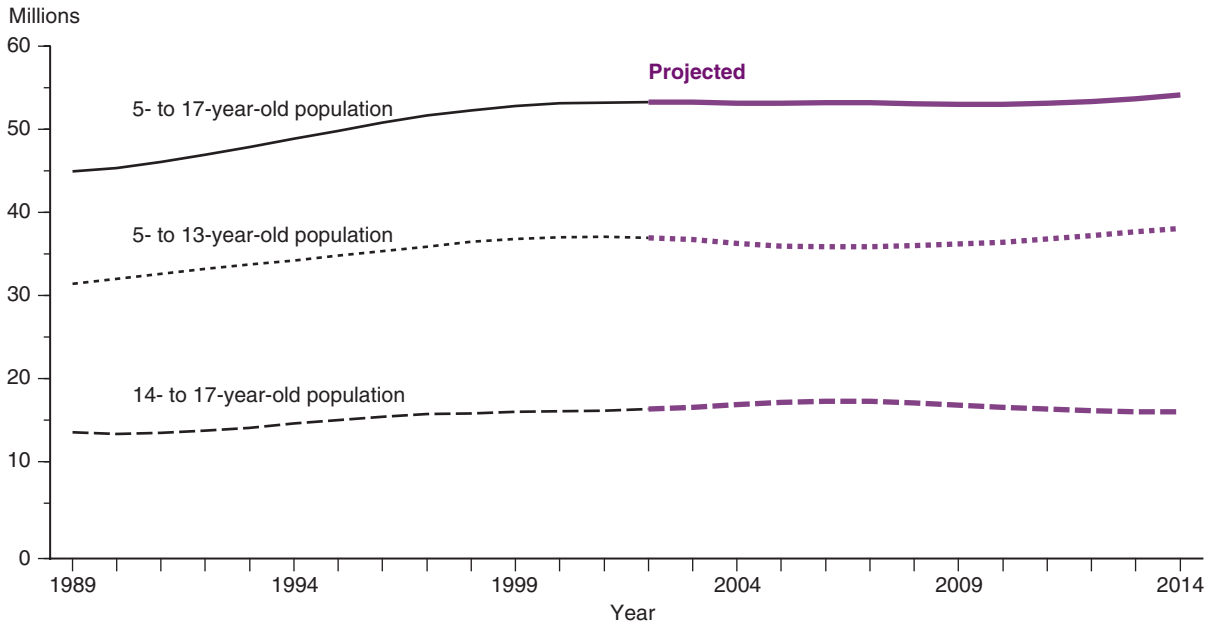
Accuracy of Projections

Historically, the average difference between the actual values and the projections of current-fund expenditures of public degree-granting institutions has been about 2 percent for projections that are 2 or 3 years out from the year of the last actual data. Projections for years that are further out from the last year with actual data tend to be less accurate. The average difference between the actual values and projections 7 or more years out from the last year with actual data generally has been about 4 to 5 percent for both current-fund expenditures of public 4-year institutions and current-fund expenditures of public 2-year institutions.

Long-term projections that are economically based, such as projections of expenditures, are generally less accurate than long-term demographic projections, such as projections of elementary and secondary enrollment. NCES projections of current-fund expenditures of public degree-granting institutions produced over the last 9 years generally have been less accurate than recent NCES projections of public elementary and secondary enrollment. They have been more accurate than projections of teacher salaries. They have been similar in accuracy to projections of current expenditures in elementary and secondary schools. See appendix A for further discussion of the accuracy of recent projections of expenditures of public degree-granting institutions, and see table A2 in appendix A for the mean absolute percentage errors (MAPEs) of these projections.

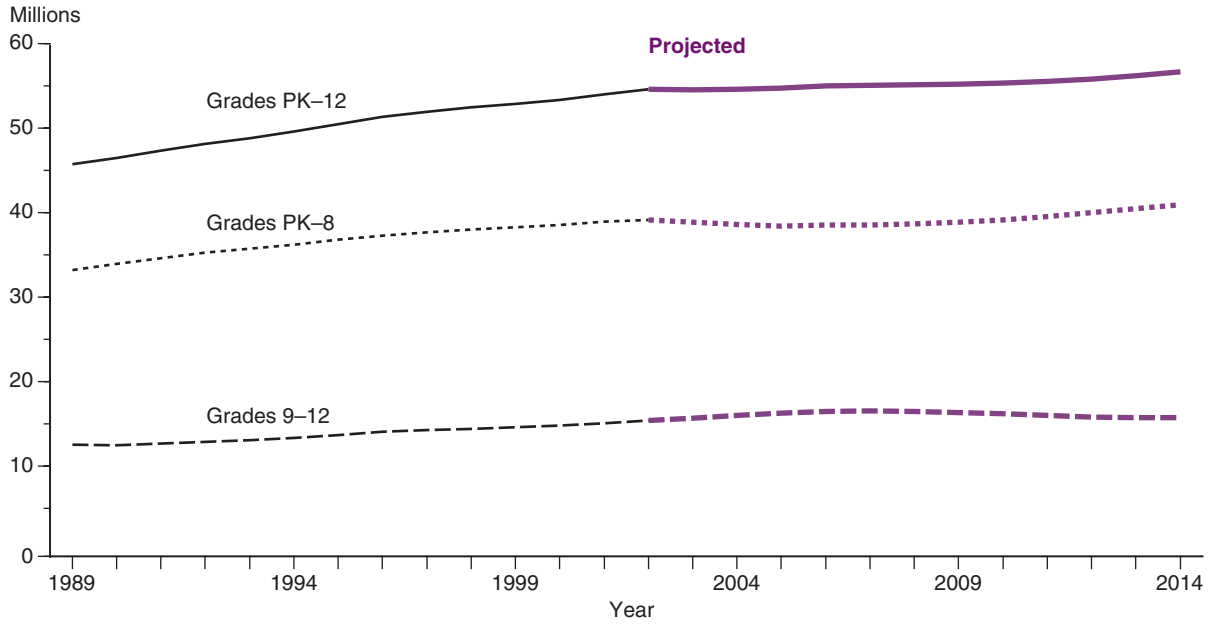
Reference Figures and Tables

Figure 1. Actual and projected numbers for school-age populations: 1989 to 2014



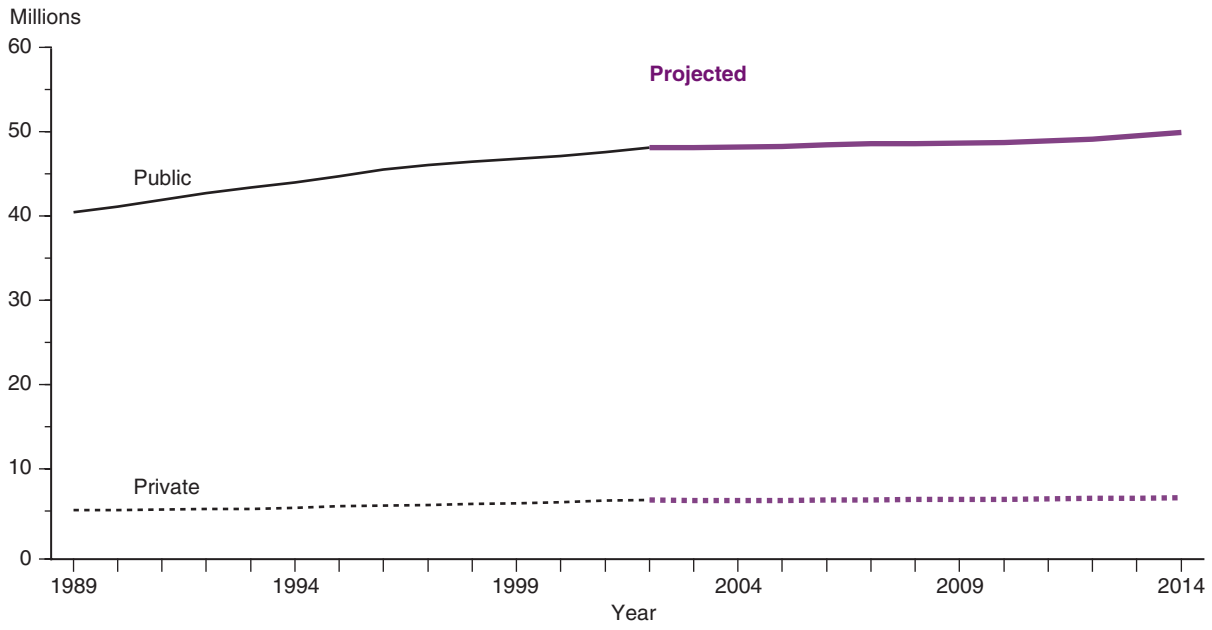
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092 and 1095, and previously unpublished tabulations.

Figure 2. Actual and projected numbers for enrollment in elementary and secondary schools, by grade level: Fall 1989 to fall 2014



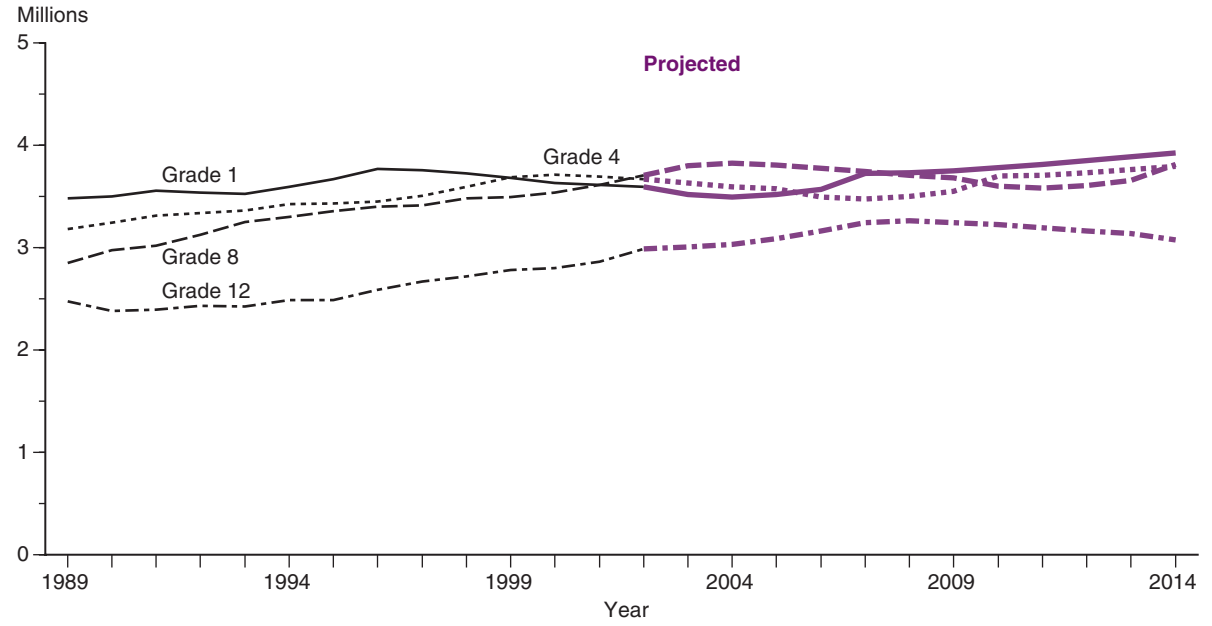
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1989–90 through 2002–03; Private School Universe Survey (PSS), selected years, 1989–90 through 2001–02; and National Elementary and Secondary Enrollment Model, 1972–2002.

Figure 3. Actual and projected numbers for enrollment in elementary and secondary schools, by control of school: Fall 1989 to fall 2014



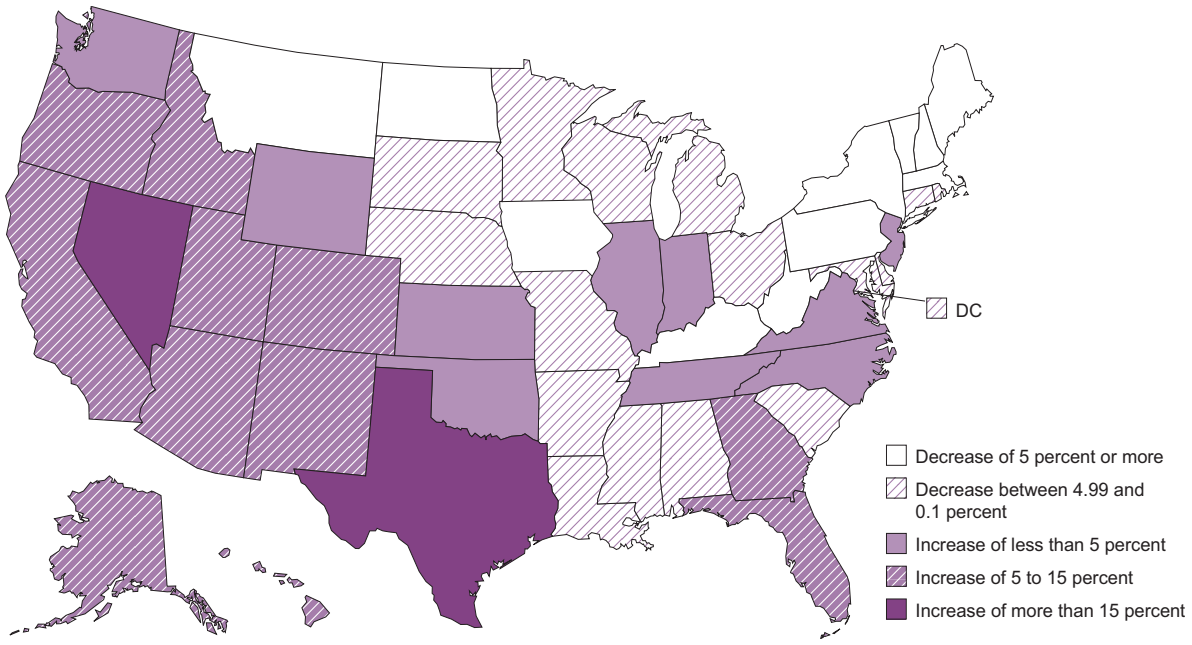
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1989–90 through 2002–03; Private School Universe Survey (PSS), selected years, 1989–90 through 2002–03; and National Elementary and Secondary School Model, 1972–2002.

Figure 4. Actual and projected numbers for enrollment in elementary and secondary schools, by selected grade level: Fall 1989 to fall 2014



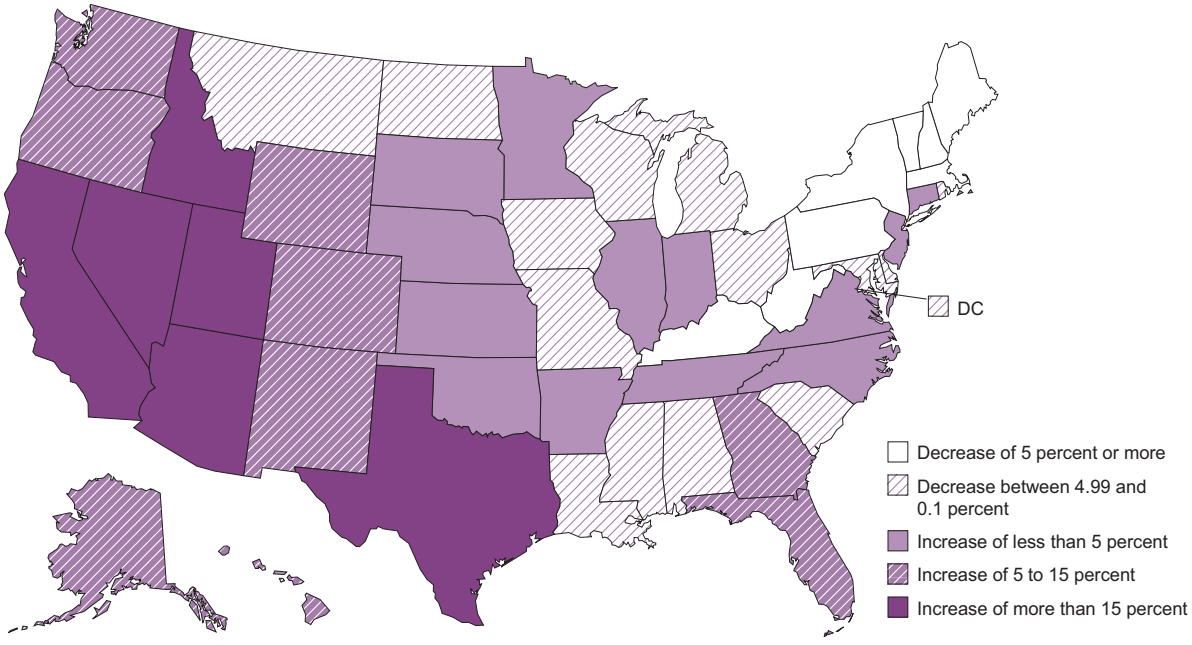
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1989–90 through 2002–03; and National Elementary and Secondary School Model, 1972–2002.

Figure 5. Projected percentage change in grades PK–12 enrollment in public schools, by state: Fall 2002 to fall 2014



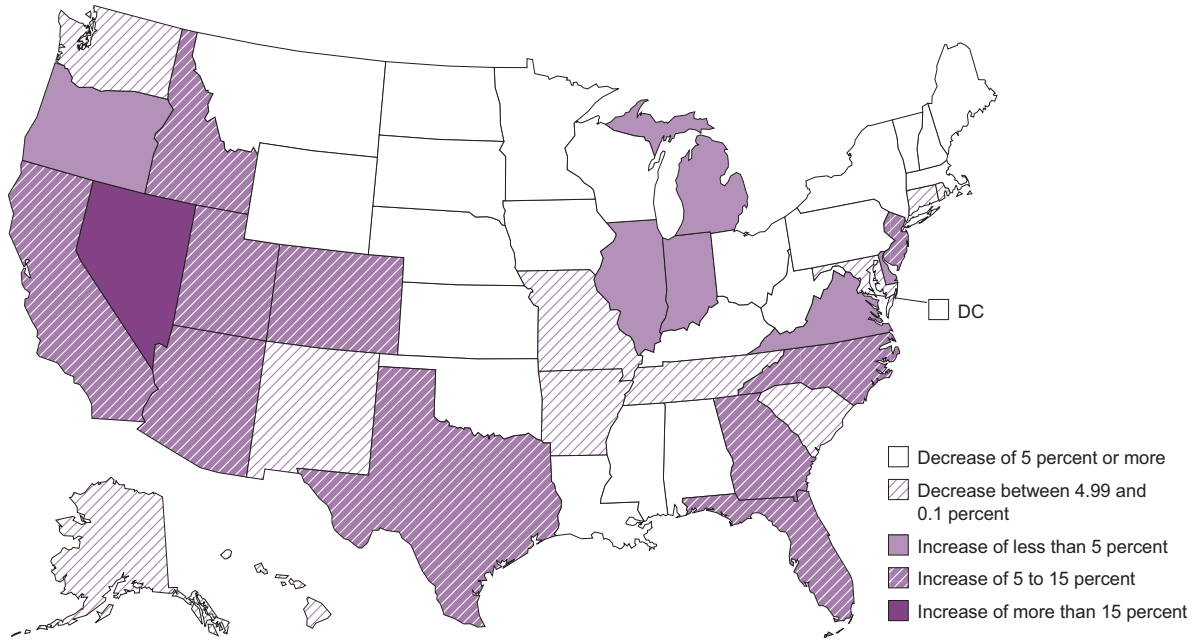
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2002–03; and State Public Elementary and Secondary Enrollment Model, 1980–2002.

Figure 6. Projected percentage change in grades PK–8 enrollment in public schools, by state: Fall 2002 to fall 2014



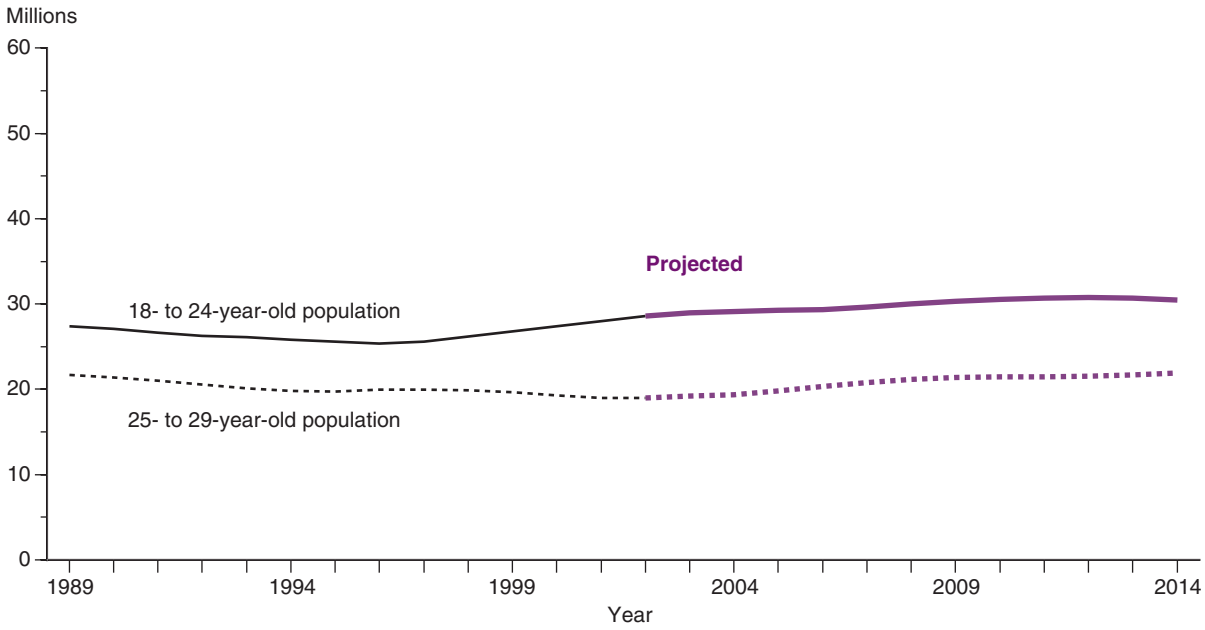
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2002–03; and State Public Elementary and Secondary Enrollment Model, 1980–2002.

Figure 7. Projected percentage change in grades 9–12 enrollment in public schools, by state: Fall 2002 to fall 2014



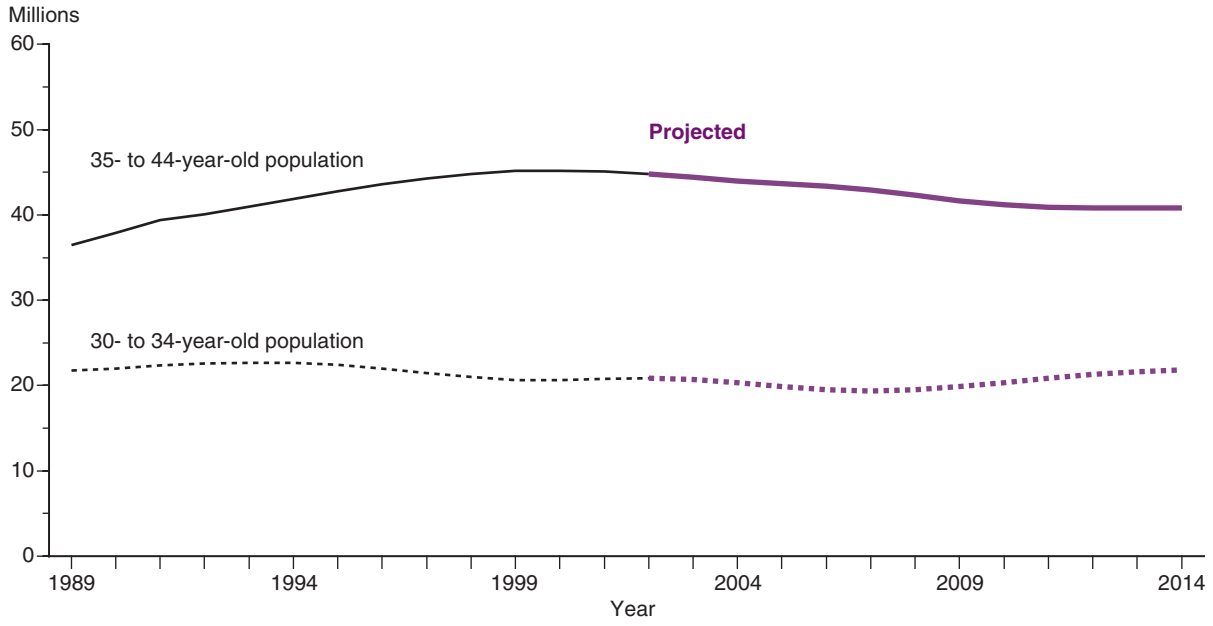
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2002–03; and State Public Elementary and Secondary Enrollment Model, 1980–2002.

Figure 8. Actual and projected numbers for college-age populations (18–24 years and 25–29 years): 1989 to 2014



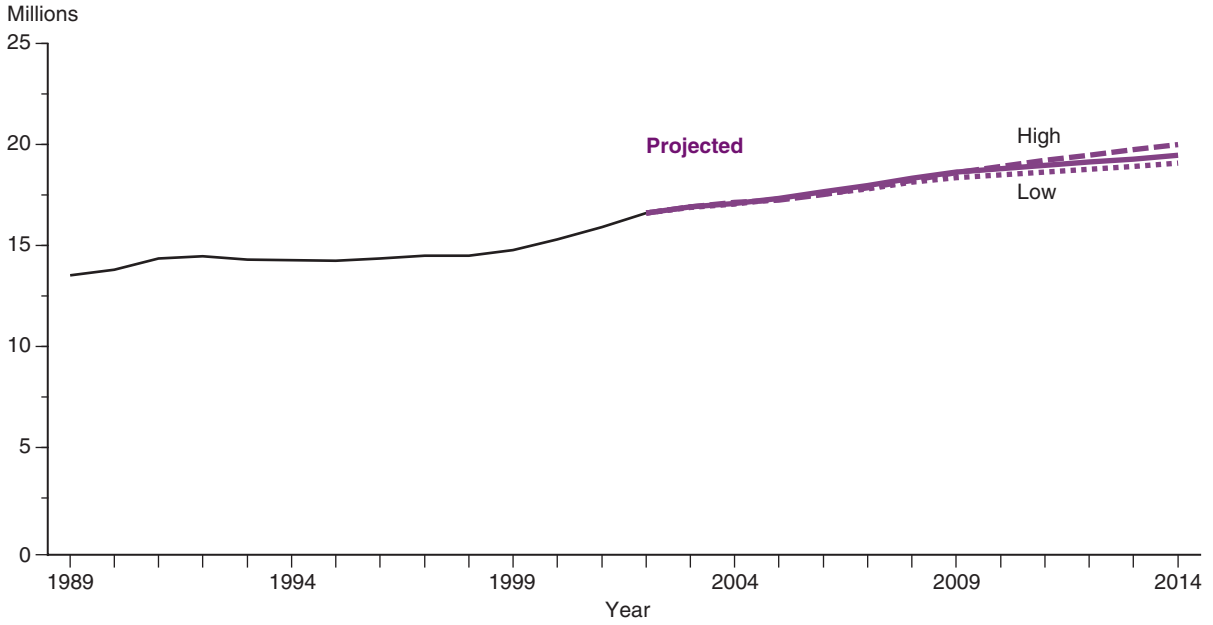
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092 and 1095, and previously unpublished tabulations.

Figure 9. Actual and projected numbers for college-age populations (30–34 years and 35–44 years): 1989 to 2014



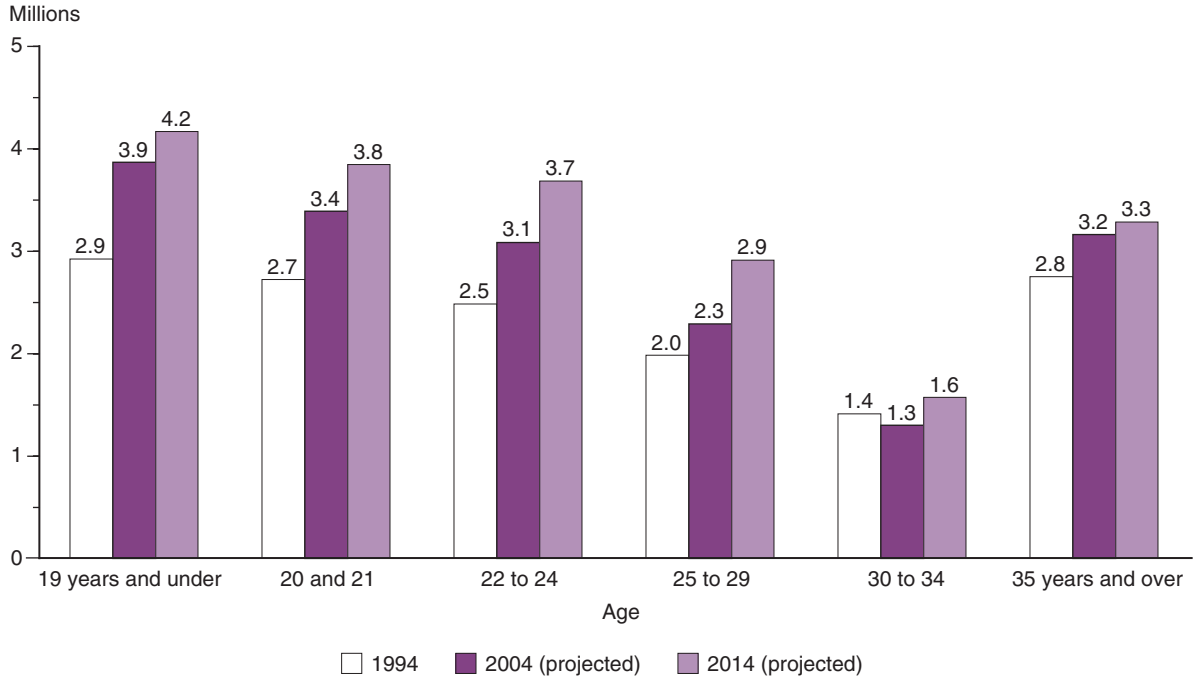
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 1092 and 1095, and previously unpublished tabulations.

Figure 10. Actual and alternative projected numbers for enrollment in degree-granting postsecondary institutions: Fall 1989 to fall 2014



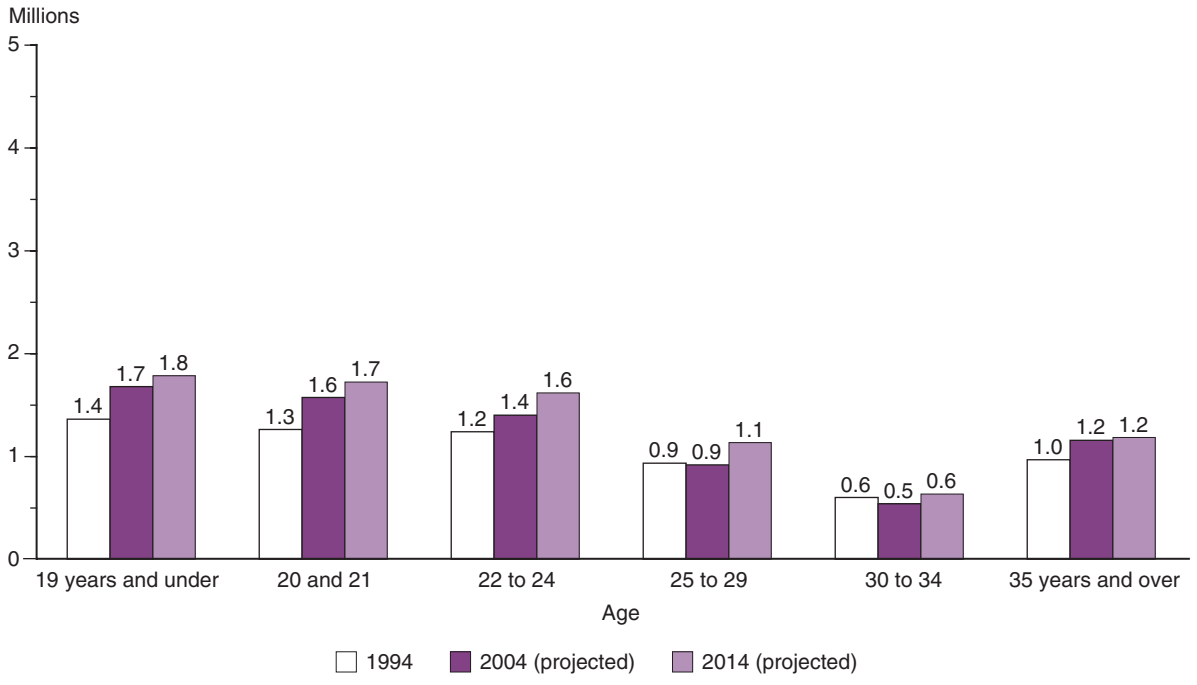
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF: 89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002.

Figure 11. Actual and middle alternative projected numbers for enrollment in degree-granting postsecondary institutions, by age group: Fall 1994, 2004, and 2014



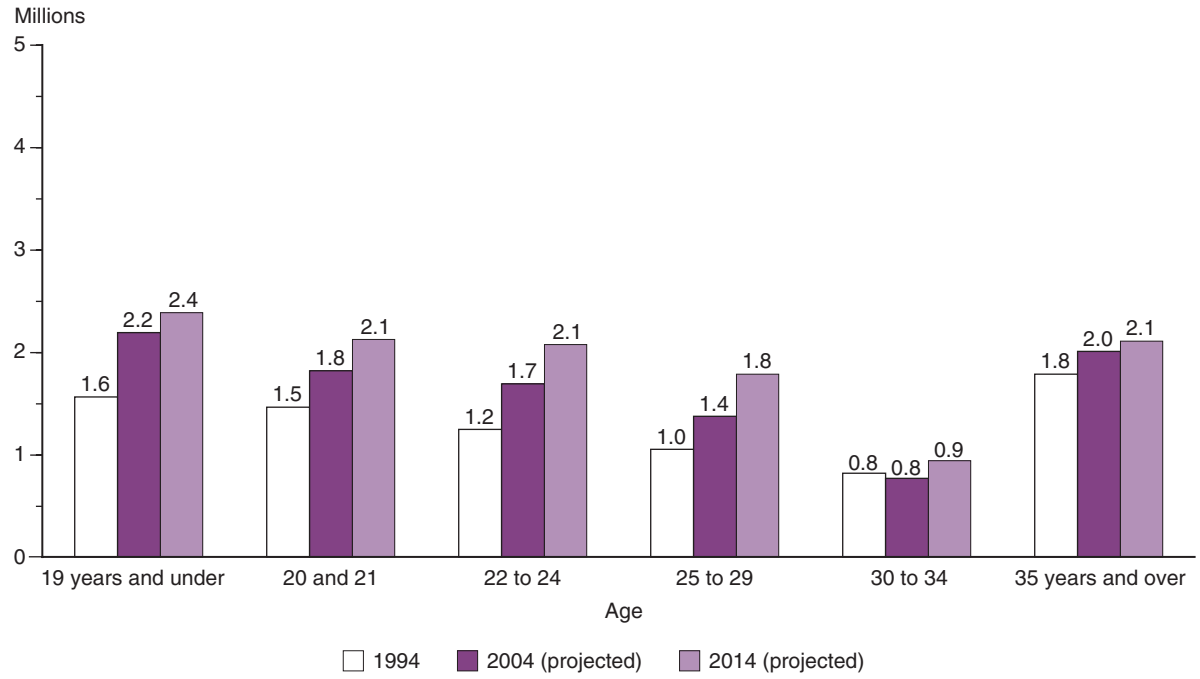
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), 1994; Enrollment in Degree-Granting Institutions Model, 1980–2002; and U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, "Social and Economic Characteristics of Students," various years.

Figure 12. Actual and middle alternative projected numbers for enrollment of men in degree-granting postsecondary institutions, by age group: Fall 1994, 2004, and 2014



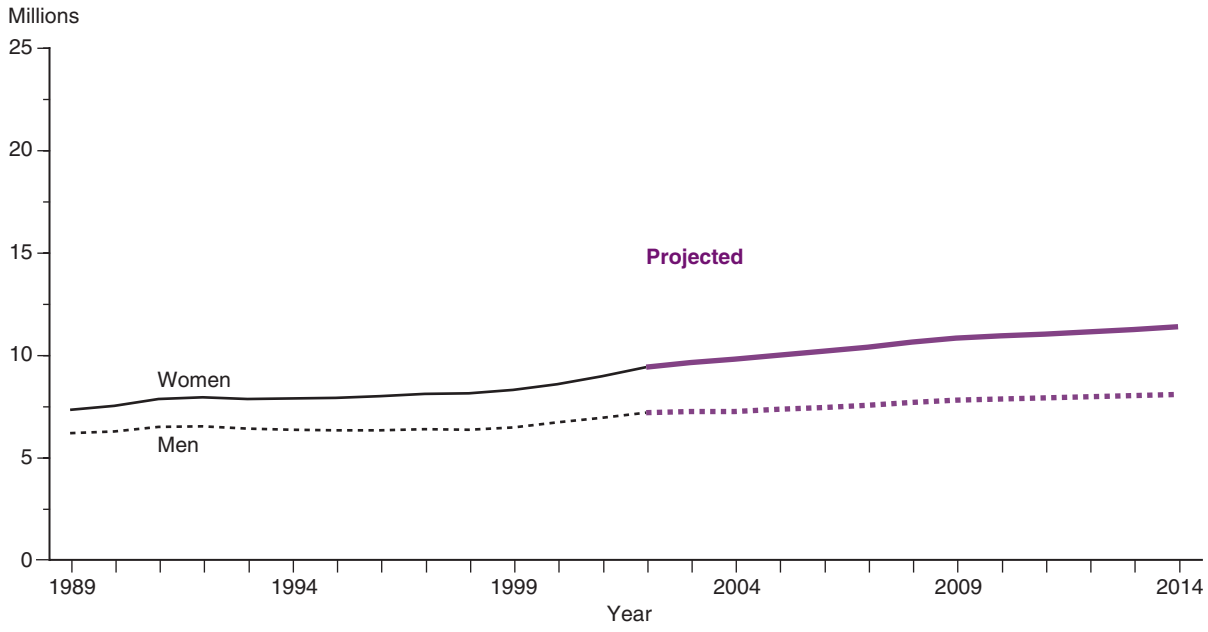
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), 1994; Enrollment in Degree-Granting Institutions Model, 1980–2002; and U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, "Social and Economic Characteristics of Students," various years.

Figure 13. Actual and middle alternative projected numbers for enrollment of women in degree-granting postsecondary institutions, by age group: Fall 1994, 2004, and 2014



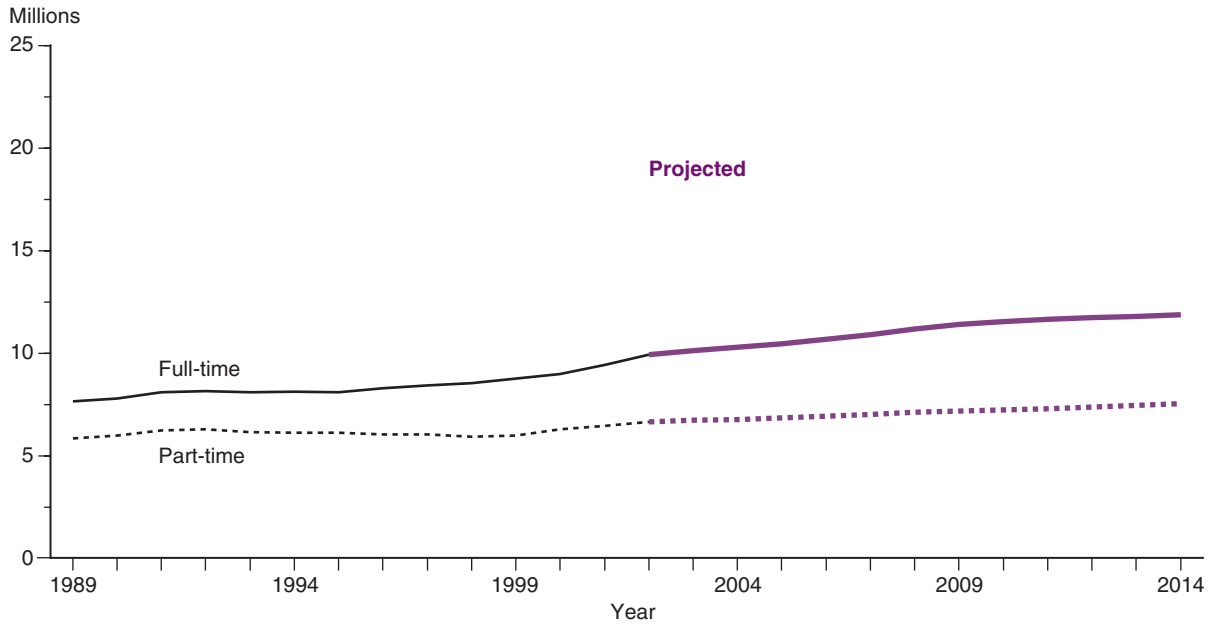
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF), 1994; Enrollment in Degree-Granting Institutions Model, 1980–2002; and U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, "Social and Economic Characteristics of Students," various years.

Figure 14. Actual and middle alternative projected numbers for enrollment in degree-granting postsecondary institutions, by sex: Fall 1989 to fall 2014



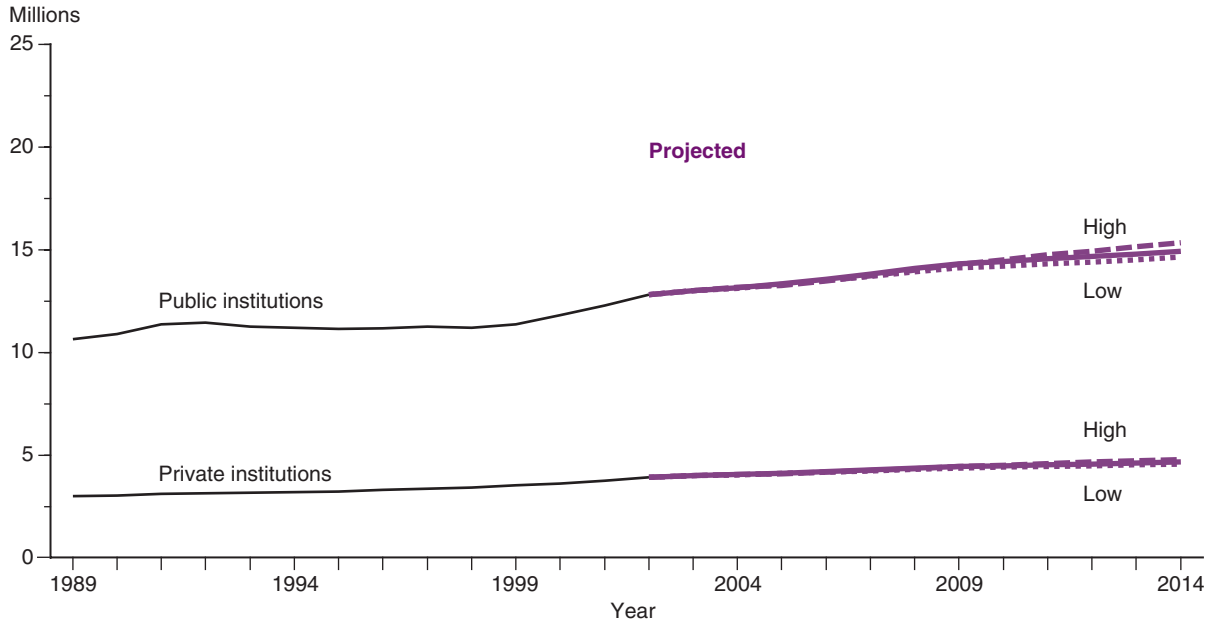
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF: 89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002.

Figure 15. Actual and middle alternative projected numbers for enrollment in degree-granting postsecondary institutions, by attendance status: Fall 1989 to fall 2014



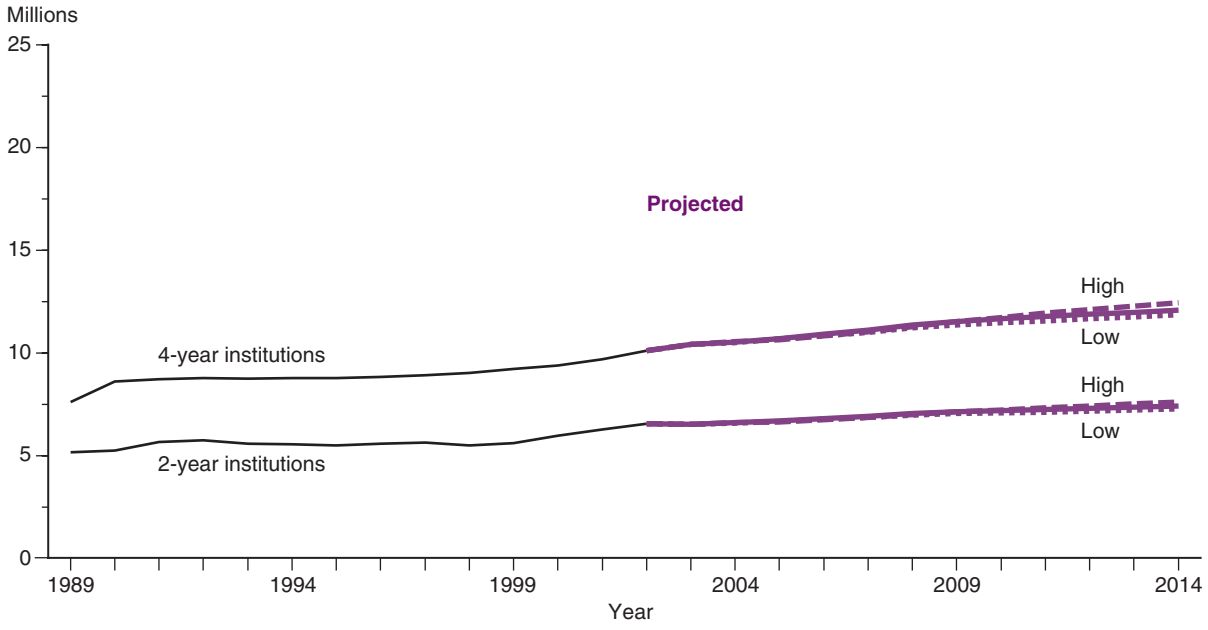
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF: 89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002.

Figure 16. Actual and middle alternative projected numbers for enrollment in degree-granting postsecondary institutions, by control of institution: Fall 1989 to fall 2014



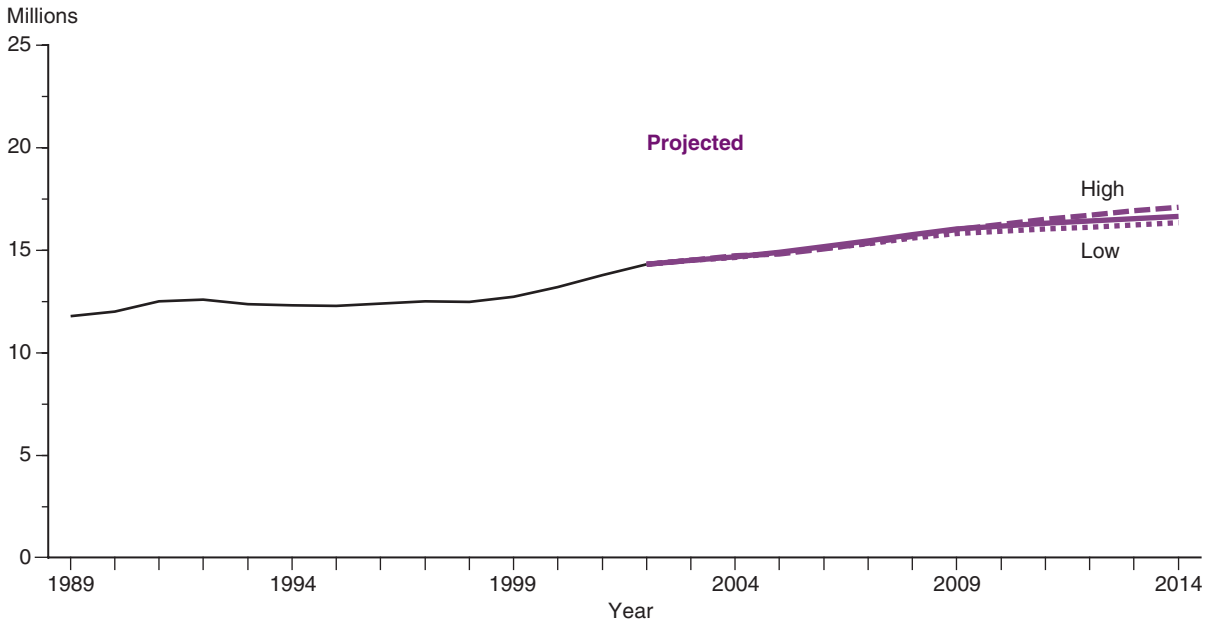
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF: 89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002.

Figure 17. Actual and middle alternative projected numbers for enrollment in degree-granting postsecondary institutions, by type of institution: Fall 1989 to fall 2014



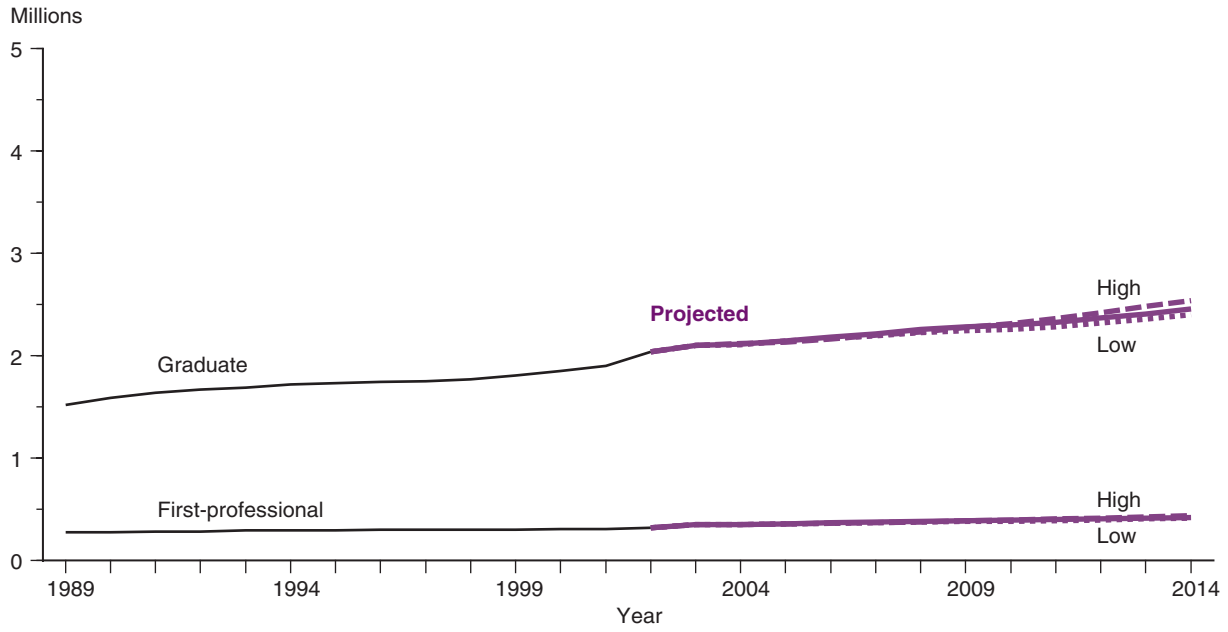
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF: 89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002.

Figure 18. Actual and alternative projected numbers for undergraduate enrollment in degree-granting postsecondary institutions: Fall 1989 to fall 2014



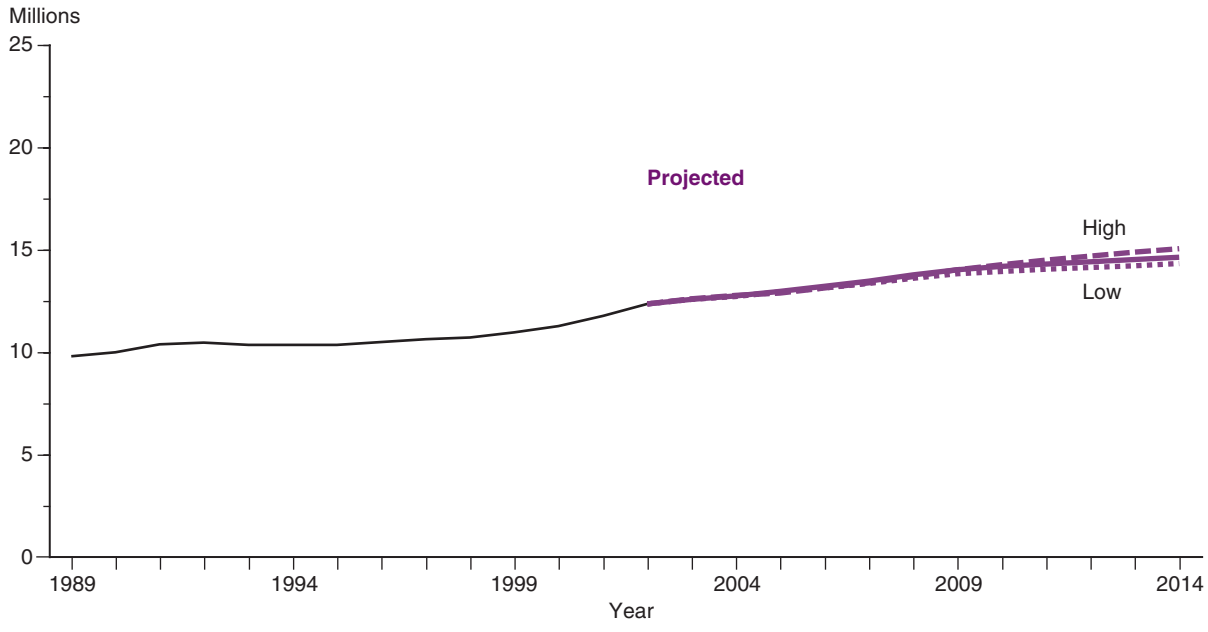
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF: 89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002.

Figure 19. Actual and alternative projected numbers for postbaccalaureate enrollment in degree-granting postsecondary institutions: Fall 1989 to fall 2014



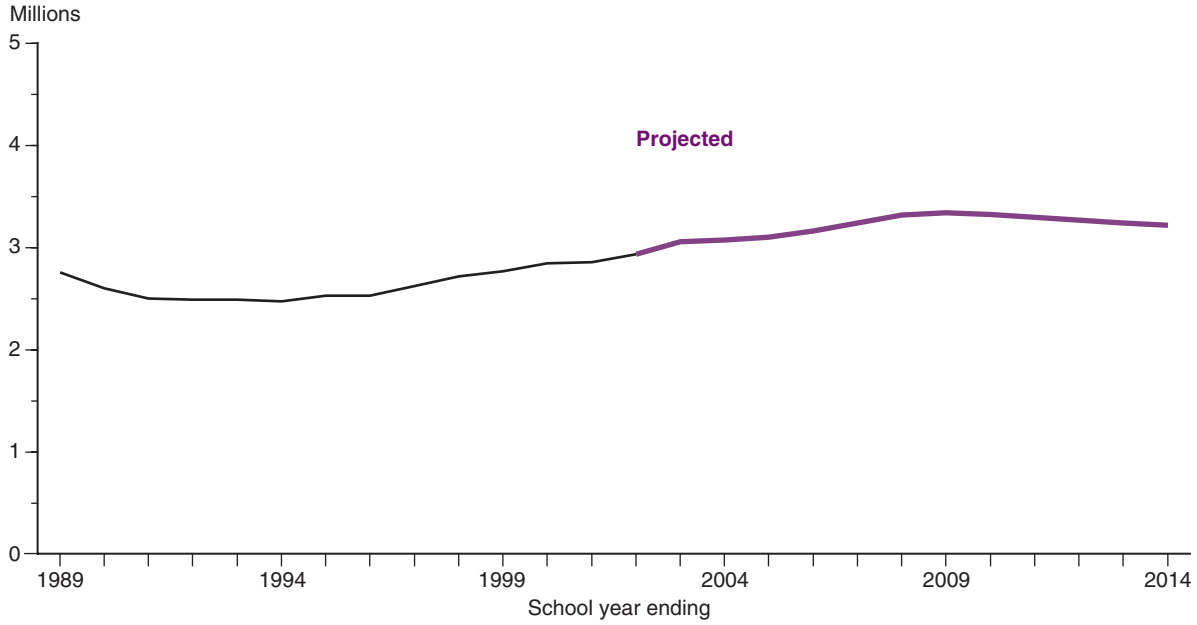
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF: 89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002.

Figure 20. Actual and alternative projected numbers for full-time-equivalent enrollment in degree-granting postsecondary institutions: Fall 1989 to fall 2014



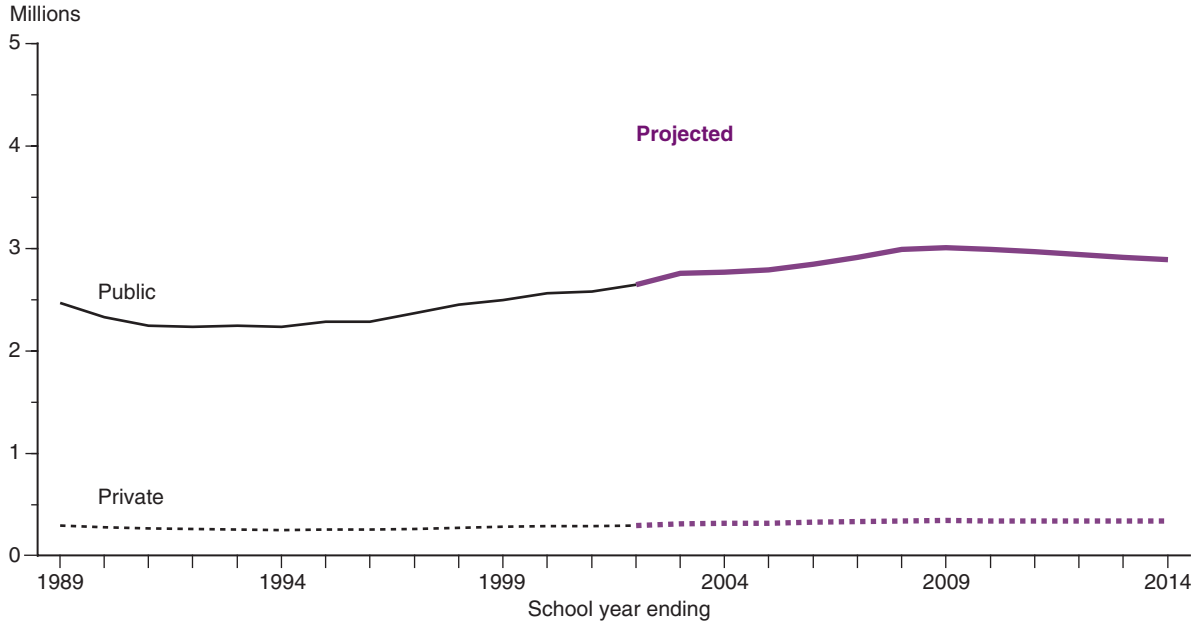
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF: 89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002.

Figure 21. Actual and projected numbers for high school graduates: 1988–89 to 2013–14



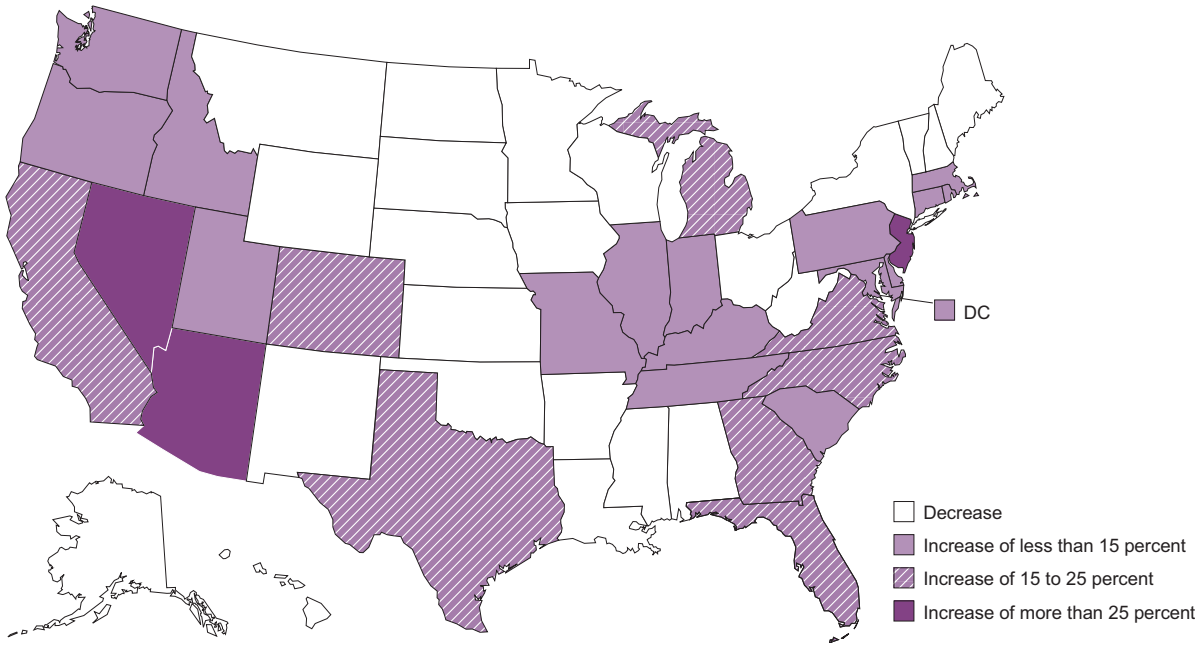
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1988–89 through 2001–02; Private School Universe Survey (PSS), selected years, 1989–90 through 2001–02; Private School Survey Early Estimates, various years; and National Elementary and Secondary High School Graduates Enrollment Model, 1972–73 through 2001–02.

Figure 22. Actual and projected numbers for high school graduates, by control of school: 1988–89 to 2013–14



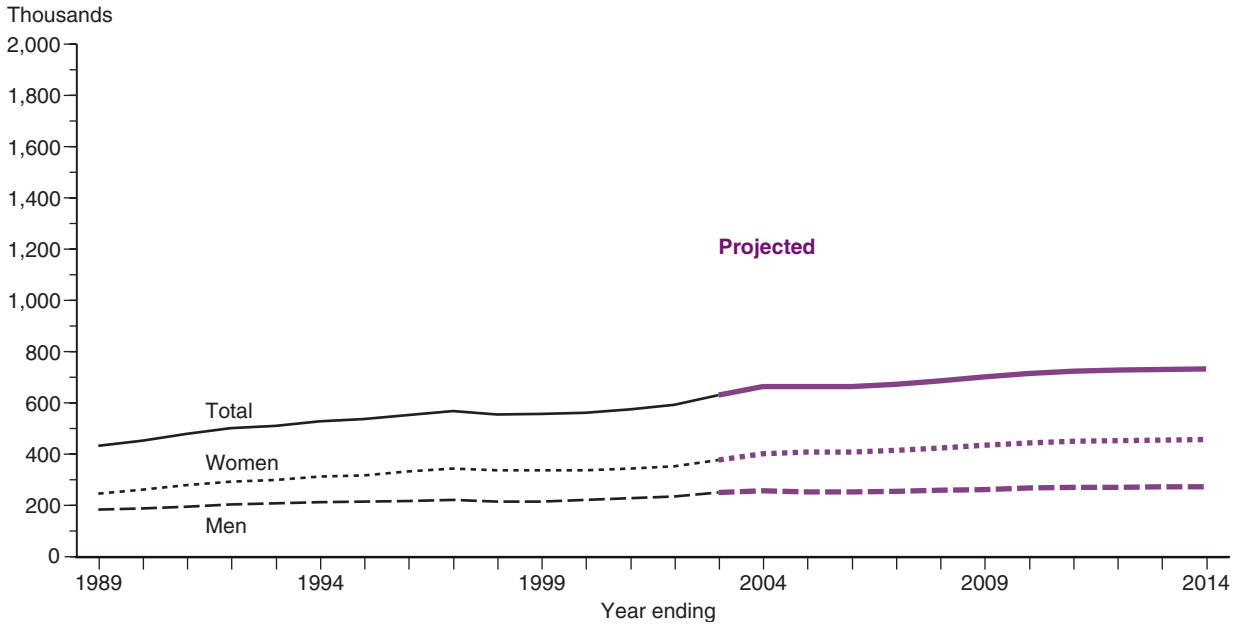
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1988–89 through 2001–02; Private School Universe Survey (PSS), selected years, 1989–90 through 2001–02; Private School Survey Early Estimates, various years; and National Elementary and Secondary High School Graduates Enrollment Model, 1972–73 through 2001–02.

Figure 23. Projected percentage change in public high school graduates, by state: 2001–02 to 2013–14



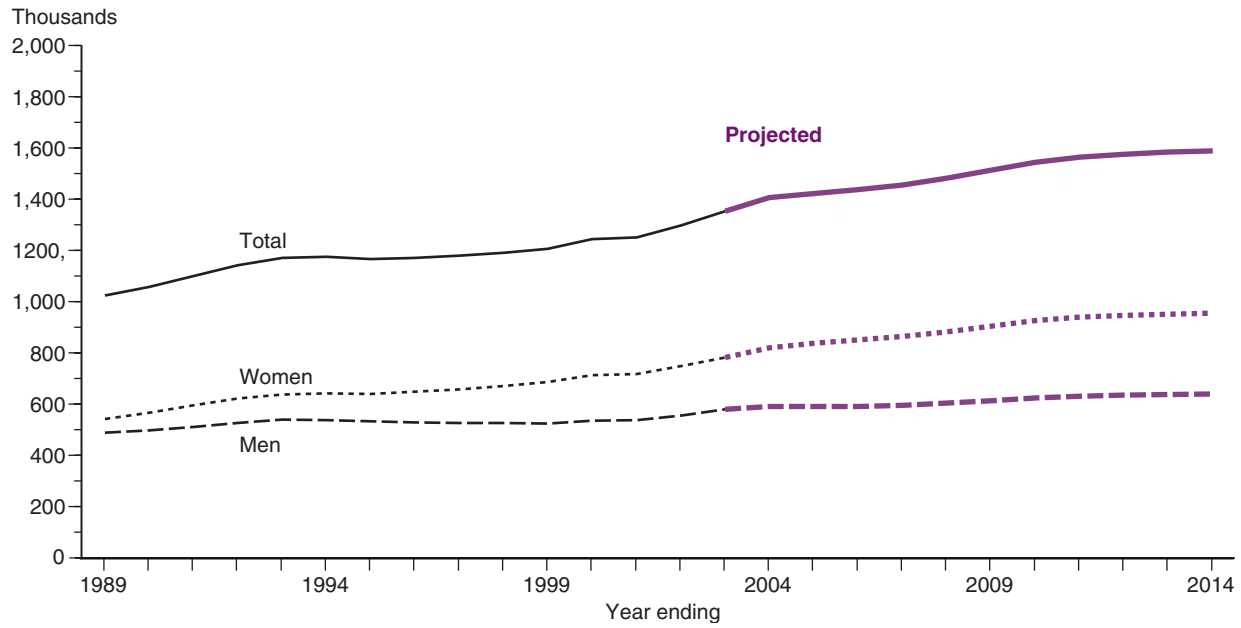
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2001–02; and State Public High School Graduates Model, 1980–81 through 2001–02.

Figure 24. Actual and middle alternative projected numbers for associate's degrees, by sex of recipient: 1988–89 to 2013–14



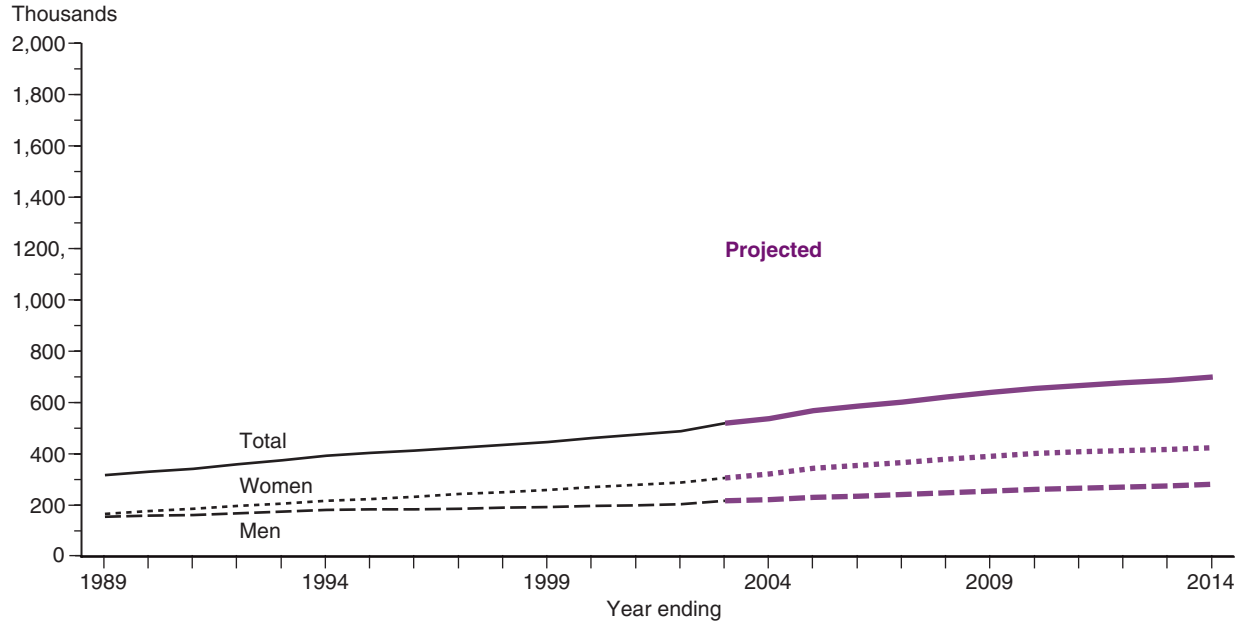
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C: 89–99), and Fall 2000 through Fall 2003; and Degrees Conferred Model, 1975–76 through 2002–03.

Figure 25. Actual and middle alternative projected numbers for bachelor's degrees, by sex of recipient: 1988–89 to 2013–14



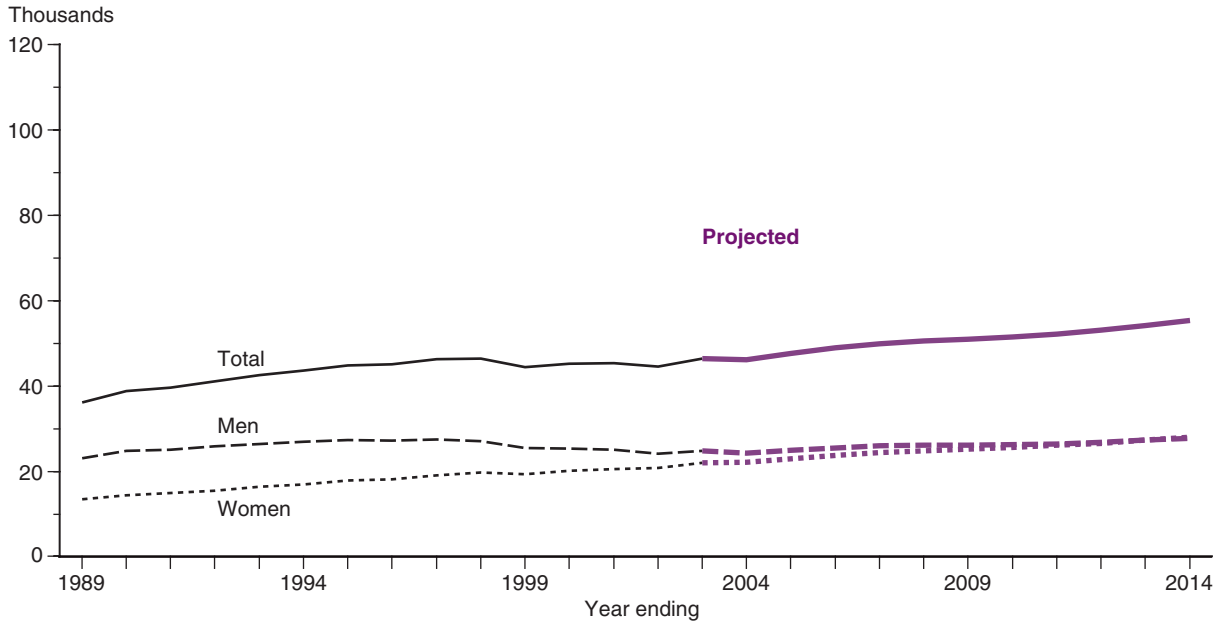
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C: 89–99), and Fall 2000 through Fall 2003; and Degrees Conferred Model, 1977–78 through 2002–03.

Figure 26. Actual and middle alternative projected numbers for master's degrees, by sex of recipient: 1988–89 to 2013–14



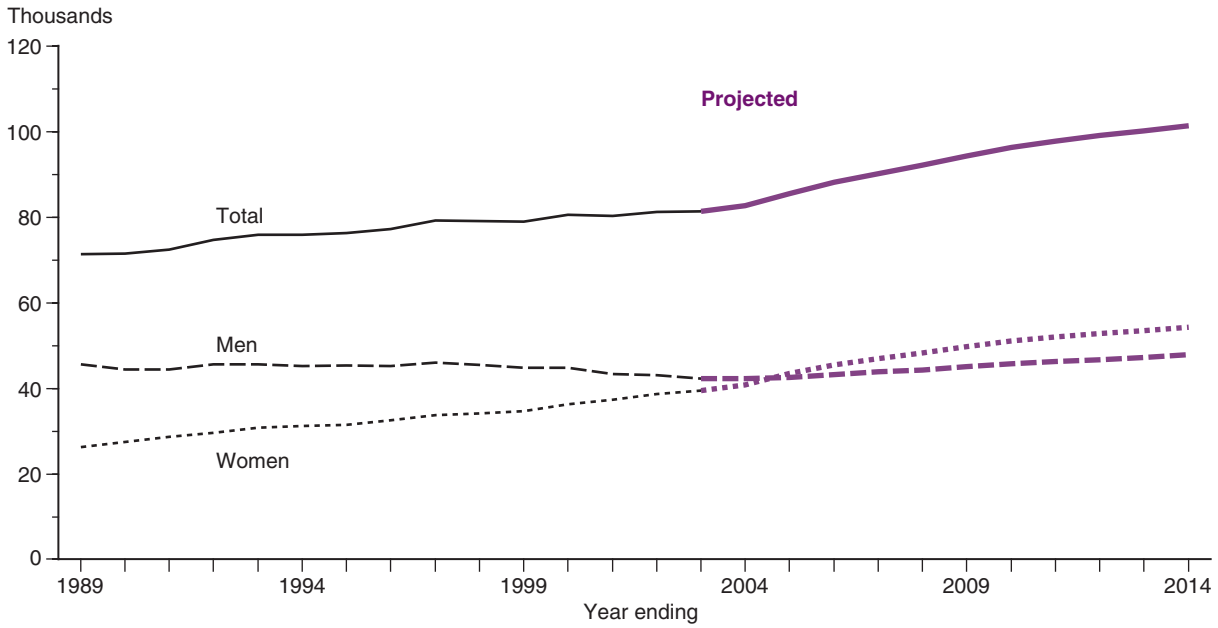
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C: 89–99), and Fall 2000 through Fall 2003; and Degrees Conferred Model, 1975–76 through 2002–03.

Figure 27. Actual and middle alternative projected numbers for doctor's degrees, by sex of recipient: 1988–89 to 2013–14



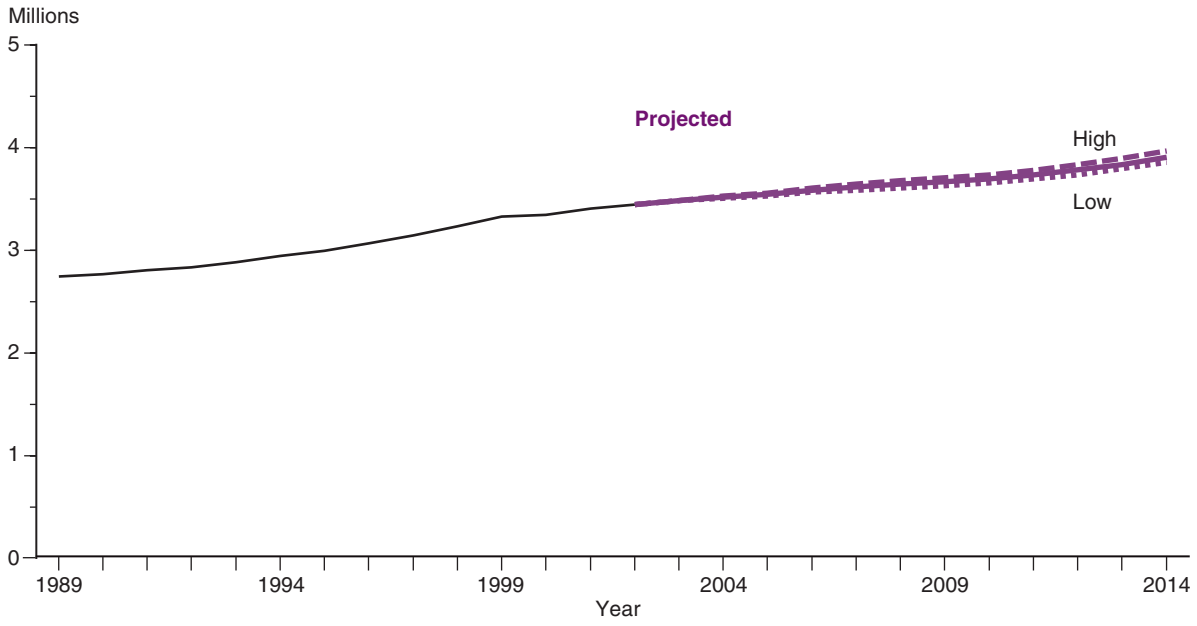
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C: 89–99), and Fall 2000 through Fall 2003; and Degrees Conferred Model, 1977–78 through 2002–03.

Figure 28. Actual and middle alternative projected numbers for first-professional degrees, by sex of recipient: 1988–89 to 2013–14



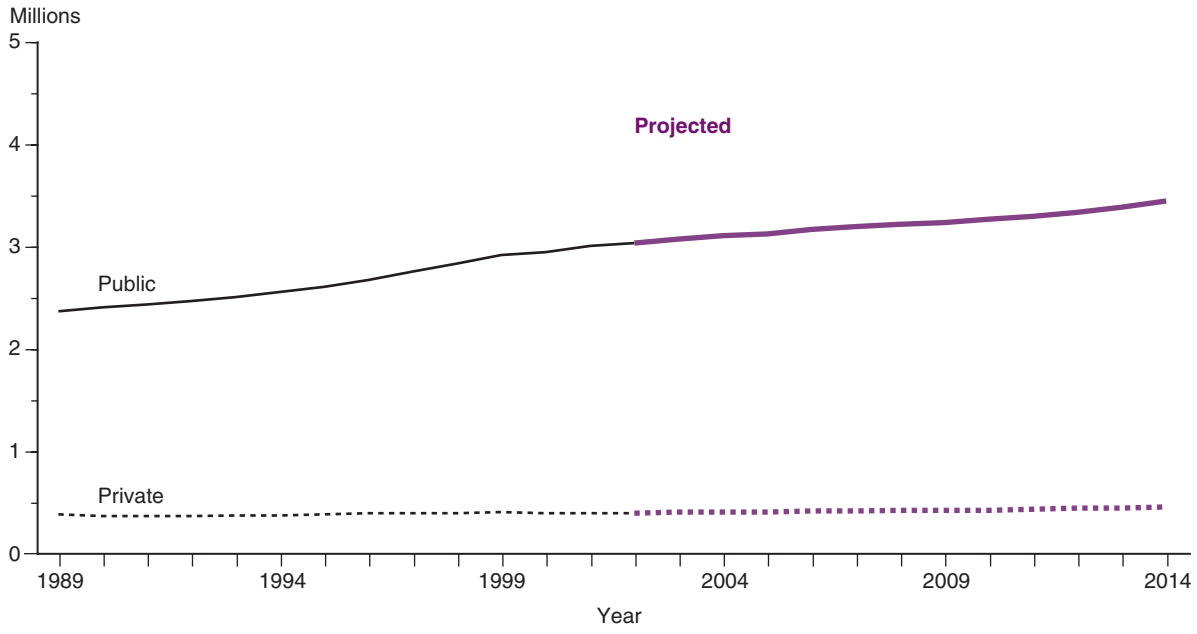
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C: 89–99), and Fall 2000 through Fall 2003; and Degrees Conferred Model, 1976–77 through 2002–03.

Figure 29. Actual and alternative projected numbers for elementary and secondary teachers: Fall 1989 to fall 2014



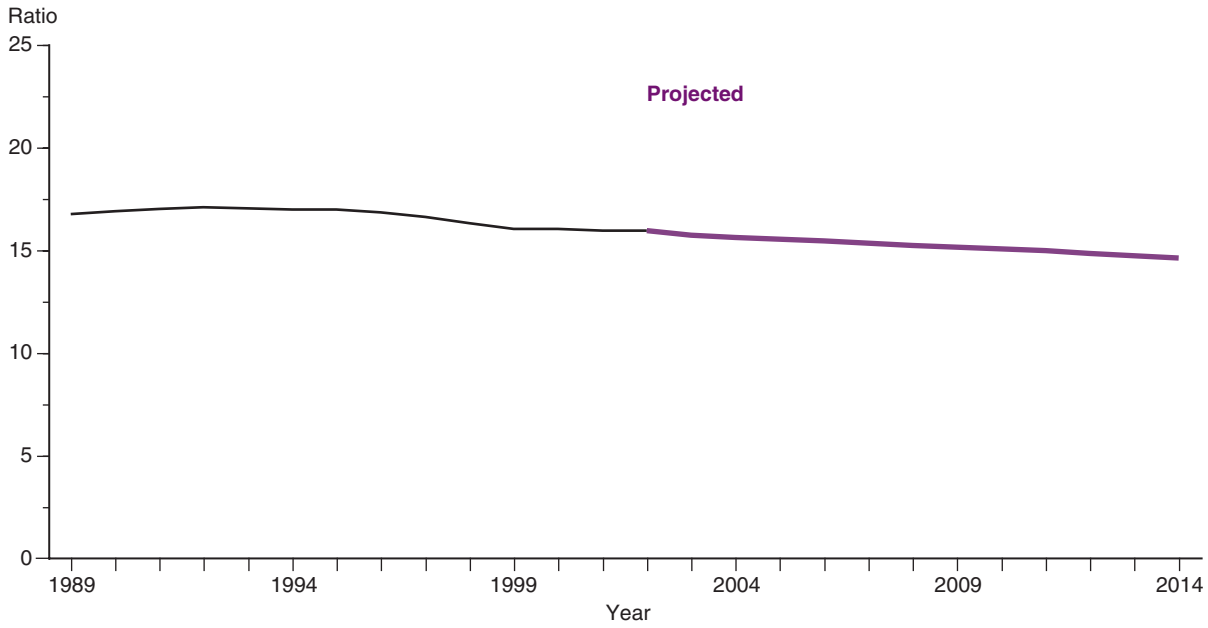
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1989–90 through 2002–03; Private School Survey Early Estimates, selected years, 1989–90 through 2001–02; Private School Universe Survey (PSS), various years; and Elementary and Secondary Teacher Model, 1968–2001.

Figure 30. Actual and middle alternative projected numbers for elementary and secondary teachers, by control of school: Fall 1989 to fall 2014



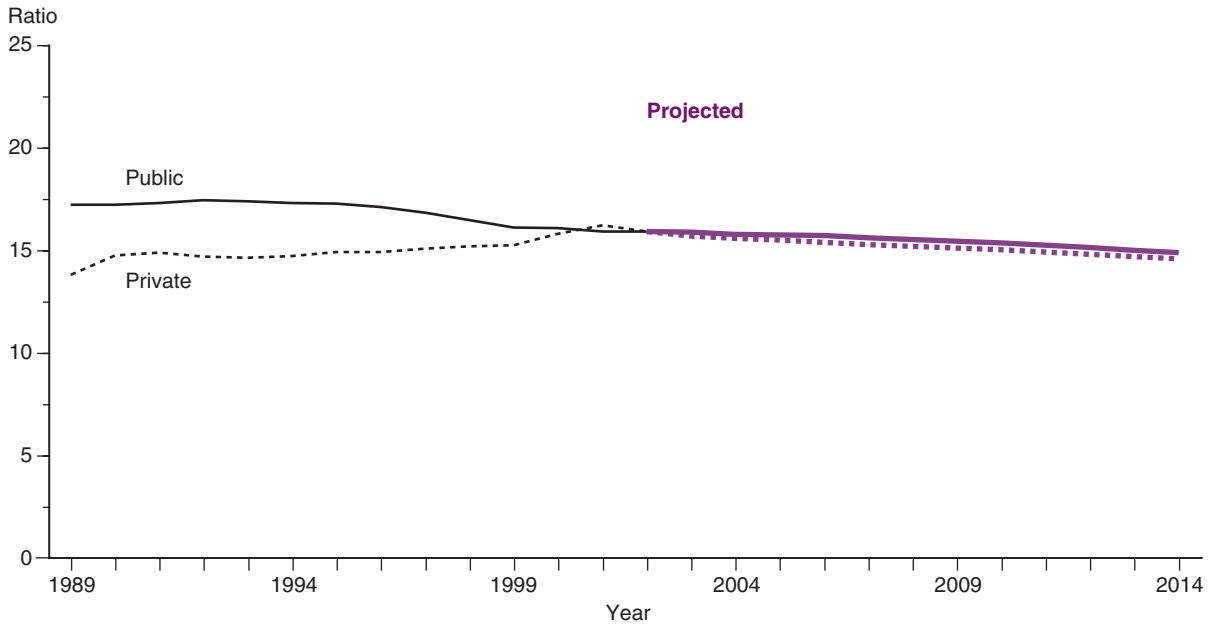
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1989–90 through 2002–03; Private School Survey Early Estimates, selected years, 1989–90 through 2001–02; Private School Universe Survey (PSS), various years; and Elementary and Secondary Teacher Model, 1968–2001.

Figure 31. Actual and middle alternative projected numbers for the pupil/teacher ratios in elementary and secondary schools: Fall 1989 to fall 2014



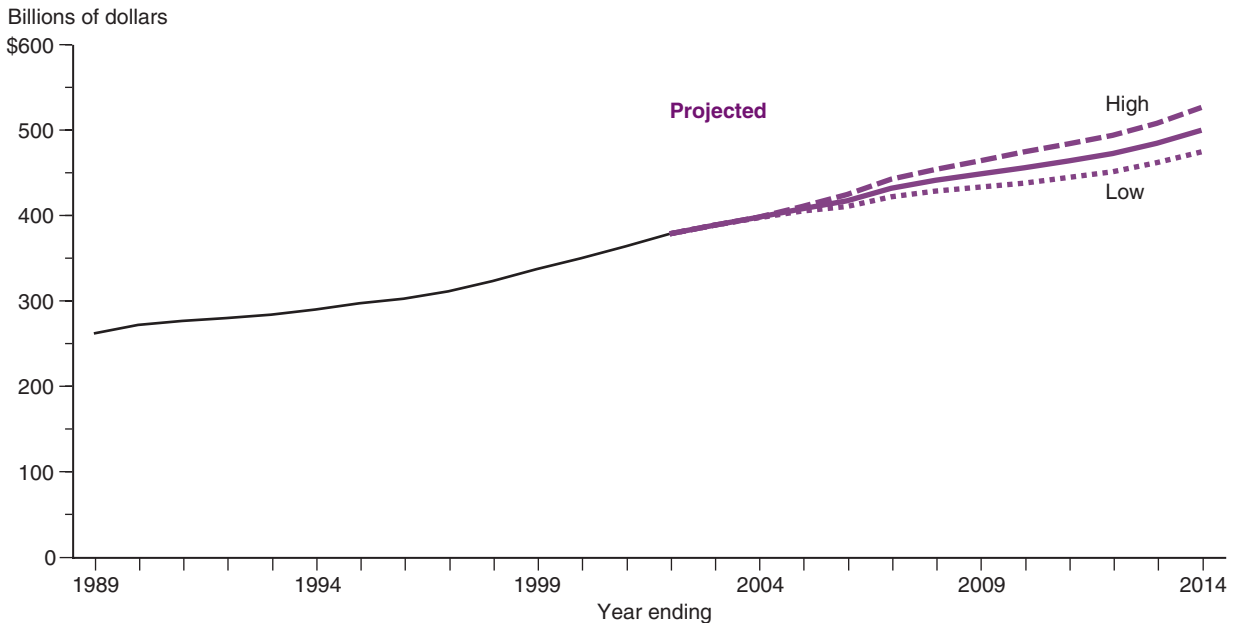
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1989–90 through 2002–03; Private School Survey Early Estimates, selected years, 1989–90 through 2001–02; Private School Universe Survey (PSS), various years; and Elementary and Secondary Teacher Model, 1968–2001.

Figure 32. Actual and middle alternative projected numbers for the pupil/teacher ratios in elementary and secondary schools, by control of school: Fall 1989 to fall 2014



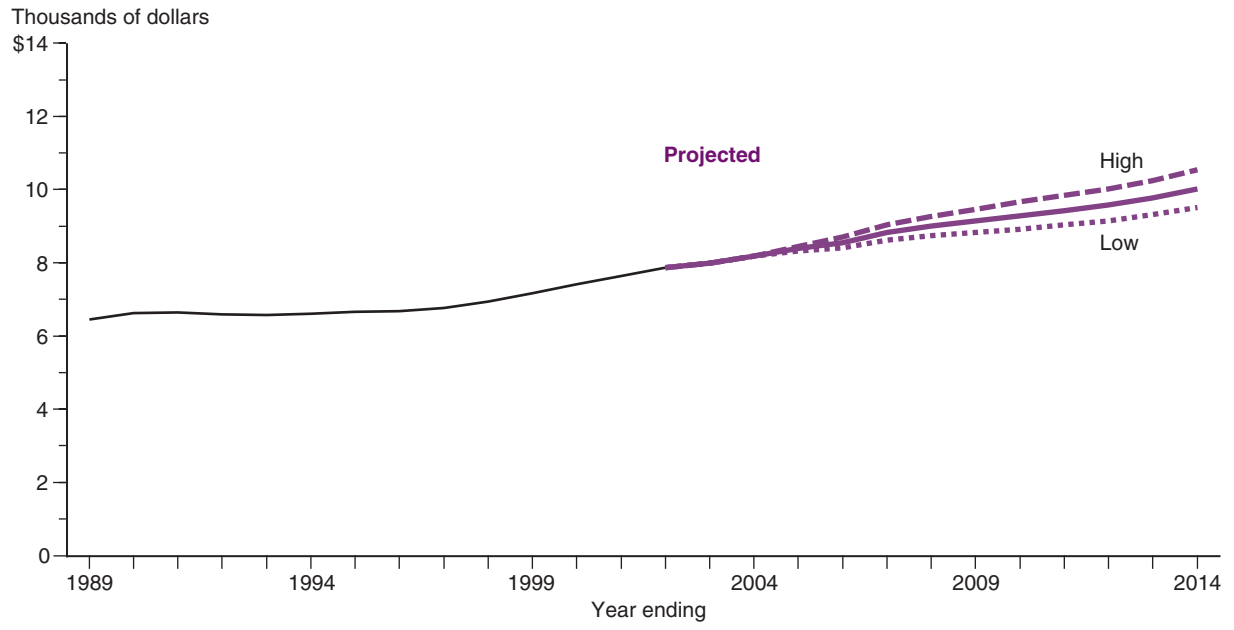
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1989–90 through 2002–03; Private School Survey Early Estimates, selected years, 1989–90 through 2001–02; Private School Universe Survey (PSS), various years; and Elementary and Secondary Teacher Model, 1968–2001.

Figure 33. Actual and alternative projected numbers for current expenditures for public elementary and secondary schools (in constant 2002–03 dollars): 1988–89 to 2013–14



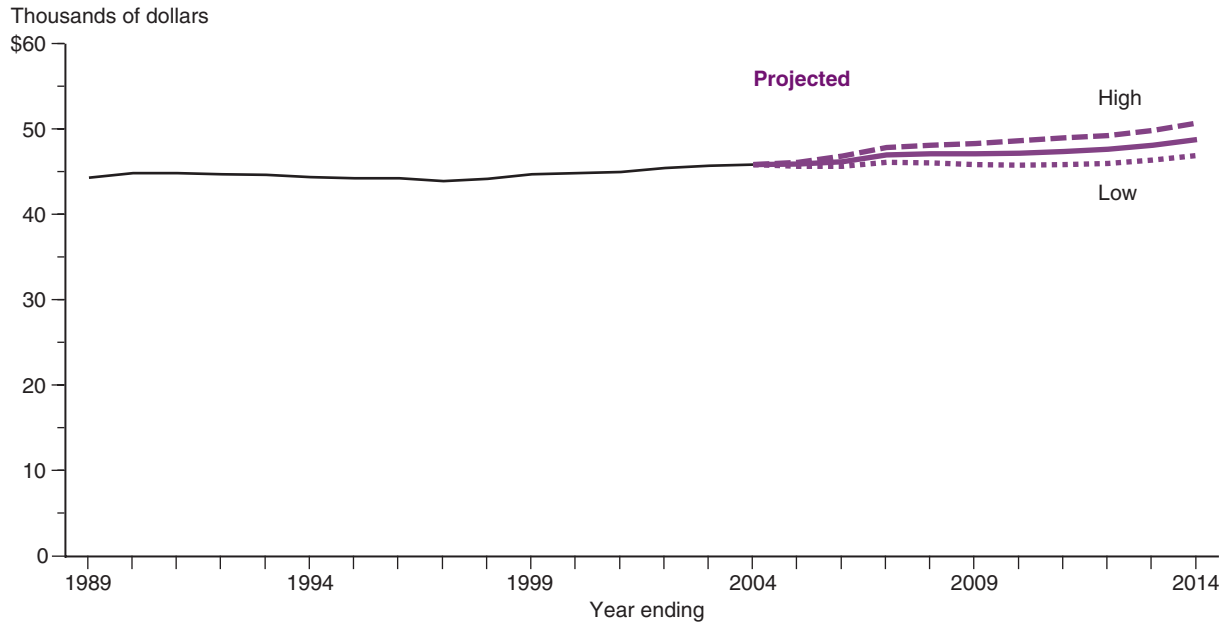
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), National Public Education Financial Survey," 1988–89 through 2001–02, and Elementary and Secondary School Current Expenditures Model, 1969–70 through 2001–02.

Figure 34. Actual and alternative projected numbers for current expenditures per pupil in fall enrollment in public elementary and secondary schools (in constant 2002–03 dollars): 1988–89 to 2013–14



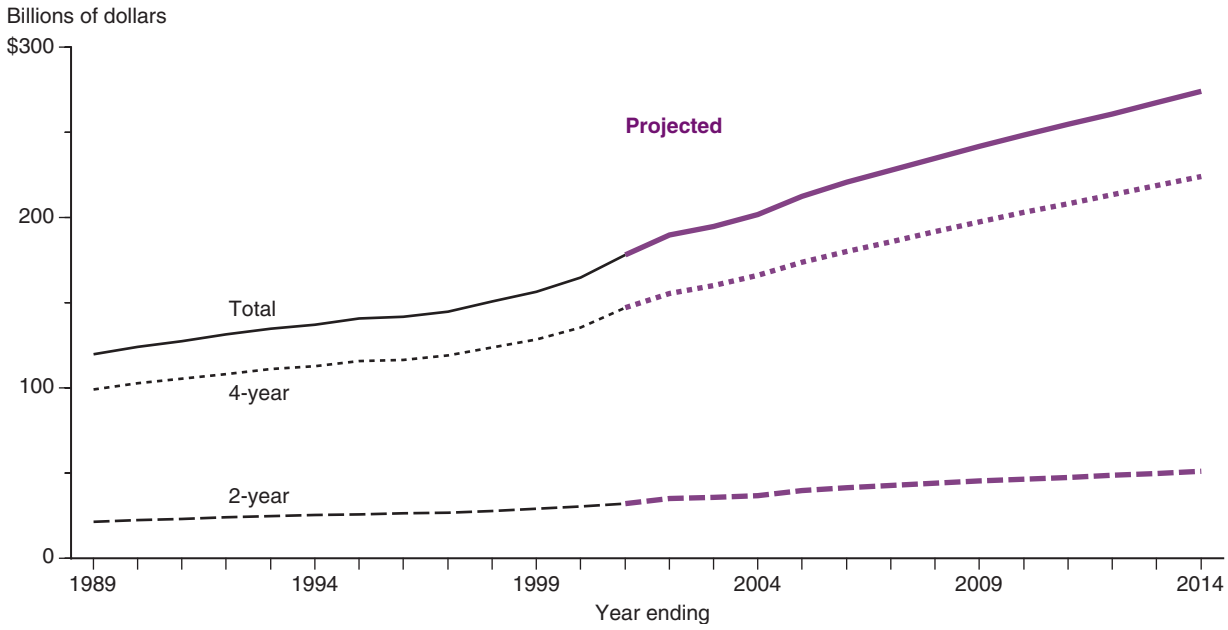
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1988–89 through 2002–03; National Public Education Financial Survey," selected years, 1988–89 through 2001–02; National Elementary and Secondary Enrollment Model, 1972–2002; and Elementary and Secondary School Current Expenditures Model, 1969–70 through 2001–02.

Figure 35. Estimated and alternative projected numbers for average annual salaries of elementary and secondary teachers in public schools (in constant 2002–03 dollars): 1988–89 to 2013–14



SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary Teacher Salary Model, 1970–71 through 2001–02; and National Education Association, annual *Estimates of School Statistics*. (Latest edition 2004. Copyright 2004 by the National Education Association. All rights reserved.)

Figure 36. Actual and middle alternative projected numbers for current-fund expenditures for public degree-granting institutions, by type of institution (in constant 2002–03 dollars): 1988–89 to 2013–14



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF: 89–99), and Spring 2001 through Spring 2003; "Finance Survey" (IPEDS-F: FY89–99), and Spring 2001 through Spring 2002; Enrollment in Degree-Granting Institutions Model, 1980–2002; and Expenditures in Degree-Granting Institutions Model, 1968–69 through 2000–01.

Table 1. Actual and projected numbers for enrollment in grades PK–12 and 9–12 in elementary and secondary schools, by control of school: Fall 1989 to fall 2014

[In thousands]

Year	Total			Public			Private		
	PK–12[1]	PK–8[1]	9–12	PK–12[1]	PK–8[1]	9–12	PK–12[1]	PK–8[1]	9–12
Actual									
1989[2]	45,741	33,187	12,554	40,543	29,152	11,390	5,198	4,035	1,163
1990	46,451	33,962	12,488	41,217	29,878	11,338	5,234	4,084	1,150
1991[2]	47,322	34,619	12,703	42,047	30,506	11,541	5,275	4,113	1,162
1992[2]	48,145	35,264	12,882	42,823	31,088	11,735	5,322	4,175	1,147
1993[2]	48,812	35,719	13,093	43,465	31,504	11,961	5,348	4,215	1,132
1994[2]	49,610	36,233	13,376	44,111	31,898	12,213	5,498	4,335	1,163
1995	50,503	36,806	13,697	44,840	32,341	12,500	5,662	4,465	1,197
1996[2]	51,375	37,316	14,060	45,611	32,764	12,847	5,764	4,551	1,213
1997	51,968	37,696	14,272	46,127	33,073	13,054	5,841	4,623	1,218
1998[2]	52,475	38,048	14,427	46,539	33,346	13,193	5,937	4,702	1,235
1999	52,876	38,253	14,623	46,857	33,488	13,369	6,018	4,765	1,254
2000[2]	53,358	38,556	14,802	47,204	33,688	13,515	6,155	4,868	1,287
2001	53,992	38,931	15,061	47,672	33,938	13,734	6,320	4,993	1,326
2002[2]	54,604	39,177	15,426	48,202	34,135	14,067	6,401	5,042	1,359
Projected									
2003	54,532	38,852	15,680	48,213	33,917	14,296	6,319	4,935	1,384
2004	54,593	38,596	15,998	48,270	33,686	14,584	6,323	4,910	1,414
2005	54,725	38,439	16,286	48,375	33,528	14,847	6,349	4,910	1,439
2006	54,993	38,528	16,465	48,574	33,565	15,010	6,419	4,963	1,456
2007	55,102	38,581	16,521	48,664	33,603	15,060	6,439	4,978	1,461
2008	55,154	38,704	16,450	48,696	33,702	14,994	6,458	5,002	1,457
2009	55,221	38,900	16,321	48,740	33,870	14,871	6,481	5,030	1,450
2010	55,352	39,160	16,192	48,842	34,097	14,745	6,510	5,064	1,446
2011	55,551	39,553	15,998	49,004	34,439	14,565	6,547	5,114	1,433
2012	55,839	40,018	15,821	49,248	34,846	14,402	6,591	5,171	1,419
2013	56,225	40,499	15,725	49,584	35,268	14,315	6,641	5,231	1,410
2014	56,688	40,971	15,717	49,993	35,681	14,312	6,695	5,290	1,405

[1] Includes most nursery school enrollment.

[2] Private school numbers are estimated based on data from the Private School Universe Survey.

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1989–90 through 2002–2003; Private School Universe Survey (PSS), selected years 1989–90 through 2002–2002; and National Elementary and Secondary Enrollment Model, 1972–2002. (This table was prepared August 2004.)

Table 2. Actual and projected numbers for enrollment in elementary and secondary schools, by organizational level and control of school: Fall 1989 to fall 2014

[In thousands]

Year	Total			Public			Private		
	PK–12[1]	Elementary	Secondary	PK–12[1]	Elementary	Secondary	PK–12[1]	Elementary	Secondary
Actual									
1989 [2]	45,741	30,443	15,298	40,543	26,408	14,135	5,198	4,035	1,163
1990	46,451	31,134	15,317	41,217	27,050	14,167	5,234	4,084	1,150
1991 [2]	47,322	31,604	15,719	42,047	27,490	14,557	5,275	4,113	1,162
1992 [2]	48,145	32,125	16,020	42,823	27,950	14,874	5,322	4,175	1,147
1993 [2]	48,812	32,484	16,328	43,465	28,269	15,196	5,348	4,215	1,132
1994 [2]	49,610	32,620	16,990	44,111	28,285	15,827	5,498	4,335	1,163
1995	50,503	33,080	17,423	44,840	28,614	16,226	5,662	4,465	1,197
1996 [2]	51,375	33,293	18,083	45,611	28,741	16,870	5,764	4,551	1,213
1997	51,968	33,732	18,237	46,127	29,109	17,018	5,841	4,623	1,218
1998 [2]	52,475	33,960	18,516	46,539	29,257	17,281	5,937	4,702	1,235
1999	52,876	34,183	18,692	46,857	29,419	17,439	6,018	4,765	1,254
2000 [2]	53,358	34,371	18,987	47,204	29,503	17,701	6,155	4,868	1,287
2001	53,992	34,744	19,248	47,672	29,750	17,921	6,320	4,993	1,326
2002 [2]	54,604	34,919	19,685	48,202	29,877	18,326	6,401	5,042	1,359
Projected									
2003	54,532	34,486	20,046	48,213	29,552	18,661	6,319	4,935	1,384
2004	54,593	34,228	20,365	48,270	29,319	18,951	6,323	4,910	1,414
2005	54,725	34,099	20,626	48,375	29,188	19,187	6,349	4,910	1,439
2006	54,993	34,223	20,770	48,574	29,260	19,314	6,419	4,963	1,456
2007	55,102	34,319	20,784	48,664	29,341	19,323	6,439	4,978	1,461
2008	55,154	34,478	20,677	48,696	29,476	19,220	6,458	5,002	1,457
2009	55,221	34,732	20,488	48,740	29,702	19,038	6,481	5,030	1,450
2010	55,352	35,050	20,301	48,842	29,987	18,855	6,510	5,064	1,446
2011	55,551	35,441	20,110	49,004	30,327	18,677	6,547	5,114	1,433
2012	55,839	35,861	19,978	49,248	30,690	18,558	6,591	5,171	1,419
2013	56,225	36,223	20,001	49,584	30,992	18,591	6,641	5,231	1,410
2014	56,688	36,602	20,086	49,993	31,312	18,681	6,695	5,290	1,405

[1] Includes most nursery school enrollment.

[2] Private school numbers are estimated based on data from the Private School Universe Survey.

NOTE: Some data have been revised from previously published figures. For private schools, it was assumed that numbers for elementary are the same as those in table 1 for grades PK–8, and numbers for secondary are the same as those in table 1 for grades 9–12. Designation of grades as elementary or secondary varies from school to school. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1989–90 through 2002–2003; Private School Universe Survey (PSS), selected years 1989–90 through 2002–2002; and National Elementary and Secondary Enrollment Model, 1972–2002. (This table was prepared August 2004.)

Table 3. Actual and projected numbers for enrollment in public elementary and secondary schools, by grade: Fall 1989 to fall 2014

[In thousands]

Year	Total	Grade														
		PK plus K[1]	1	2	3	4	5	6	7	8	9	10	11	12	Elementary unclassified	Secondary unclassified
Actual																
1989	40,543	3,486	3,485	3,289	3,235	3,182	3,067	2,987	3,027	2,853	3,141	2,868	2,629	2,473	540	279
1990	41,217	3,610	3,499	3,327	3,297	3,248	3,197	3,110	3,067	2,979	3,169	2,896	2,612	2,381	543	282
1991	42,047	3,686	3,556	3,360	3,334	3,315	3,268	3,239	3,181	3,020	3,313	2,915	2,645	2,392	545	275
1992	42,823	3,817	3,542	3,431	3,361	3,342	3,325	3,303	3,299	3,129	3,352	3,027	2,656	2,431	539	269
1993	43,465	3,922	3,529	3,429	3,437	3,361	3,350	3,356	3,355	3,249	3,487	3,050	2,751	2,424	515	248
1994	44,111	4,047	3,593	3,440	3,439	3,426	3,372	3,381	3,404	3,302	3,604	3,131	2,748	2,488	494	242
1995	44,840	4,173	3,671	3,507	3,445	3,431	3,438	3,395	3,422	3,356	3,704	3,237	2,826	2,487	502	245
1996	45,611	4,203	3,770	3,600	3,524	3,454	3,453	3,494	3,464	3,403	3,801	3,323	2,930	2,586	401	206
1997	46,127	4,199	3,755	3,689	3,597	3,507	3,458	3,492	3,520	3,415	3,819	3,376	2,972	2,673	442	214
1998	46,539	4,172	3,727	3,681	3,696	3,592	3,520	3,497	3,530	3,480	3,856	3,382	3,021	2,722	451	212
1999	46,857	4,148	3,684	3,655	3,690	3,686	3,604	3,564	3,541	3,497	3,935	3,415	3,034	2,782	418	203
2000	47,204	4,158	3,636	3,634	3,676	3,711	3,707	3,663	3,629	3,538	3,963	3,491	3,083	2,803	336	175
2001	47,688	4,248	3,615	3,595	3,654	3,696	3,728	3,770	3,722	3,619	4,013	3,529	3,174	2,863	306	157
2002	48,202	4,368	3,594	3,565	3,623	3,669	3,711	3,788	3,821	3,709	4,105	3,584	3,229	2,990	287	159
Projected																
2003	48,213	4,206	3,518	3,541	3,585	3,635	3,684	3,769	3,844	3,804	4,202	3,657	3,255	3,005	331	177
2004	48,270	4,197	3,495	3,466	3,561	3,597	3,650	3,742	3,824	3,826	4,309	3,744	3,321	3,029	326	181
2005	48,375	4,256	3,522	3,444	3,486	3,573	3,613	3,707	3,796	3,807	4,335	3,839	3,400	3,090	324	183
2006	48,574	4,441	3,571	3,470	3,464	3,498	3,589	3,669	3,762	3,779	4,313	3,861	3,487	3,164	323	185
2007	48,664	4,447	3,725	3,519	3,490	3,475	3,513	3,644	3,723	3,744	4,281	3,842	3,507	3,245	323	185
2008	48,696	4,476	3,730	3,671	3,539	3,502	3,490	3,568	3,698	3,706	4,242	3,814	3,489	3,263	324	185
2009	48,740	4,510	3,754	3,675	3,692	3,551	3,517	3,544	3,620	3,681	4,198	3,779	3,464	3,247	326	182
2010	48,842	4,550	3,783	3,699	3,696	3,704	3,566	3,571	3,596	3,603	4,170	3,740	3,432	3,223	328	180
2011	49,004	4,592	3,816	3,727	3,720	3,708	3,720	3,621	3,624	3,580	4,082	3,715	3,397	3,194	331	177
2012	49,248	4,636	3,851	3,760	3,748	3,733	3,724	3,778	3,674	3,607	4,056	3,637	3,374	3,161	335	175
2013	49,584	4,683	3,888	3,794	3,781	3,761	3,749	3,782	3,833	3,658	4,087	3,613	3,303	3,140	339	173
2014	49,993	4,732	3,928	3,831	3,816	3,794	3,777	3,807	3,838	3,816	4,144	3,641	3,281	3,074	343	173

[1] Includes most nursery school enrollment.

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1989–2002; and National Elementary and Secondary Enrollment Model, 1972–2002. (This table was prepared August 2004.)

Table 4. Actual and projected numbers for enrollment in grades PK–12 in public elementary and secondary schools, by region and state: Fall 1996 to fall 2014

[In thousands]

Region and state	Actual							Projected		
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
United States	45,611	46,127	46,539	46,857	47,204	47,672	48,202	48,213	48,270	48,375
Northeast	8,006	8,085	8,145	8,196	8,222	8,250	8,297	8,281	8,247	8,208
Connecticut	527	535	545	554	562	570	570	570	569	567
Maine	214	213	211	209	207	206	204	200	196	193
Massachusetts	934	949	962	971	975	973	983	978	972	966
New Hampshire	198	202	205	207	208	207	208	205	203	201
New Jersey	1,228	1,250	1,269	1,289	1,313	1,342	1,367	1,386	1,394	1,400
New York	2,843	2,862	2,877	2,888	2,882	2,872	2,888	2,872	2,858	2,843
Pennsylvania	1,804	1,815	1,816	1,817	1,814	1,822	1,817	1,812	1,799	1,785
Rhode Island	151	153	155	156	157	158	159	160	160	160
Vermont	106	106	105	105	102	101	100	98	96	94
Midwest	10,638	10,704	10,722	10,726	10,730	10,745	10,835	10,781	10,741	10,720
Illinois	1,973	1,998	2,012	2,028	2,049	2,071	2,084	2,086	2,087	2,091
Indiana	983	987	989	989	989	996	1,004	1,009	1,012	1,016
Iowa	503	501	498	497	495	486	482	476	470	467
Kansas	466	469	472	472	471	470	471	465	462	459
Michigan	1,686	1,703	1,720	1,726	1,721	1,731	1,785	1,786	1,789	1,790
Minnesota	847	854	856	854	854	851	847	836	828	823
Missouri	901	911	913	914	913	910	924	917	913	912
Nebraska	292	293	291	288	286	285	285	282	281	280
North Dakota	120	119	115	113	109	106	104	102	99	98
Ohio	1,845	1,847	1,842	1,837	1,835	1,831	1,838	1,825	1,813	1,804
South Dakota	143	142	132	131	129	128	128	126	124	123
Wisconsin	879	882	880	878	879	879	881	871	864	859
South	16,373	16,563	16,713	16,842	17,007	17,237	17,472	17,490	17,540	17,608
Alabama	748	749	748	741	740	737	740	734	729	725
Arkansas	457	456	452	451	450	450	451	449	448	447
Delaware	111	112	113	113	115	116	116	116	116	116
District of Columbia	79	77	72	77	69	75	76	75	74	74
Florida	2,242	2,294	2,338	2,381	2,435	2,500	2,540	2,567	2,587	2,609
Georgia	1,347	1,376	1,401	1,423	1,445	1,471	1,496	1,508	1,519	1,531
Kentucky	656	669	656	648	666	654	661	650	646	643
Louisiana	793	777	769	757	743	731	730	721	714	709
Maryland	819	831	842	847	853	861	867	866	865	863
Mississippi	504	505	502	501	498	494	493	489	486	484
North Carolina	1,210	1,236	1,255	1,276	1,294	1,315	1,336	1,344	1,349	1,355
Oklahoma	621	624	628	627	623	622	625	615	611	609
South Carolina	653	659	665	667	677	676	695	689	688	689
Tennessee	905	893	905	916	909	925	928	925	924	924
Texas	3,829	3,892	3,945	3,992	4,060	4,163	4,260	4,277	4,318	4,365
Virginia	1,096	1,111	1,124	1,134	1,145	1,163	1,177	1,186	1,190	1,193
West Virginia	304	301	298	292	286	283	282	279	276	273
West	10,594	10,775	10,959	11,094	11,244	11,440	11,598	11,662	11,743	11,839
Alaska	130	132	135	134	133	134	134	134	133	133
Arizona	799	814	848	853	878	922	938	949	957	967
California	5,686	5,804	5,926	6,039	6,141	6,248	6,356	6,399	6,456	6,518
Colorado	673	687	699	708	725	742	752	756	762	769
Hawaii	188	190	188	186	184	185	184	183	182	182
Idaho	245	244	245	245	245	247	249	250	252	254
Montana	165	162	160	158	155	152	150	147	145	143
Nevada	282	297	311	326	341	357	369	385	399	411
New Mexico	333	332	329	324	320	320	320	318	317	316
Oregon	538	541	543	545	546	551	554	555	554	556
Utah	482	483	481	480	481	485	489	489	493	498
Washington	975	991	998	1,004	1,005	1,009	1,015	1,011	1,008	1,008
Wyoming	99	97	95	92	90	88	88	85	84	83

See notes at end of table.

Table 4. Actual and projected numbers for enrollment in grades PK–12 in public elementary and secondary schools, by region and state: Fall 1996 to fall 2014—Continued

[In thousands]

Region and state	Projected—Continued								
	2006	2007	2008	2009	2010	2011	2012	2013	2014
United States	48,574	48,664	48,696	48,740	48,842	49,004	49,248	49,584	49,993
Northeast	8,179	8,126	8,063	8,005	7,954	7,916	7,894	7,889	7,902
Connecticut	567	565	563	561	560	560	562	564	567
Maine	190	187	184	182	180	179	178	178	178
Massachusetts	961	953	944	937	930	925	922	920	919
New Hampshire	199	198	196	194	193	192	192	192	193
New Jersey	1,405	1,406	1,405	1,404	1,403	1,403	1,406	1,409	1,415
New York	2,831	2,810	2,785	2,762	2,740	2,724	2,713	2,711	2,715
Pennsylvania	1,773	1,758	1,740	1,722	1,706	1,692	1,683	1,678	1,676
Rhode Island	159	158	157	156	155	154	153	153	154
Vermont	92	90	89	88	86	86	85	85	85
Midwest	10,719	10,694	10,652	10,611	10,583	10,569	10,575	10,598	10,636
Illinois	2,099	2,101	2,100	2,098	2,097	2,099	2,100	2,107	2,118
Indiana	1,021	1,023	1,023	1,023	1,023	1,024	1,026	1,028	1,029
Iowa	464	461	458	455	452	451	450	451	452
Kansas	459	459	458	459	459	461	464	467	471
Michigan	1,789	1,783	1,770	1,756	1,746	1,736	1,731	1,728	1,728
Minnesota	820	817	813	811	810	811	815	820	826
Missouri	913	911	908	904	900	900	902	906	910
Nebraska	280	280	279	279	279	280	281	283	285
North Dakota	96	95	94	93	93	92	93	93	94
Ohio	1,799	1,791	1,780	1,768	1,760	1,752	1,749	1,748	1,752
South Dakota	122	122	121	121	121	122	122	123	123
Wisconsin	857	853	848	844	842	841	841	844	847
South	17,724	17,788	17,842	17,888	17,950	18,026	18,128	18,259	18,406
Alabama	723	720	716	712	709	707	706	707	709
Arkansas	448	447	447	446	445	446	447	448	449
Delaware	117	116	116	116	115	114	114	114	114
District of Columbia	74	73	72	71	71	71	72	73	74
Florida	2,634	2,651	2,666	2,681	2,698	2,715	2,736	2,762	2,790
Georgia	1,546	1,557	1,564	1,571	1,580	1,589	1,600	1,612	1,627
Kentucky	642	639	636	631	627	624	622	620	618
Louisiana	707	703	701	699	697	697	698	701	707
Maryland	862	858	855	850	848	848	849	853	858
Mississippi	483	481	478	476	473	471	469	469	469
North Carolina	1,362	1,364	1,366	1,366	1,366	1,368	1,370	1,375	1,381
Oklahoma	609	609	608	608	609	612	615	620	626
South Carolina	689	687	686	682	679	675	674	674	675
Tennessee	926	924	922	920	919	919	921	924	929
Texas	4,432	4,489	4,545	4,601	4,659	4,718	4,782	4,852	4,923
Virginia	1,198	1,199	1,197	1,194	1,193	1,193	1,194	1,197	1,202
West Virginia	272	270	267	264	262	260	258	256	255
West	11,953	12,055	12,139	12,236	12,355	12,493	12,652	12,838	13,049
Alaska	134	134	134	135	136	137	139	142	145
Arizona	977	988	998	1,007	1,018	1,031	1,044	1,059	1,074
California	6,587	6,648	6,696	6,753	6,828	6,911	7,007	7,127	7,268
Colorado	778	785	791	797	803	810	818	826	833
Hawaii	182	182	182	182	184	185	187	190	193
Idaho	257	260	263	266	269	272	276	280	283
Montana	142	141	140	139	138	139	139	140	141
Nevada	422	432	440	447	454	460	465	470	474
New Mexico	317	318	319	320	322	325	328	333	338
Oregon	559	561	563	565	569	574	579	585	591
Utah	505	512	518	525	532	540	548	555	562
Washington	1,011	1,012	1,012	1,015	1,018	1,024	1,033	1,044	1,057
Wyoming	83	83	83	83	84	85	86	88	89

NOTE: Some data have been revised from previously published figures. Includes most nursery school enrollment. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1996–97 through 2002–2003; and State Elementary and Secondary Enrollment Model, 1980–2002. (This table was prepared October 2004.)

Table 5. Actual and projected percentage changes in PK–12 enrollment in public schools, by region and state: Selected years, fall 1996 to fall 2014

Region and state	Actual 1996–2002	Projected 2002–2008	Projected 2008–2014	Projected 2002–2014
United States	5.7	1.0	2.7	3.7
Northeast	3.6	-2.8	-2.0	-4.8
Connecticut	8.1	-1.3	0.7	-0.6
Maine	-4.3	-9.9	-3.2	-12.8
Massachusetts	5.3	-3.9	-2.6	-6.5
New Hampshire	4.7	-5.8	-1.3	-7.1
New Jersey	11.4	2.8	0.7	3.5
New York	1.6	-3.6	-2.5	-6.0
Pennsylvania	0.7	-4.2	-3.7	-7.7
Rhode Island	5.2	-1.3	-2.3	-3.6
Vermont	-6.0	-11.1	-4.6	-15.2
Midwest	1.9	-1.7	-0.1	-1.8
Illinois	5.6	0.8	0.9	1.6
Indiana	2.1	1.9	0.6	2.5
Iowa	-4.1	-5.1	-1.2	-6.3
Kansas	1.0	-2.7	2.9	0.1
Michigan	5.9	-0.9	-2.4	-3.2
Minnesota	#	-4.1	1.7	-2.5
Missouri	2.7	-1.8	0.2	-1.6
Nebraska	-2.2	-2.3	2.1	-0.2
North Dakota	-13.2	-9.9	-0.3	-10.2
Ohio	-0.3	-3.2	-1.6	-4.7
South Dakota	-10.7	-5.1	1.6	-3.6
Wisconsin	0.2	-3.7	-0.2	-3.9
South	6.7	2.1	3.2	5.3
Alabama	-1.1	-3.2	-0.9	-4.1
Arkansas	-1.4	-1.0	0.4	-0.5
Delaware	5.2	-0.1	-1.9	-2.0
District of Columbia	-3.2	-5.3	2.7	-2.8
Florida	13.3	5.0	4.7	9.9
Georgia	11.1	4.5	4.0	8.7
Kentucky	0.7	-3.8	-2.8	-6.5
Louisiana	-7.9	-4.0	0.7	-3.3
Maryland	5.9	-1.4	0.4	-1.0
Mississippi	-2.2	-2.9	-1.9	-4.8
North Carolina	10.4	2.2	1.1	3.3
Oklahoma	0.6	-2.6	2.9	0.3
South Carolina	6.4	-1.3	-1.5	-2.7
Tennessee	2.6	-0.6	0.7	0.1
Texas	11.3	6.7	8.3	15.6
Virginia	7.4	1.7	0.5	2.1
West Virginia	-7.1	-5.3	-4.8	-9.8
West	9.5	4.7	7.5	12.5
Alaska	3.4	-0.1	7.8	7.7
Arizona	17.3	6.4	7.6	14.5
California	11.8	5.3	8.6	14.3
Colorado	11.6	5.2	5.3	10.9
Hawaii	-2.0	-1.0	6.1	5.0
Idaho	1.3	5.8	7.5	13.8
Montana	-8.9	-7.0	1.1	-5.9
Nevada	31.0	19.1	7.8	28.4
New Mexico	-3.7	-0.5	6.2	5.7
Oregon	3.0	1.6	5.0	6.7
Utah	1.5	6.0	8.4	14.9
Washington	4.1	-0.2	4.4	4.1
Wyoming	-11.0	-5.7	7.0	0.9

Rounds to zero.

NOTE: Calculations are based on unrounded numbers. Includes most nursery school enrollment. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," Selected years, 1996–97 through 2002–2003; and State Elementary and Secondary Enrollment Model, 1980–2002. (This table was prepared October 2004.)

Table 6. Actual and projected numbers for enrollment in grades PK–8 in public elementary and secondary schools, by region and state: Fall 1996 to fall 2014

[In thousands]

Region and state	Actual							Projected		
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
United States	32,764	33,073	33,346	33,488	33,688	33,938	34,135	33,917	33,686	33,528
Northeast	5,729	5,774	5,820	5,841	5,841	5,824	5,810	5,741	5,655	5,582
Connecticut	389	394	399	404	406	410	406	404	399	396
Maine	156	153	151	149	146	144	142	138	134	131
Massachusetts	688	696	705	706	703	699	701	689	678	669
New Hampshire	144	145	147	147	147	144	144	141	138	136
New Jersey	903	921	936	954	968	972	979	979	972	967
New York	2,000	2,011	2,028	2,034	2,029	2,017	2,017	1,987	1,954	1,926
Pennsylvania	1,264	1,266	1,267	1,262	1,258	1,255	1,242	1,227	1,205	1,186
Rhode Island	110	112	112	114	114	113	113	112	110	109
Vermont	75	74	73	72	70	69	68	66	64	62
Midwest	7,504	7,554	7,565	7,551	7,523	7,517	7,551	7,472	7,387	7,319
Illinois	1,412	1,438	1,452	1,462	1,474	1,484	1,488	1,479	1,469	1,460
Indiana	689	693	697	699	703	711	714	714	711	708
Iowa	342	338	337	336	334	330	326	321	316	312
Kansas	328	328	327	326	323	322	322	318	314	313
Michigan	1,212	1,236	1,245	1,245	1,222	1,223	1,254	1,241	1,223	1,207
Minnesota	589	588	587	580	578	573	568	560	552	547
Missouri	643	650	651	649	645	643	653	643	636	629
Nebraska	203	202	200	197	195	195	195	193	191	190
North Dakota	82	80	77	75	72	70	69	67	66	65
Ohio	1,299	1,299	1,301	1,296	1,294	1,287	1,284	1,269	1,252	1,238
South Dakota	99	98	91	90	88	87	87	86	85	84
Wisconsin	605	604	601	596	595	592	592	582	574	568
South	11,911	12,022	12,127	12,191	12,314	12,454	12,574	12,510	12,469	12,444
Alabama	540	541	542	539	539	536	534	528	521	515
Arkansas	324	322	319	318	318	318	319	317	314	312
Delaware	78	79	80	80	81	81	82	81	81	80
District of Columbia	61	60	57	60	54	58	59	57	55	53
Florida	1,653	1,680	1,704	1,725	1,760	1,797	1,809	1,815	1,815	1,818
Georgia	991	1,011	1,029	1,044	1,060	1,075	1,089	1,090	1,089	1,090
Kentucky	466	474	464	459	471	473	477	466	460	455
Louisiana	575	564	558	548	547	537	537	527	521	516
Maryland	597	602	607	607	609	611	610	604	596	589
Mississippi	364	365	365	365	364	362	360	357	353	349
North Carolina	886	906	921	935	945	956	964	963	958	956
Oklahoma	445	445	448	447	445	446	449	440	435	432
South Carolina	468	473	478	484	493	487	501	491	489	484
Tennessee	657	653	665	664	668	675	674	667	661	656
Texas	2,800	2,832	2,868	2,896	2,943	3,016	3,080	3,080	3,100	3,128
Virginia	796	807	815	817	816	826	832	832	826	820
West Virginia	209	207	206	203	201	200	200	197	194	191
West	7,620	7,723	7,834	7,904	8,010	8,143	8,200	8,194	8,175	8,183
Alaska	94	96	97	96	94	95	94	93	92	92
Arizona	588	596	623	624	641	672	660	665	667	671
California	4,129	4,196	4,270	4,337	4,408	4,479	4,529	4,524	4,509	4,508
Colorado	487	494	501	507	517	529	534	535	537	539
Hawaii	136	136	135	133	132	132	131	129	128	126
Idaho	169	169	169	169	170	171	173	174	175	176
Montana	115	112	110	107	105	103	101	99	97	96
Nevada	208	219	229	240	251	262	271	278	284	289
New Mexico	230	236	232	229	225	225	224	222	220	219
Oregon	380	381	380	378	379	382	382	382	380	379
Utah	328	329	329	329	333	338	343	343	346	349
Washington	687	694	696	695	694	696	697	691	684	681
Wyoming	67	66	64	62	60	59	60	58	57	57

See notes at end of table.

Table 6. Actual and projected numbers for enrollment in grades PK–8 in public elementary and secondary schools, by region and state: Fall 1996 to fall 2014—Continued

[In thousands]

Region and state	Projected—Continued								
	2006	2007	2008	2009	2010	2011	2012	2013	2014
United States	33,565	33,603	33,702	33,870	34,097	34,439	34,846	35,268	35,681
Northeast	5,536	5,494	5,462	5,442	5,436	5,450	5,476	5,508	5,541
Connecticut	395	394	393	394	395	396	399	403	406
Maine	129	128	127	126	126	127	127	128	129
Massachusetts	663	658	654	650	647	647	649	652	655
New Hampshire	134	134	133	133	133	134	135	135	136
New Jersey	967	965	964	964	966	972	979	987	995
New York	1,907	1,890	1,875	1,867	1,864	1,868	1,876	1,887	1,899
Pennsylvania	1,172	1,159	1,150	1,143	1,140	1,141	1,144	1,148	1,152
Rhode Island	108	107	106	106	105	106	106	107	108
Vermont	61	60	60	59	59	60	60	60	60
Midwest	7,295	7,271	7,264	7,272	7,294	7,336	7,390	7,444	7,492
Illinois	1,461	1,459	1,456	1,457	1,463	1,473	1,486	1,499	1,512
Indiana	709	710	712	713	714	717	721	724	727
Iowa	309	308	308	308	309	311	313	314	316
Kansas	312	313	315	317	320	323	327	331	335
Michigan	1,199	1,190	1,183	1,179	1,177	1,180	1,185	1,191	1,196
Minnesota	545	545	546	549	553	559	565	572	578
Missouri	625	623	624	626	628	633	639	644	649
Nebraska	190	190	191	192	193	195	197	199	201
North Dakota	64	63	63	64	64	65	66	66	67
Ohio	1,231	1,222	1,218	1,216	1,219	1,223	1,228	1,234	1,238
South Dakota	84	84	84	85	86	86	87	88	89
Wisconsin	566	564	564	565	567	571	576	581	585
South	12,488	12,523	12,576	12,649	12,737	12,862	13,007	13,155	13,296
Alabama	512	509	507	507	508	510	513	516	519
Arkansas	312	313	314	315	315	316	318	319	320
Delaware	80	79	79	78	78	78	79	79	80
District of Columbia	52	52	52	52	53	54	55	57	58
Florida	1,831	1,839	1,851	1,864	1,881	1,903	1,929	1,956	1,982
Georgia	1,098	1,103	1,110	1,118	1,128	1,139	1,152	1,165	1,176
Kentucky	452	450	449	447	444	445	445	446	446
Louisiana	513	510	509	510	514	519	524	529	534
Maryland	586	585	584	585	587	591	596	603	609
Mississippi	347	344	343	342	343	343	344	345	345
North Carolina	956	958	958	960	963	967	974	980	987
Oklahoma	432	433	434	437	442	447	453	459	464
South Carolina	481	478	475	473	472	474	477	480	484
Tennessee	655	654	655	657	660	664	669	673	677
Texas	3,173	3,212	3,255	3,301	3,347	3,404	3,467	3,530	3,591
Virginia	818	816	815	816	817	822	829	836	843
West Virginia	189	188	186	185	184	183	183	182	181
West	8,246	8,315	8,400	8,507	8,630	8,792	8,973	9,162	9,352
Alaska	92	93	94	95	97	99	102	104	106
Arizona	679	688	697	708	719	730	741	753	763
California	4,542	4,575	4,616	4,674	4,747	4,852	4,973	5,103	5,240
Colorado	544	549	555	561	566	573	580	587	593
Hawaii	127	127	128	130	132	135	137	140	143
Idaho	178	181	184	188	190	193	196	199	201
Montana	95	95	96	96	97	98	99	100	101
Nevada	295	300	305	309	312	316	319	322	325
New Mexico	220	221	223	226	230	234	239	243	247
Oregon	381	384	388	392	396	401	407	412	417
Utah	355	361	368	374	380	386	392	398	403
Washington	681	683	688	694	703	713	724	736	747
Wyoming	57	57	58	59	61	62	63	64	65

NOTE: Some data have been revised from previously published figures. Includes most nursery school enrollment. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1996–97 through 2002–2003; and State Elementary and Secondary Enrollment Model, 1980–2002. (This table was prepared October 2004.)

Table 7. Actual and projected percentage changes in PK–8 enrollment in public schools, by region and state: Selected years, fall 1996 to fall 2014

Region and state	Actual 1996–2002	Projected		
		2002–2008	2008–2014	2002–2014
United States	4.2	-1.3	5.9	4.5
Northeast	1.4	-6.0	1.4	-4.6
Connecticut	4.3	-3.1	3.3	0.1
Maine	-8.9	-10.6	1.7	-9.1
Massachusetts	1.9	-6.7	0.2	-6.5
New Hampshire	-0.2	-7.3	2.5	-5.0
New Jersey	8.4	-1.5	3.2	1.7
New York	0.8	-7.0	1.3	-5.9
Pennsylvania	-1.7	-7.4	0.2	-7.2
Rhode Island	1.9	-5.8	1.9	-4.1
Vermont	-9.5	-12.0	0.5	-11.6
Midwest	0.6	-3.8	3.1	-0.8
Illinois	5.3	-2.1	3.8	1.6
Indiana	3.6	-0.3	2.0	1.8
Iowa	-4.6	-5.6	2.5	-3.2
Kansas	-1.9	-2.2	6.3	4.0
Michigan	3.4	-5.6	1.1	-4.6
Minnesota	-3.6	-3.8	5.9	1.8
Missouri	1.4	-4.4	4.1	-0.6
Nebraska	-3.8	-2.2	5.5	3.2
North Dakota	-15.9	-8.1	5.4	-3.1
Ohio	-1.2	-5.1	1.6	-3.6
South Dakota	-11.8	-3.6	5.1	1.3
Wisconsin	-2.2	-4.7	3.8	-1.1
South	5.6	#	5.7	5.7
Alabama	-1.2	-4.9	2.3	-2.7
Arkansas	-1.7	-1.6	2.1	0.4
Delaware	5.4	-4.3	1.1	-3.3
District of Columbia	-3.7	-12.5	13.1	-1.1
Florida	9.4	2.3	7.1	9.5
Georgia	9.9	2.0	5.9	8.1
Kentucky	2.3	-5.9	-0.6	-6.4
Louisiana	-6.7	-5.2	4.8	-0.6
Maryland	2.3	-4.4	4.3	-0.3
Mississippi	-1.0	-4.7	0.6	-4.1
North Carolina	8.8	-0.6	3.0	2.3
Oklahoma	0.8	-3.2	6.8	3.3
South Carolina	7.0	-5.0	1.7	-3.4
Tennessee	2.5	-2.8	3.4	0.5
Texas	10.0	5.7	10.3	16.6
Virginia	4.4	-1.9	3.4	1.4
West Virginia	-4.3	-6.8	-2.8	-9.4
West	7.6	2.4	11.3	14.0
Alaska	#	-0.7	13.4	12.6
Arizona	12.2	5.6	9.5	15.6
California	9.7	1.9	13.5	15.7
Colorado	9.7	3.8	6.9	11.0
Hawaii	-3.9	-1.9	11.3	9.1
Idaho	2.2	6.4	8.9	15.8
Montana	-11.8	-5.5	5.8	-0.1
Nevada	30.4	12.7	6.4	19.9
New Mexico	-2.4	-0.7	10.8	10.1
Oregon	0.5	1.6	7.5	9.3
Utah	4.4	7.4	9.5	17.6
Washington	1.4	-1.3	8.6	7.1
Wyoming	-11.0	-2.8	12.2	9.0

Rounds to zero.

NOTE: Calculations are based on unrounded numbers. Includes most nursery school enrollment. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," Selected years, 1996–97 through 2002–2003; and State Elementary and Secondary Enrollment Model, 1980–2002. (This table was prepared October 2004.)

Table 8. Actual and projected numbers for enrollment in grades 9–12 in public elementary and secondary schools, by region and state: Fall 1996 to fall 2014

[In thousands]

Region and state	Actual							Projected		
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
United States	12,847	13,054	13,193	13,369	13,515	13,734	14,067	14,296	14,584	14,847
Northeast	2,277	2,311	2,326	2,355	2,381	2,427	2,486	2,539	2,592	2,626
Connecticut	138	141	145	150	156	160	164	167	170	171
Maine	58	59	60	60	61	62	63	62	62	61
Massachusetts	246	253	258	265	273	274	282	289	295	298
New Hampshire	54	56	58	60	61	62	64	65	65	65
New Jersey	325	329	333	335	346	370	389	407	422	432
New York	843	851	849	854	853	855	871	885	905	917
Pennsylvania	541	549	549	555	556	567	575	585	593	599
Rhode Island	41	42	42	43	44	45	47	48	50	51
Vermont	31	32	32	32	32	32	32	32	32	31
Midwest	3,134	3,151	3,156	3,175	3,207	3,228	3,284	3,308	3,353	3,401
Illinois	561	560	560	565	575	587	597	606	618	631
Indiana	294	294	292	289	286	285	290	295	301	308
Iowa	161	163	162	161	161	156	156	155	155	155
Kansas	138	141	145	146	147	148	149	147	147	147
Michigan	473	467	475	481	498	508	531	545	566	583
Minnesota	258	266	270	274	277	278	279	276	276	276
Missouri	257	261	263	265	268	267	272	274	278	282
Nebraska	89	91	91	91	91	90	90	89	90	90
North Dakota	38	38	38	38	37	36	35	34	34	33
Ohio	546	548	541	540	541	544	554	556	561	567
South Dakota	44	45	42	41	41	41	41	40	39	39
Wisconsin	274	278	279	281	285	288	290	289	290	291
South	4,462	4,541	4,586	4,650	4,693	4,783	4,898	4,980	5,071	5,164
Alabama	208	208	206	202	201	202	206	205	208	210
Arkansas	133	134	133	133	132	132	132	132	134	135
Delaware	33	33	33	33	34	34	34	35	35	36
District of Columbia	18	17	15	17	15	17	17	18	19	21
Florida	589	614	634	656	675	703	731	752	773	791
Georgia	356	365	372	379	385	395	407	418	430	440
Kentucky	190	195	191	190	194	181	184	184	185	188
Louisiana	218	213	210	209	197	194	194	194	192	194
Maryland	222	229	235	239	244	250	256	262	269	273
Mississippi	140	140	137	135	134	132	132	132	134	135
North Carolina	324	330	334	341	348	359	372	382	391	399
Oklahoma	175	179	181	180	178	176	176	175	176	176
South Carolina	185	187	187	183	184	189	194	199	199	205
Tennessee	248	240	241	252	241	250	254	258	262	268
Texas	1,029	1,059	1,077	1,096	1,117	1,147	1,180	1,197	1,218	1,238
Virginia	300	304	309	317	329	337	346	353	364	373
West Virginia	95	94	92	88	85	83	82	82	82	83
West	2,974	3,051	3,125	3,189	3,234	3,297	3,398	3,468	3,568	3,656
Alaska	36	36	38	39	39	39	40	40	41	41
Arizona	211	218	226	229	237	251	277	285	290	296
California	1,557	1,608	1,656	1,702	1,733	1,769	1,828	1,875	1,947	2,009
Colorado	186	193	198	202	208	213	217	221	225	229
Hawaii	51	53	53	53	52	53	53	54	55	55
Idaho	76	76	76	77	75	75	75	76	77	78
Montana	50	50	50	50	50	49	49	48	48	47
Nevada	74	78	82	86	90	94	99	107	115	122
New Mexico	103	96	96	96	95	95	96	97	97	97
Oregon	158	160	163	167	167	170	172	173	175	177
Utah	154	154	153	151	148	147	147	146	147	149
Washington	287	297	302	309	310	313	318	320	324	328
Wyoming	32	32	31	30	30	29	28	27	27	27

See notes at end of table.

Table 8. Actual and projected numbers for enrollment in grades 9–12 in public elementary and secondary schools, by region and state: Fall 1996 to fall 2014—Continued

[In thousands]

Region and state	Projected—Continued								
	2006	2007	2008	2009	2010	2011	2012	2013	2014
United States	15,010	15,060	14,994	14,871	14,745	14,565	14,402	14,315	14,312
Northeast	2,642	2,632	2,602	2,563	2,518	2,466	2,417	2,382	2,361
Connecticut	172	172	169	167	166	164	162	161	160
Maine	60	59	57	56	54	52	51	50	49
Massachusetts	298	295	291	287	283	278	272	268	264
New Hampshire	65	64	62	61	60	59	57	57	57
New Jersey	439	442	441	440	437	432	427	422	420
New York	924	920	910	895	877	856	837	824	817
Pennsylvania	601	599	591	579	566	551	538	529	525
Rhode Island	51	51	51	50	49	48	47	46	46
Vermont	31	30	29	28	27	26	25	25	25
Midwest	3,424	3,423	3,388	3,340	3,290	3,233	3,185	3,154	3,144
Illinois	639	642	644	640	634	626	615	608	607
Indiana	312	313	311	309	309	307	305	304	303
Iowa	155	153	150	146	143	140	138	137	136
Kansas	146	145	143	142	140	138	137	136	137
Michigan	590	594	587	578	569	557	546	537	532
Minnesota	275	272	267	262	257	253	249	248	248
Missouri	288	288	284	278	272	267	264	262	261
Nebraska	90	90	88	87	86	85	84	84	84
North Dakota	32	31	30	29	28	28	27	27	27
Ohio	568	568	561	552	541	529	521	515	513
South Dakota	38	38	37	36	36	35	35	35	35
Wisconsin	291	289	285	279	275	269	265	263	262
South	5,236	5,265	5,266	5,239	5,213	5,165	5,121	5,103	5,111
Alabama	211	211	209	205	201	196	193	191	190
Arkansas	136	135	133	131	130	130	129	129	128
Delaware	37	37	38	37	37	36	35	35	34
District of Columbia	21	21	21	19	18	17	16	16	16
Florida	803	812	816	817	817	812	807	806	809
Georgia	448	453	453	453	452	449	448	448	450
Kentucky	190	190	187	183	183	179	177	175	172
Louisiana	194	193	192	189	183	178	174	172	173
Maryland	276	274	271	266	261	257	253	251	249
Mississippi	136	137	135	133	130	127	125	124	124
North Carolina	406	406	408	405	403	401	397	395	394
Oklahoma	177	176	174	171	167	165	162	161	162
South Carolina	208	209	210	209	207	201	197	194	192
Tennessee	270	270	267	263	259	255	252	251	252
Texas	1,259	1,277	1,290	1,300	1,312	1,314	1,315	1,322	1,333
Virginia	380	382	381	379	376	370	365	361	359
West Virginia	83	82	81	80	78	76	75	74	73
West	3,708	3,740	3,738	3,729	3,724	3,701	3,679	3,676	3,696
Alaska	42	41	41	40	39	38	38	38	38
Arizona	298	300	301	299	299	301	302	306	310
California	2,045	2,073	2,080	2,079	2,081	2,059	2,035	2,024	2,028
Colorado	234	236	236	236	237	237	238	239	240
Hawaii	55	55	54	52	52	51	50	50	50
Idaho	79	79	79	78	79	79	80	81	82
Montana	46	45	44	43	41	40	40	40	40
Nevada	127	131	135	138	141	144	146	148	150
New Mexico	97	97	96	94	92	90	90	90	91
Oregon	178	177	175	173	172	172	172	173	174
Utah	150	151	151	152	153	154	156	157	159
Washington	330	329	324	320	315	311	309	308	310
Wyoming	26	26	25	24	24	23	23	23	24

NOTE: Some data have been revised from previously published figures. Includes most nursery school enrollment. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1996–97 through 2002–2003; and State Elementary and Secondary Enrollment Model, 1980–2002. (This table was prepared October 2004.)

Table 9. Actual and projected percentage changes in 9–12 enrollment in public schools, by region and state: Selected years, fall 1996 to fall 2014

Region and state	Actual 1996–2002	Projected 2002–2008	Projected 2008–2014	Projected 2002–2014
United States	9.5	6.6	-4.5	1.7
Northeast	9.2	4.6	-9.2	-5.0
Connecticut	19.1	3.3	-5.4	-2.3
Maine	7.9	-8.3	-13.9	-21.1
Massachusetts	14.5	3.0	-9.1	-6.4
New Hampshire	17.7	-2.6	-9.4	-11.8
New Jersey	19.7	13.4	-4.8	8.0
New York	3.4	4.5	-10.3	-6.3
Pennsylvania	6.4	2.7	-11.2	-8.8
Rhode Island	14.2	9.5	-10.8	-2.4
Vermont	2.5	-9.2	-15.2	-23.0
Midwest	4.8	3.1	-7.2	-4.3
Illinois	6.4	8.0	-5.8	1.7
Indiana	-1.3	7.4	-2.8	4.4
Iowa	-3.1	-4.1	-9.0	-12.7
Kansas	7.8	-3.9	-4.7	-8.4
Michigan	12.2	10.4	-9.3	0.2
Minnesota	8.0	-4.5	-6.9	-11.2
Missouri	5.7	4.6	-8.1	-4.0
Nebraska	1.3	-2.4	-5.2	-7.5
North Dakota	-7.4	-13.5	-12.2	-24.0
Ohio	1.6	1.2	-8.5	-7.4
South Dakota	-8.1	-8.3	-6.3	-14.1
Wisconsin	5.7	-1.7	-8.0	-9.6
South	9.8	7.5	-2.9	4.3
Alabama	-0.9	1.2	-8.7	-7.6
Arkansas	-0.6	0.6	-3.5	-2.9
Delaware	4.8	9.9	-8.1	1.0
District of Columbia	-1.4	19.1	-23.4	-8.8
Florida	24.0	11.6	-0.9	10.7
Georgia	14.5	11.3	-0.7	10.5
Kentucky	-3.1	1.7	-8.2	-6.7
Louisiana	-11.2	-0.7	-10.1	-10.7
Maryland	15.5	5.7	-8.0	-2.7
Mississippi	-5.5	2.1	-8.5	-6.6
North Carolina	14.8	9.6	-3.3	5.9
Oklahoma	0.2	-1.0	-6.7	-7.6
South Carolina	4.8	8.4	-8.7	-1.1
Tennessee	2.7	5.1	-5.8	-1.0
Texas	14.7	9.3	3.3	12.9
Virginia	15.3	10.3	-5.8	3.8
West Virginia	-13.3	-1.8	-9.4	-11.0
West	14.3	10.0	-1.1	8.8
Alaska	12.5	1.4	-5.1	-3.8
Arizona	31.6	8.4	3.2	11.9
California	17.4	13.8	-2.5	11.0
Colorado	16.8	8.7	1.7	10.6
Hawaii	2.9	1.3	-6.2	-5.0
Idaho	-0.7	4.4	4.4	9.0
Montana	-2.3	-9.9	-9.0	-18.0
Nevada	32.5	36.7	11.1	51.9
New Mexico	-6.7	-0.1	-4.4	-4.6
Oregon	9.2	1.4	-0.5	0.9
Utah	-4.8	2.8	5.6	8.5
Washington	10.6	2.1	-4.5	-2.5
Wyoming	-11.1	-11.8	-5.2	-16.4

NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," Selected years, 1996–97 through 2002–2003; and State Elementary and Secondary Enrollment Model, 1980–2002. (This table was prepared October 2004.)

Table 10. Actual and alternative projected numbers for total enrollment in all degree-granting postsecondary institutions, by sex, attendance status, and control on institution: Fall 1989 to fall 2014

[In thousands]

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
Actual							
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	14,486	6,524	7,963	8,161	6,325	11,385	3,102
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	14,262	6,343	7,919	8,129	6,133	11,092	3,169
1996	14,368	6,353	8,015	8,303	6,065	11,121	3,247
1997	14,502	6,396	8,106	8,438	6,064	11,196	3,306
1998	14,507	6,369	8,138	8,563	5,944	11,138	3,369
1999	14,791	6,491	8,301	8,786	6,005	11,309	3,482
2000	15,312	6,722	8,591	9,010	6,303	11,753	3,560
2001	15,928	6,961	8,967	9,448	6,480	12,233	3,695
2002	16,612	7,202	9,410	9,946	6,665	12,752	3,860
Middle alternative projections							
2003	16,910	7,259	9,652	10,156	6,755	12,952	3,958
2004	17,095	7,268	9,826	10,303	6,792	13,092	4,003
2005	17,350	7,356	9,995	10,483	6,867	13,283	4,068
2006	17,664	7,461	10,203	10,706	6,957	13,518	4,146
2007	17,975	7,568	10,407	10,934	7,041	13,752	4,223
2008	18,351	7,695	10,655	11,212	7,139	14,034	4,316
2009	18,640	7,803	10,838	11,431	7,209	14,251	4,389
2010	18,816	7,872	10,945	11,563	7,253	14,380	4,436
2011	18,973	7,930	11,042	11,662	7,310	14,494	4,478
2012	19,132	7,985	11,147	11,744	7,388	14,612	4,520
2013	19,290	8,034	11,255	11,815	7,474	14,730	4,560
2014	19,470	8,084	11,386	11,902	7,568	14,866	4,605
Low alternative projections							
2003	16,906	7,257	9,649	10,153	6,753	12,949	3,957
2004	17,053	7,257	9,797	10,276	6,777	13,060	3,993
2005	17,318	7,340	9,977	10,462	6,856	13,258	4,060
2006	17,567	7,429	10,139	10,644	6,924	13,445	4,122
2007	17,818	7,517	10,301	10,832	6,986	13,634	4,184
2008	18,134	7,627	10,507	11,070	7,064	13,871	4,263
2009	18,374	7,720	10,653	11,257	7,117	14,050	4,323
2010	18,518	7,779	10,738	11,367	7,150	14,155	4,362
2011	18,645	7,829	10,815	11,447	7,198	14,248	4,397
2012	18,784	7,878	10,906	11,515	7,269	14,350	4,434
2013	18,922	7,924	10,998	11,575	7,347	14,453	4,469
2014	19,090	7,970	11,120	11,653	7,436	14,580	4,510
High alternative projections							
2003	16,913	7,259	9,653	10,157	6,756	12,954	3,959
2004	17,135	7,280	9,855	10,329	6,806	13,122	4,013
2005	17,244	7,336	9,908	10,416	6,829	13,203	4,042
2006	17,544	7,441	10,103	10,630	6,914	13,428	4,116
2007	17,867	7,556	10,311	10,865	7,002	13,671	4,196
2008	18,222	7,683	10,539	11,129	7,093	13,938	4,284
2009	18,621	7,817	10,804	11,420	7,201	14,237	4,384
2010	18,921	7,915	11,006	11,633	7,288	14,459	4,462
2011	19,233	8,013	11,220	11,833	7,399	14,690	4,543
2012	19,484	8,091	11,393	11,975	7,510	14,877	4,608
2013	19,769	8,169	11,600	12,129	7,640	15,090	4,679
2014	20,015	8,234	11,781	12,258	7,757	15,275	4,740

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared September 2004.)

Table 11. Actual and middle alternative projected numbers for total enrollment in all degree-granting postsecondary institutions, by sex, age, and attendance status: Fall 1989 to fall 2014

[In thousands]

Sex, age, and attendance status	Actual												
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total enrollment	**13,539**	**13,819**	**14,359**	**14,486**	**14,305**	**14,279**	**14,262**	**14,368**	**14,502**	**14,507**	**14,791**	**15,312**	**15,928**
14 to 17 years old	185	177	125	186	127	138	148	231	171	119	143	145	133
18 and 19 years old	3,041	2,950	2,864	2,784	2,840	2,787	2,894	3,038	3,061	3,382	3,414	3,531	3,595
20 and 21 years old	2,550	2,761	2,920	2,883	2,674	2,724	2,705	2,659	2,875	2,811	2,989	3,045	3,408
22 to 24 years old	2,185	2,144	2,306	2,527	2,570	2,482	2,411	2,324	2,475	2,377	2,435	2,617	2,760
25 to 29 years old	1,979	1,982	2,072	1,985	2,002	1,985	2,120	2,128	1,999	1,991	1,870	1,960	2,014
30 to 34 years old	1,305	1,322	1,415	1,456	1,345	1,414	1,236	1,196	1,109	1,195	1,145	1,265	1,290
35 years old and over	2,293	2,484	2,656	2,665	2,747	2,750	2,747	2,791	2,814	2,632	2,796	2,749	2,727
Men	**6,190**	**6,284**	**6,502**	**6,524**	**6,427**	**6,372**	**6,343**	**6,353**	**6,396**	**6,369**	**6,491**	**6,722**	**6,961**
14 to 17 years old	77	87	50	89	54	62	61	92	56	45	72	63	54
18 and 19 years old	1,433	1,421	1,299	1,305	1,288	1,302	1,338	1,354	1,414	1,535	1,541	1,583	1,629
20 and 21 years old	1,261	1,368	1,387	1,342	1,284	1,264	1,282	1,228	1,374	1,374	1,392	1,382	1,591
22 to 24 years old	1,084	1,107	1,232	1,272	1,344	1,238	1,153	1,177	1,200	1,127	1,090	1,293	1,312
25 to 29 years old	993	940	1,049	955	903	936	962	991	972	908	874	862	905
30 to 34 years old	562	537	614	627	584	601	561	477	443	463	517	527	510
35 years old and over	782	824	870	933	970	969	986	1,033	938	917	1,005	1,012	961
Women	**7,349**	**7,535**	**7,857**	**7,963**	**7,877**	**7,907**	**7,919**	**8,015**	**8,106**	**8,138**	**8,301**	**8,591**	**8,967**
14 to 17 years old	108	90	76	97	73	75	87	139	115	74	72	82	79
18 and 19 years old	1,608	1,529	1,565	1,479	1,552	1,485	1,557	1,684	1,647	1,847	1,874	1,948	1,966
20 and 21 years old	1,290	1,392	1,533	1,541	1,391	1,461	1,424	1,430	1,501	1,437	1,597	1,663	1,817
22 to 24 years old	1,101	1,037	1,074	1,255	1,226	1,243	1,258	1,147	1,275	1,250	1,344	1,324	1,448
25 to 29 years old	986	1,043	1,022	1,030	1,098	1,049	1,159	1,137	1,027	1,083	995	1,099	1,110
30 to 34 years old	743	784	800	828	761	812	675	719	666	732	627	738	780
35 years old and over	1,511	1,659	1,786	1,732	1,777	1,781	1,760	1,758	1,877	1,715	1,791	1,736	1,767
Full-time, total	**7,661**	**7,821**	**8,115**	**8,161**	**8,128**	**8,138**	**8,129**	**8,303**	**8,438**	**8,563**	**8,786**	**9,010**	**9,448**
14 to 17 years old	154	144	117	179	92	118	123	166	123	93	129	125	122
18 and 19 years old	2,671	2,548	2,466	2,382	2,370	2,321	2,387	2,553	2,534	2,794	2,848	2,932	2,929
20 and 21 years old	2,064	2,151	2,342	2,267	2,148	2,178	2,109	2,117	2,275	2,271	2,362	2,401	2,662
22 to 24 years old	1,300	1,350	1,467	1,594	1,612	1,551	1,517	1,598	1,606	1,564	1,662	1,653	1,757
25 to 29 years old	667	770	830	731	839	869	908	911	897	890	854	878	883
30 to 34 years old	332	387	382	409	424	440	430	383	377	367	338	422	494
35 years old and over	474	471	513	598	643	660	653	575	626	584	593	599	602
Men	**3,740**	**3,808**	**3,929**	**3,926**	**3,891**	**3,855**	**3,807**	**3,851**	**3,890**	**3,934**	**4,026**	**4,111**	**4,300**
14 to 17 years old	60	71	41	86	37	51	54	72	48	39	63	51	43
18 and 19 years old	1,289	1,230	1,141	1,130	1,079	1,081	1,091	1,126	1,154	1,240	1,271	1,250	1,329
20 and 21 years old	1,017	1,055	1,103	1,084	1,003	1,029	999	969	1,074	1,129	1,125	1,106	1,249
22 to 24 years old	696	742	817	854	896	811	789	858	770	777	788	839	854
25 to 29 years old	366	401	465	378	443	457	454	444	475	424	416	415	397
30 to 34 years old	151	156	174	174	180	193	183	143	160	141	149	195	216
35 years old and over	162	152	187	220	253	232	238	240	210	184	213	256	212
Women	**3,921**	**4,013**	**4,186**	**4,235**	**4,237**	**4,283**	**4,321**	**4,452**	**4,548**	**4,630**	**4,761**	**4,899**	**5,148**
14 to 17 years old	93	73	76	93	55	67	69	95	75	54	66	74	78
18 and 19 years old	1,383	1,318	1,325	1,253	1,291	1,240	1,296	1,426	1,380	1,555	1,577	1,682	1,600
20 and 21 years old	1,047	1,096	1,239	1,183	1,145	1,149	1,111	1,148	1,201	1,142	1,237	1,296	1,413
22 to 24 years old	604	608	650	739	716	740	729	740	836	787	875	814	903
25 to 29 years old	301	369	364	353	396	412	455	467	422	466	437	463	486
30 to 34 years old	182	231	208	235	244	247	247	240	217	226	190	227	277
35 years old and over	311	319	325	377	390	428	415	336	416	400	380	343	390
Part-time, total	**5,878**	**5,998**	**6,244**	**6,325**	**6,177**	**6,141**	**6,133**	**6,065**	**6,064**	**5,944**	**6,005**	**6,303**	**6,480**
14 to 17 years old	32	32	9	7	35	19	25	65	48	26	14	20	11
18 and 19 years old	370	402	399	402	470	466	507	485	526	588	566	599	666
20 and 21 years old	487	610	578	616	526	546	596	542	600	540	627	644	746
22 to 24 years old	885	794	840	933	958	930	894	727	869	813	772	964	1,003
25 to 29 years old	1,312	1,213	1,242	1,254	1,163	1,116	1,212	1,217	1,101	1,101	1,016	1,083	1,132
30 to 34 years old	973	935	1,033	1,046	921	973	805	813	732	828	806	843	796
35 years old and over	1,819	2,012	2,143	2,068	2,104	2,091	2,093	2,216	2,188	2,048	2,203	2,150	2,126
Men	**2,450**	**2,476**	**2,572**	**2,597**	**2,537**	**2,517**	**2,535**	**2,502**	**2,506**	**2,436**	**2,465**	**2,611**	**2,661**
14 to 17 years old	17	16	9	4	17	11	7	20	9	5	8	11	11
18 and 19 years old	144	191	158	176	210	220	246	228	260	296	269	333	300
20 and 21 years old	244	313	285	258	281	235	283	260	300	245	267	276	342
22 to 24 years old	388	365	415	417	448	427	365	319	430	350	302	454	458
25 to 29 years old	627	539	584	577	460	479	508	547	497	485	458	447	508
30 to 34 years old	411	381	440	453	404	408	378	334	283	322	369	332	294
35 years old and over	619	672	682	713	717	737	748	793	728	733	791	757	749
Women	**3,428**	**3,521**	**3,671**	**3,728**	**3,640**	**3,624**	**3,598**	**3,563**	**3,559**	**3,508**	**3,540**	**3,692**	**3,820**
14 to 17 years old	15	17	0	3	18	8	18	45	39	21	6	9	1
18 and 19 years old	226	211	241	226	261	245	261	257	267	292	297	266	366
20 and 21 years old	243	297	294	358	245	311	313	282	300	295	360	368	404
22 to 24 years old	497	429	425	516	510	504	529	407	439	463	470	510	545
25 to 29 years old	685	674	658	677	702	637	704	670	605	617	558	636	624
30 to 34 years old	562	554	593	593	517	565	427	479	449	506	438	511	502
35 years old and over	1,200	1,340	1,461	1,355	1,386	1,354	1,345	1,423	1,460	1,315	1,411	1,393	1,377

See notes at end of table.

Table 11. Actual and middle alternative projected numbers for total enrollment in all degree-granting postsecondary institutions, by sex, age, and attendance status: Fall 1989 to fall 2014—Continued

[In thousands]

Sex, age, and attendance status	Actual	Projected											
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total enrollment	**16,612**	**16,910**	**17,095**	**17,350**	**17,664**	**17,975**	**18,351**	**18,640**	**18,816**	**18,973**	**19,132**	**19,290**	**19,470**
14 to 17 years old	202	192	200	201	209	217	219	218	216	214	214	215	215
18 and 19 years old	3,571	3,551	3,669	3,705	3,775	3,877	4,005	4,089	4,067	4,023	3,984	3,956	3,951
20 and 21 years old	3,366	3,393	3,390	3,456	3,534	3,580	3,650	3,740	3,848	3,911	3,897	3,870	3,845
22 to 24 years old	2,932	3,062	3,087	3,143	3,173	3,224	3,286	3,335	3,384	3,450	3,557	3,639	3,686
25 to 29 years old	2,102	2,244	2,288	2,374	2,479	2,567	2,648	2,700	2,724	2,748	2,785	2,838	2,913
30 to 34 years old	1,300	1,311	1,300	1,290	1,285	1,294	1,324	1,361	1,399	1,447	1,493	1,535	1,573
35 years old and over	3,139	3,158	3,161	3,181	3,209	3,216	3,218	3,198	3,178	3,179	3,201	3,238	3,287
Men	**7,202**	**7,259**	**7,268**	**7,356**	**7,461**	**7,568**	**7,695**	**7,803**	**7,872**	**7,930**	**7,985**	**8,034**	**8,084**
14 to 17 years old	82	79	81	83	85	88	88	87	87	85	85	85	84
18 and 19 years old	1,616	1,575	1,600	1,622	1,647	1,688	1,740	1,772	1,760	1,739	1,721	1,706	1,701
20 and 21 years old	1,562	1,583	1,573	1,586	1,614	1,629	1,653	1,692	1,739	1,766	1,756	1,741	1,726
22 to 24 years old	1,342	1,401	1,401	1,417	1,428	1,445	1,463	1,479	1,498	1,525	1,570	1,603	1,617
25 to 29 years old	890	909	917	949	986	1,017	1,044	1,062	1,071	1,080	1,092	1,108	1,133
30 to 34 years old	547	546	538	533	529	531	540	554	569	587	605	622	636
35 years old and over	1,164	1,164	1,159	1,166	1,172	1,171	1,166	1,156	1,148	1,148	1,156	1,169	1,186
Women	**9,410**	**9,652**	**9,826**	**9,995**	**10,203**	**10,407**	**10,655**	**10,838**	**10,945**	**11,042**	**11,147**	**11,255**	**11,386**
14 to 17 years old	121	112	119	118	123	129	131	130	129	128	129	130	130
18 and 19 years old	1,955	1,976	2,069	2,084	2,128	2,189	2,265	2,316	2,308	2,284	2,263	2,249	2,250
20 and 21 years old	1,804	1,809	1,817	1,870	1,920	1,952	1,996	2,048	2,108	2,145	2,142	2,129	2,119
22 to 24 years old	1,590	1,661	1,686	1,726	1,745	1,779	1,823	1,856	1,886	1,925	1,987	2,036	2,069
25 to 29 years old	1,212	1,335	1,371	1,425	1,493	1,550	1,604	1,638	1,653	1,668	1,693	1,729	1,780
30 to 34 years old	753	764	762	757	756	763	784	807	831	860	888	913	937
35 years old and over	1,976	1,994	2,002	2,015	2,037	2,046	2,053	2,042	2,030	2,031	2,045	2,068	2,102
Full-time, total	**9,946**	**10,156**	**10,303**	**10,483**	**10,706**	**10,934**	**11,212**	**11,431**	**11,563**	**11,662**	**11,744**	**11,815**	**11,902**
14 to 17 years old	161	154	161	162	168	175	177	176	174	173	173	174	174
18 and 19 years old	2,942	2,910	3,013	3,043	3,104	3,190	3,299	3,369	3,352	3,318	3,287	3,266	3,266
20 and 21 years old	2,759	2,783	2,782	2,840	2,906	2,947	3,007	3,083	3,173	3,226	3,217	3,196	3,178
22 to 24 years old	1,922	2,008	2,022	2,062	2,085	2,123	2,167	2,201	2,235	2,282	2,357	2,412	2,443
25 to 29 years old	1,013	1,137	1,162	1,208	1,265	1,312	1,358	1,386	1,400	1,415	1,436	1,466	1,509
30 to 34 years old	465	472	469	467	467	472	485	499	514	533	551	568	584
35 years old and over	684	691	694	701	711	715	719	717	714	716	723	734	748
Men	**4,501**	**4,517**	**4,527**	**4,584**	**4,656**	**4,733**	**4,827**	**4,906**	**4,955**	**4,989**	**5,011**	**5,023**	**5,034**
14 to 17 years old	65	62	63	64	66	68	69	68	67	66	66	66	65
18 and 19 years old	1,327	1,277	1,297	1,315	1,336	1,370	1,412	1,438	1,427	1,410	1,395	1,383	1,379
20 and 21 years old	1,275	1,292	1,283	1,294	1,317	1,329	1,349	1,381	1,419	1,441	1,433	1,420	1,408
22 to 24 years old	936	977	975	986	992	1,005	1,018	1,029	1,043	1,062	1,094	1,115	1,122
25 to 29 years old	467	479	482	500	519	535	550	559	564	569	575	583	596
30 to 34 years old	183	184	180	179	177	178	182	186	191	197	203	209	213
35 years old and over	247	247	245	247	248	248	247	245	244	244	245	248	251
Women	**5,445**	**5,638**	**5,776**	**5,899**	**6,050**	**6,201**	**6,384**	**6,525**	**6,608**	**6,673**	**6,733**	**6,792**	**6,868**
14 to 17 years old	96	92	98	98	102	106	108	108	107	107	107	108	109
18 and 19 years old	1,615	1,633	1,716	1,729	1,768	1,821	1,887	1,932	1,926	1,908	1,892	1,883	1,887
20 and 21 years old	1,484	1,491	1,499	1,546	1,590	1,618	1,658	1,702	1,754	1,785	1,784	1,776	1,770
22 to 24 years old	985	1,032	1,047	1,076	1,093	1,118	1,149	1,172	1,193	1,220	1,263	1,297	1,321
25 to 29 years old	546	659	679	708	746	777	808	827	836	846	861	883	913
30 to 34 years old	282	288	289	288	290	294	303	313	323	336	348	359	371
35 years old and over	437	444	448	454	462	467	472	471	470	472	478	486	498
Part-time, total	**6,665**	**6,755**	**6,792**	**6,867**	**6,957**	**7,041**	**7,139**	**7,209**	**7,253**	**7,310**	**7,388**	**7,474**	**7,568**
14 to 17 years old	41	38	39	39	41	42	42	42	42	41	41	41	41
18 and 19 years old	628	641	656	662	671	686	706	720	715	705	697	689	686
20 and 21 years old	607	609	608	616	628	634	643	657	675	685	681	674	667
22 to 24 years old	1,010	1,054	1,065	1,081	1,088	1,101	1,119	1,134	1,149	1,168	1,201	1,227	1,243
25 to 29 years old	1,088	1,107	1,127	1,166	1,214	1,254	1,291	1,313	1,324	1,333	1,349	1,372	1,404
30 to 34 years old	835	839	830	823	818	822	839	861	885	915	942	967	989
35 years old and over	2,456	2,467	2,467	2,480	2,498	2,501	2,499	2,481	2,464	2,463	2,478	2,504	2,539
Men	**2,701**	**2,742**	**2,741**	**2,772**	**2,805**	**2,835**	**2,868**	**2,896**	**2,917**	**2,941**	**2,974**	**3,011**	**3,050**
14 to 17 years old	17	18	18	18	19	20	20	20	19	19	19	19	19
18 and 19 years old	288	298	303	307	311	319	328	335	333	329	326	323	323
20 and 21 years old	287	291	289	292	297	300	304	311	320	325	323	320	318
22 to 24 years old	405	424	426	432	435	440	445	450	455	463	476	488	495
25 to 29 years old	423	431	435	450	467	482	494	502	507	511	517	525	538
30 to 34 years old	364	363	357	354	351	353	359	368	378	390	402	413	423
35 years old and over	917	917	913	919	924	923	918	910	905	904	911	922	935
Women	**3,964**	**4,013**	**4,050**	**4,096**	**4,153**	**4,206**	**4,271**	**4,313**	**4,336**	**4,370**	**4,415**	**4,463**	**4,518**
14 to 17 years old	24	20	21	21	22	22	23	22	22	22	22	22	22
18 and 19 years old	340	343	353	355	360	368	378	385	382	377	371	366	363
20 and 21 years old	320	319	318	324	330	334	339	346	355	360	358	354	349
22 to 24 years old	605	630	639	649	652	661	674	684	693	705	724	739	748
25 to 29 years old	666	677	692	716	747	773	796	811	817	822	832	846	866
30 to 34 years old	471	476	473	469	467	470	481	494	507	525	540	554	566
35 years old and over	1,539	1,550	1,554	1,561	1,575	1,578	1,581	1,571	1,560	1,559	1,567	1,582	1,604

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data by age are based on the distribution by age from the Bureau of the Census. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*)

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:89–99), and Spring 2001 through Spring 2003; Enrollment in Degree-Granting Institutions Model, 1980–2002; and U.S. Department of Commerce, Bureau of the Census, Current Population Reports, "Social and Economic Characteristics of Students," various years. (This table was prepared September 2004.)

Table 12. Actual and low alternative projected numbers for total enrollment in all degree-granting postsecondary institutions, by sex, age, and attendance status: Selected years, fall 1994 to fall 2014

[In thousands]

Sex, age, and attendance status	Actual			Projected	
	1994	1999	2002	2009	2014
Total enrollment	**14,279**	**14,791**	**16,612**	**18,374**	**19,090**
14 to 17 years old	138	143	202	214	209
18 and 19 years old	2,787	3,414	3,571	4,043	3,893
20 and 21 years old	2,724	2,989	3,366	3,696	3,785
22 to 24 years old	2,482	2,435	2,932	3,286	3,613
25 to 29 years old	1,985	1,870	2,102	2,653	2,845
30 to 34 years old	1,414	1,145	1,300	1,337	1,535
35 years old and over	2,750	2,796	3,139	3,144	3,211
Men	**6,372**	**6,491**	**7,202**	**7,720**	**7,970**
14 to 17 years old	62	72	82	86	83
18 and 19 years old	1,302	1,541	1,616	1,757	1,682
20 and 21 years old	1,264	1,392	1,562	1,677	1,706
22 to 24 years old	1,238	1,090	1,342	1,463	1,594
25 to 29 years old	936	874	890	1,049	1,114
30 to 34 years old	601	517	547	547	625
35 years old and over	969	1,005	1,164	1,141	1,165
Women	**7,907**	**8,301**	**9,410**	**10,653**	**11,120**
14 to 17 years old	75	72	121	127	126
18 and 19 years old	1,485	1,874	1,955	2,286	2,211
20 and 21 years old	1,461	1,597	1,804	2,019	2,078
22 to 24 years old	1,243	1,344	1,590	1,823	2,018
25 to 29 years old	1,049	995	1,212	1,604	1,730
30 to 34 years old	812	627	753	790	910
35 years old and over	1,781	1,791	1,976	2,003	2,046
Full-time, total	**8,138**	**8,786**	**9,946**	**11,257**	**11,653**
14 to 17 years old	118	129	161	172	169
18 and 19 years old	2,321	2,848	2,942	3,328	3,213
20 and 21 years old	2,178	2,362	2,759	3,044	3,124
22 to 24 years old	1,551	1,662	1,922	2,165	2,388
25 to 29 years old	869	854	1,013	1,358	1,467
30 to 34 years old	440	338	465	488	566
35 years old and over	660	593	684	701	725
Men	**3,855**	**4,026**	**4,501**	**4,858**	**4,968**
14 to 17 years old	51	63	65	67	64
18 and 19 years old	1,081	1,271	1,327	1,425	1,363
20 and 21 years old	1,029	1,125	1,275	1,369	1,392
22 to 24 years old	811	788	936	1,018	1,106
25 to 29 years old	457	416	467	553	586
30 to 34 years old	193	149	183	184	209
35 years old and over	232	213	247	242	246
Women	**4,283**	**4,761**	**5,445**	**6,399**	**6,685**
14 to 17 years old	67	66	96	105	105
18 and 19 years old	1,240	1,577	1,615	1,903	1,850
20 and 21 years old	1,149	1,237	1,484	1,675	1,732
22 to 24 years old	740	875	985	1,146	1,282
25 to 29 years old	412	437	546	806	881
30 to 34 years old	247	190	282	305	357
35 years old and over	428	380	437	459	479
Part-time, total	**6,141**	**6,005**	**6,665**	**7,117**	**7,436**
14 to 17 years old	19	14	41	41	40
18 and 19 years old	466	566	628	715	680
20 and 21 years old	546	627	607	653	661
22 to 24 years old	930	772	1,010	1,122	1,224
25 to 29 years old	1,116	1,016	1,088	1,295	1,377
30 to 34 years old	973	806	835	848	968
35 years old and over	2,091	2,203	2,456	2,443	2,486
Men	**2,517**	**2,465**	**2,701**	**2,862**	**3,002**
14 to 17 years old	11	8	17	19	19
18 and 19 years old	220	269	288	332	319
20 and 21 years old	235	267	287	309	314
22 to 24 years old	427	302	405	445	488
25 to 29 years old	479	458	423	496	529
30 to 34 years old	408	369	364	363	415
35 years old and over	737	791	917	899	918
Women	**3,624**	**3,540**	**3,964**	**4,255**	**4,434**
14 to 17 years old	8	6	24	22	21
18 and 19 years old	245	297	340	383	361
20 and 21 years old	311	360	320	344	346
22 to 24 years old	504	470	605	677	737
25 to 29 years old	637	558	666	799	849
30 to 34 years old	565	438	471	485	553
35 years old and over	1,354	1,411	1,539	1,545	1,567

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data by age are based on the distribution by age from the Bureau of the Census. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*)

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:94 and 99), and Spring 2003; Enrollment in Degree-Granting Institutions Model, 1980–2002; and U.S. Department of Commerce, Bureau of the Census, Current Population Reports, "Social and Economic Characteristics of Students," various years. (This table was prepared September 2004.)

Table 13. Actual and high alternative projected numbers for total enrollment in all degree-granting postsecondary institutions, by sex, age, and attendance status: Selected years, fall 1994 to fall 2014

[In thousands]

Sex, age, and attendance status	Actual			Projected	
	1994	1999	2002	2009	2014
Total enrollment	**14,279**	**14,791**	**16,612**	**18,621**	**20,015**
14 to 17 years old	138	143	202	218	223
18 and 19 years old	2,787	3,414	3,571	4,090	4,031
20 and 21 years old	2,724	2,989	3,366	3,738	3,929
22 to 24 years old	2,482	2,435	2,932	3,333	3,790
25 to 29 years old	1,985	1,870	2,102	2,694	3,013
30 to 34 years old	1,414	1,145	1,300	1,358	1,629
35 years old and over	2,750	2,796	3,139	3,191	3,399
Men	**6,372**	**6,491**	**7,202**	**7,817**	**8,234**
14 to 17 years old	62	72	82	88	86
18 and 19 years old	1,302	1,541	1,616	1,775	1,726
20 and 21 years old	1,264	1,392	1,562	1,694	1,752
22 to 24 years old	1,238	1,090	1,342	1,481	1,648
25 to 29 years old	936	874	890	1,064	1,158
30 to 34 years old	601	517	547	555	651
35 years old and over	969	1,005	1,164	1,160	1,213
Women	**7,907**	**8,301**	**9,410**	**10,804**	**11,781**
14 to 17 years old	75	72	121	130	137
18 and 19 years old	1,485	1,874	1,955	2,315	2,305
20 and 21 years old	1,461	1,597	1,804	2,045	2,177
22 to 24 years old	1,243	1,344	1,590	1,851	2,143
25 to 29 years old	1,049	995	1,212	1,630	1,855
30 to 34 years old	812	627	753	802	978
35 years old and over	1,781	1,791	1,976	2,031	2,186
Full-time, total	**8,138**	**8,786**	**9,946**	**11,420**	**12,258**
14 to 17 years old	118	129	161	176	181
18 and 19 years old	2,321	2,848	2,942	3,370	3,339
20 and 21 years old	2,178	2,362	2,759	3,081	3,254
22 to 24 years old	1,551	1,662	1,922	2,199	2,521
25 to 29 years old	869	854	1,013	1,383	1,570
30 to 34 years old	440	338	465	498	610
35 years old and over	660	593	684	715	782
Men	**3,855**	**4,026**	**4,501**	**4,909**	**5,123**
14 to 17 years old	51	63	65	68	67
18 and 19 years old	1,081	1,271	1,327	1,439	1,399
20 and 21 years old	1,029	1,125	1,275	1,381	1,429
22 to 24 years old	811	788	936	1,030	1,143
25 to 29 years old	457	416	467	559	609
30 to 34 years old	193	149	183	186	218
35 years old and over	232	213	247	245	257
Women	**4,283**	**4,761**	**5,445**	**6,511**	**7,135**
14 to 17 years old	67	66	96	108	114
18 and 19 years old	1,240	1,577	1,615	1,931	1,939
20 and 21 years old	1,149	1,237	1,484	1,700	1,825
22 to 24 years old	740	875	985	1,169	1,378
25 to 29 years old	412	437	546	823	961
30 to 34 years old	247	190	282	311	392
35 years old and over	428	380	437	469	526
Part-time, total	**6,141**	**6,005**	**6,665**	**7,201**	**7,757**
14 to 17 years old	19	14	41	42	42
18 and 19 years old	466	566	628	720	693
20 and 21 years old	546	627	607	658	675
22 to 24 years old	930	772	1,010	1,134	1,269
25 to 29 years old	1,116	1,016	1,088	1,311	1,443
30 to 34 years old	973	806	835	860	1,019
35 years old and over	2,091	2,203	2,456	2,476	2,617
Men	**2,517**	**2,465**	**2,701**	**2,908**	**3,111**
14 to 17 years old	11	8	17	20	19
18 and 19 years old	220	269	288	336	327
20 and 21 years old	235	267	287	313	323
22 to 24 years old	427	302	405	452	504
25 to 29 years old	479	458	423	504	549
30 to 34 years old	408	369	364	369	432
35 years old and over	737	791	917	914	956
Women	**3,624**	**3,540**	**3,964**	**4,292**	**4,646**
14 to 17 years old	8	6	24	22	22
18 and 19 years old	245	297	340	384	366
20 and 21 years old	311	360	320	345	353
22 to 24 years old	504	470	605	682	765
25 to 29 years old	637	558	666	806	894
30 to 34 years old	565	438	471	491	586
35 years old and over	1,354	1,411	1,539	1,562	1,661

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data by age are based on the distribution by age from the Bureau of the Census. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*)

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:94 and 99), and Spring 2003; Enrollment in Degree-Granting Institutions Model, 1980–2002; and U.S. Department of Commerce, Bureau of the Census, Current Population Reports, "Social and Economic Characteristics of Students," various years. (This table was prepared September 2004.)

Table 14. Actual and alternative projected numbers for enrollment in all degree-granting postsecondary institutions, by sex and attendance status: Fall 1989 to fall 2014

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
Actual					
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	14,486	3,926	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	14,262	3,807	2,535	4,321	3,598
1996	14,368	3,851	2,502	4,452	3,563
1997	14,502	3,890	2,506	4,548	3,559
1998	14,507	3,934	2,436	4,630	3,508
1999	14,791	4,026	2,465	4,761	3,540
2000	15,312	4,111	2,611	4,899	3,692
2001	15,928	4,300	2,661	5,148	3,820
2002	16,612	4,501	2,701	5,445	3,964
Middle alternative projections					
2003	16,910	4,517	2,742	5,638	4,013
2004	17,095	4,527	2,741	5,776	4,050
2005	17,350	4,584	2,772	5,899	4,096
2006	17,664	4,656	2,805	6,050	4,153
2007	17,975	4,733	2,835	6,201	4,206
2008	18,351	4,827	2,868	6,384	4,271
2009	18,640	4,906	2,896	6,525	4,313
2010	18,816	4,955	2,917	6,608	4,336
2011	18,973	4,989	2,941	6,673	4,370
2012	19,132	5,011	2,974	6,733	4,415
2013	19,290	5,023	3,011	6,792	4,463
2014	19,470	5,034	3,050	6,868	4,518
Low alternative projections					
2003	16,906	4,516	2,741	5,636	4,012
2004	17,053	4,520	2,737	5,756	4,040
2005	17,318	4,576	2,764	5,885	4,092
2006	17,567	4,638	2,790	6,006	4,133
2007	17,818	4,704	2,813	6,128	4,173
2008	18,134	4,788	2,840	6,282	4,225
2009	18,374	4,858	2,862	6,399	4,255
2010	18,518	4,901	2,879	6,467	4,272
2011	18,645	4,930	2,900	6,517	4,298
2012	18,784	4,949	2,930	6,567	4,339
2013	18,922	4,959	2,965	6,616	4,382
2014	19,090	4,968	3,002	6,685	4,434
High alternative projections					
2003	16,913	4,518	2,742	5,640	4,014
2004	17,135	4,534	2,746	5,795	4,060
2005	17,244	4,569	2,768	5,847	4,061
2006	17,544	4,639	2,802	5,991	4,112
2007	17,867	4,720	2,836	6,145	4,166
2008	18,222	4,813	2,870	6,316	4,222
2009	18,621	4,909	2,908	6,511	4,292
2010	18,921	4,977	2,939	6,657	4,349
2011	19,233	5,037	2,976	6,797	4,423
2012	19,484	5,074	3,018	6,901	4,492
2013	19,769	5,104	3,066	7,025	4,574
2014	20,015	5,123	3,111	7,135	4,646

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared September 2004.)

Table 15. Actual and alternative projected numbers for enrollment in public 4-year degree-granting postsecondary institutions, by sex and attendance status: Fall 1989 to fall 2014

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
Actual					
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	5,815	1,951	720	2,134	1,009
1996	5,806	1,943	703	2,163	997
1997	5,835	1,951	687	2,214	984
1998	5,892	1,959	685	2,260	988
1999	5,970	1,984	686	2,309	991
2000	6,055	2,009	683	2,363	1,001
2001	6,236	2,082	687	2,450	1,017
2002	6,482	2,167	706	2,557	1,052
Middle alternative projections					
2003	6,711	2,205	728	2,690	1,088
2004	6,785	2,208	727	2,753	1,097
2005	6,893	2,236	734	2,814	1,109
2006	7,024	2,271	743	2,886	1,124
2007	7,153	2,308	750	2,958	1,138
2008	7,310	2,353	758	3,045	1,155
2009	7,435	2,392	764	3,113	1,165
2010	7,516	2,418	770	3,156	1,171
2011	7,585	2,437	778	3,189	1,181
2012	7,651	2,449	788	3,218	1,195
2013	7,712	2,456	800	3,246	1,210
2014	7,781	2,461	812	3,281	1,227
Low alternative projections					
2003	6,709	2,205	728	2,689	1,088
2004	6,768	2,205	725	2,744	1,094
2005	6,880	2,232	732	2,808	1,108
2006	6,985	2,262	739	2,865	1,119
2007	7,089	2,294	744	2,923	1,128
2008	7,221	2,334	750	2,997	1,141
2009	7,325	2,368	755	3,053	1,148
2010	7,393	2,391	760	3,089	1,153
2011	7,451	2,408	767	3,115	1,161
2012	7,508	2,419	776	3,140	1,174
2013	7,562	2,424	788	3,163	1,187
2014	7,625	2,429	799	3,194	1,203
High alternative projections					
2003	6,712	2,205	728	2,690	1,088
2004	6,801	2,212	728	2,762	1,100
2005	6,850	2,228	733	2,790	1,099
2006	6,975	2,263	742	2,858	1,112
2007	7,109	2,301	750	2,931	1,126
2008	7,258	2,346	758	3,013	1,141
2009	7,427	2,393	768	3,107	1,159
2010	7,559	2,429	776	3,179	1,175
2011	7,692	2,460	788	3,248	1,197
2012	7,796	2,480	801	3,298	1,217
2013	7,909	2,495	815	3,356	1,242
2014	8,005	2,504	829	3,407	1,264

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared September 2004.)

Table 16. Actual and alternative projected numbers for enrollment in public 2-year degree-granting postsecondary institutions, by sex and attendance status: Fall 1989 to fall 2014

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
Actual					
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	5,278	819	1,417	1,022	2,020
1996	5,314	833	1,423	1,039	2,019
1997	5,361	842	1,444	1,049	2,026
1998	5,246	841	1,383	1,040	1,981
1999	5,339	868	1,404	1,063	2,005
2000	5,697	891	1,549	1,109	2,148
2001	5,997	962	1,596	1,194	2,245
2002	6,270	1,035	1,605	1,299	2,332
Middle alternative projections					
2003	6,241	999	1,612	1,302	2,328
2004	6,307	1,003	1,614	1,338	2,352
2005	6,389	1,016	1,632	1,363	2,378
2006	6,494	1,032	1,652	1,398	2,412
2007	6,599	1,050	1,672	1,433	2,444
2008	6,724	1,073	1,693	1,475	2,483
2009	6,817	1,090	1,711	1,507	2,509
2010	6,864	1,097	1,722	1,522	2,523
2011	6,909	1,101	1,735	1,533	2,540
2012	6,961	1,102	1,751	1,543	2,564
2013	7,017	1,102	1,770	1,556	2,589
2014	7,084	1,103	1,790	1,573	2,617
Low alternative projections					
2003	6,240	999	1,612	1,302	2,328
2004	6,292	1,002	1,611	1,334	2,346
2005	6,378	1,014	1,628	1,360	2,376
2006	6,461	1,028	1,644	1,387	2,401
2007	6,545	1,044	1,659	1,416	2,426
2008	6,650	1,064	1,676	1,452	2,457
2009	6,725	1,079	1,692	1,478	2,477
2010	6,762	1,086	1,701	1,489	2,487
2011	6,797	1,088	1,711	1,497	2,501
2012	6,842	1,089	1,726	1,505	2,522
2013	6,892	1,089	1,744	1,515	2,544
2014	6,954	1,089	1,763	1,531	2,571
High alternative projections					
2003	6,242	999	1,612	1,303	2,328
2004	6,321	1,005	1,616	1,343	2,357
2005	6,353	1,013	1,630	1,351	2,359
2006	6,453	1,029	1,651	1,384	2,389
2007	6,562	1,048	1,672	1,420	2,421
2008	6,680	1,070	1,694	1,460	2,456
2009	6,810	1,091	1,718	1,504	2,497
2010	6,900	1,102	1,735	1,533	2,530
2011	6,998	1,112	1,755	1,561	2,570
2012	7,081	1,116	1,776	1,582	2,607
2013	7,181	1,120	1,801	1,609	2,651
2014	7,270	1,123	1,825	1,634	2,688

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared September 2004.)

Table 17. Actual and alternative projected numbers for enrollment in private 4-year degree-granting postsecondary institutions, by sex and attendance status: Fall 1989 to fall 2014

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
Actual					
1989	2,693	933	360	938	463
1990	2,730	944	361	959	466
1991	2,802	962	367	990	483
1992	2,864	970	375	1,016	503
1993	2,887	973	369	1,037	508
1994	2,924	978	367	1,063	516
1995	2,955	978	364	1,089	523
1996	2,998	991	356	1,133	518
1997	3,061	1,008	360	1,170	523
1998	3,126	1,038	353	1,220	514
1999	3,229	1,073	360	1,276	519
2000	3,308	1,107	365	1,315	522
2001	3,441	1,151	365	1,389	536
2002	3,601	1,199	377	1,468	557
Middle alternative projections					
2003	3,687	1,208	387	1,519	572
2004	3,727	1,210	387	1,554	577
2005	3,788	1,225	390	1,589	583
2006	3,860	1,244	395	1,630	591
2007	3,931	1,264	398	1,671	598
2008	4,018	1,289	402	1,720	607
2009	4,085	1,310	405	1,758	612
2010	4,130	1,324	408	1,782	615
2011	4,170	1,335	412	1,802	620
2012	4,210	1,343	418	1,821	628
2013	4,248	1,349	425	1,839	636
2014	4,291	1,353	431	1,861	645
Low alternative projections					
2003	3,686	1,208	387	1,519	572
2004	3,717	1,208	386	1,549	575
2005	3,780	1,223	389	1,585	582
2006	3,838	1,239	393	1,618	588
2007	3,895	1,256	395	1,651	593
2008	3,968	1,278	398	1,692	600
2009	4,024	1,297	400	1,724	603
2010	4,061	1,309	403	1,744	605
2011	4,094	1,319	406	1,759	610
2012	4,130	1,326	412	1,775	616
2013	4,163	1,331	418	1,791	624
2014	4,203	1,335	424	1,811	632
High alternative projections					
2003	3,687	1,208	387	1,519	572
2004	3,736	1,212	387	1,559	578
2005	3,763	1,221	390	1,575	578
2006	3,832	1,240	394	1,614	585
2007	3,906	1,261	398	1,655	592
2008	3,988	1,285	402	1,701	599
2009	4,081	1,310	407	1,754	609
2010	4,154	1,330	412	1,796	617
2011	4,230	1,348	418	1,836	629
2012	4,292	1,361	425	1,867	640
2013	4,360	1,371	433	1,903	653
2014	4,417	1,378	440	1,934	665

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared September 2004.)

Table 18. Actual and alternative projected numbers for enrollment in private 2-year degree-granting postsecondary institutions, by sex and attendance status: Fall 1989 to fall 2014

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
Actual					
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	215	60	33	77	45
1996	249	84	19	117	29
1997	245	89	14	115	26
1998	243	95	14	109	25
1999	253	101	15	112	25
2000	251	105	13	112	21
2001	254	105	12	114	22
2002	259	101	13	122	23
Middle alternative projections					
2003	272	105	15	127	25
2004	276	106	15	130	25
2005	280	107	15	133	26
2006	286	109	15	136	26
2007	292	111	15	140	26
2008	299	113	15	144	27
2009	304	115	15	147	27
2010	307	116	16	148	27
2011	308	116	16	149	27
2012	310	116	16	150	28
2013	311	116	16	152	28
2014	314	116	16	153	28
Low alternative projections					
2003	272	105	15	127	25
2004	275	105	15	130	25
2005	280	107	15	132	26
2006	284	108	15	135	26
2007	289	110	15	138	26
2008	295	112	15	141	26
2009	300	114	15	144	27
2010	302	114	15	145	27
2011	303	115	15	146	27
2012	304	115	16	147	27
2013	305	115	16	148	27
2014	307	115	16	149	28
High alternative projections					
2003	272	105	15	127	25
2004	277	106	15	131	25
2005	278	107	15	132	25
2006	284	108	15	135	26
2007	290	110	15	138	26
2008	297	113	15	142	26
2009	304	115	16	146	27
2010	308	116	16	149	27
2011	313	117	16	152	28
2012	316	118	16	154	28
2013	319	118	16	157	29
2014	323	118	17	159	29

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared September 2004.)

Table 19. Actual and alternative projected numbers for undergraduate enrollment in all degree-granting postsecondary institutions, by sex, attendance status, and control of institution: Fall 1989 to fall 2014

[In thousands]

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
Actual							
1989	11,743	5,311	6,432	6,841	4,902	9,488	2,255
1990	11,959	5,380	6,579	6,976	4,983	9,710	2,250
1991	12,439	5,571	6,868	7,221	5,218	10,148	2,291
1992	12,537	5,582	6,954	7,243	5,293	10,216	2,320
1993	12,324	5,484	6,840	7,179	5,144	10,012	2,312
1994	12,263	5,422	6,840	7,169	5,094	9,945	2,317
1995	12,232	5,401	6,831	7,145	5,086	9,904	2,328
1996	12,327	5,421	6,906	7,299	5,028	9,935	2,392
1997	12,451	5,469	6,982	7,419	5,032	10,007	2,443
1998	12,437	5,446	6,991	7,539	4,898	9,950	2,487
1999	12,681	5,559	7,122	7,735	4,946	10,110	2,571
2000	13,155	5,778	7,377	7,923	5,232	10,539	2,616
2001	13,716	6,004	7,711	8,328	5,388	10,986	2,730
2002	14,257	6,192	8,065	8,734	5,523	11,433	2,824
Middle alternative projections							
2003	14,459	6,215	8,243	8,874	5,584	11,570	2,889
2004	14,628	6,228	8,400	9,010	5,618	11,701	2,927
2005	14,845	6,302	8,543	9,162	5,683	11,871	2,974
2006	15,115	6,394	8,721	9,356	5,759	12,082	3,033
2007	15,385	6,489	8,896	9,555	5,830	12,293	3,092
2008	15,715	6,603	9,112	9,800	5,915	12,550	3,165
2009	15,973	6,699	9,274	9,996	5,977	12,749	3,223
2010	16,125	6,759	9,366	10,110	6,015	12,865	3,260
2011	16,247	6,804	9,444	10,186	6,061	12,961	3,287
2012	16,359	6,840	9,519	10,237	6,122	13,052	3,307
2013	16,466	6,871	9,595	10,278	6,188	13,141	3,324
2014	16,593	6,902	9,690	10,333	6,259	13,247	3,346
Low alternative projections							
2003	14,455	6,214	8,241	8,872	5,583	11,567	2,888
2004	14,593	6,218	8,376	8,987	5,607	11,674	2,920
2005	14,817	6,290	8,528	9,144	5,674	11,849	2,968
2006	15,034	6,367	8,667	9,303	5,731	12,018	3,016
2007	15,254	6,446	8,808	9,468	5,786	12,190	3,065
2008	15,534	6,545	8,988	9,679	5,854	12,407	3,127
2009	15,751	6,630	9,121	9,848	5,903	12,574	3,177
2010	15,876	6,681	9,195	9,944	5,933	12,669	3,208
2011	15,975	6,720	9,255	10,004	5,971	12,745	3,230
2012	16,070	6,751	9,319	10,044	6,026	12,823	3,247
2013	16,161	6,778	9,383	10,076	6,086	12,900	3,261
2014	16,278	6,808	9,471	10,125	6,153	12,998	3,280
High alternative projections							
2003	14,460	6,216	8,245	8,875	5,585	11,571	2,889
2004	14,661	6,237	8,424	9,031	5,630	11,728	2,934
2005	14,758	6,287	8,471	9,106	5,652	11,802	2,956
2006	15,017	6,378	8,639	9,293	5,724	12,004	3,013
2007	15,297	6,479	8,818	9,498	5,799	12,223	3,074
2008	15,609	6,593	9,017	9,731	5,878	12,467	3,143
2009	15,958	6,712	9,247	9,988	5,971	12,738	3,221
2010	16,213	6,796	9,418	10,170	6,044	12,935	3,278
2011	16,464	6,873	9,591	10,331	6,133	13,132	3,332
2012	16,651	6,929	9,722	10,431	6,219	13,283	3,368
2013	16,861	6,983	9,878	10,541	6,321	13,454	3,407
2014	17,041	7,027	10,014	10,631	6,411	13,602	3,439

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared September 2004.)

Table 20. Actual and alternative projected numbers for graduate enrollment in all degree-granting postsecondary institutions, by sex, attendance status, and control of institution: Fall 1989 to fall 2014

[In thousands]

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
Actual							
1989	1,522	710	811	572	949	978	544
1990	1,586	737	849	599	987	1,023	563
1991	1,639	761	878	642	997	1,050	589
1992	1,669	772	896	666	1,003	1,058	611
1993	1,688	771	917	688	1,000	1,064	625
1994	1,721	776	946	706	1,016	1,075	647
1995	1,732	767	965	717	1,015	1,074	659
1996	1,742	759	982	737	1,005	1,069	674
1997	1,753	758	996	752	1,001	1,070	683
1998	1,768	754	1,013	754	1,014	1,067	701
1999	1,807	766	1,041	781	1,026	1,077	730
2000	1,850	780	1,070	813	1,037	1,089	761
2001	1,904	796	1,108	843	1,061	1,119	784
2002	2,036	847	1,189	926	1,109	1,187	849
Middle alternative projections							
2003	2,102	866	1,236	967	1,135	1,238	864
2004	2,114	864	1,251	976	1,138	1,245	869
2005	2,146	874	1,272	997	1,150	1,264	882
2006	2,183	884	1,298	1,019	1,163	1,285	898
2007	2,216	894	1,322	1,041	1,175	1,305	912
2008	2,254	905	1,349	1,066	1,188	1,327	928
2009	2,280	914	1,366	1,084	1,196	1,341	939
2010	2,299	921	1,378	1,098	1,201	1,352	947
2011	2,327	932	1,395	1,115	1,212	1,369	958
2012	2,367	947	1,420	1,138	1,229	1,392	975
2013	2,410	963	1,447	1,161	1,248	1,417	993
2014	2,455	978	1,477	1,185	1,270	1,444	1,012
Low alternative projections							
2003	2,102	866	1,236	966	1,135	1,238	864
2004	2,109	862	1,246	973	1,136	1,242	867
2005	2,142	872	1,270	994	1,147	1,261	881
2006	2,169	880	1,289	1,012	1,157	1,277	892
2007	2,194	887	1,306	1,029	1,165	1,292	903
2008	2,224	896	1,327	1,050	1,174	1,309	915
2009	2,242	902	1,339	1,064	1,178	1,319	923
2010	2,257	909	1,348	1,075	1,182	1,328	929
2011	2,280	918	1,362	1,089	1,191	1,341	939
2012	2,317	933	1,384	1,111	1,206	1,363	954
2013	2,357	947	1,409	1,132	1,224	1,386	971
2014	2,400	962	1,438	1,154	1,245	1,411	989
High alternative projections							
2003	2,103	866	1,236	967	1,136	1,239	864
2004	2,120	865	1,255	979	1,141	1,249	871
2005	2,130	871	1,259	988	1,142	1,254	876
2006	2,164	882	1,282	1,009	1,155	1,274	890
2007	2,199	893	1,306	1,032	1,167	1,294	905
2008	2,234	904	1,330	1,055	1,179	1,315	919
2009	2,276	916	1,360	1,082	1,194	1,339	937
2010	2,313	927	1,386	1,105	1,207	1,360	953
2011	2,364	943	1,421	1,135	1,229	1,390	974
2012	2,418	962	1,456	1,166	1,252	1,422	996
2013	2,481	982	1,499	1,200	1,280	1,458	1,022
2014	2,537	999	1,538	1,230	1,307	1,491	1,046

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of Projections of Education Statistics to 2011.) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared September 2004.)

Table 21. Actual and alternative projected numbers for first-professional enrollment in all degree-granting postsecondary institutions, by sex, attendance status, and control of institution: Fall 1989 to fall 2014

[In thousands]

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
Actual							
1989	274	169	106	248	27	113	162
1990	273	167	107	246	28	112	162
1991	281	170	111	252	29	111	169
1992	281	169	112	252	29	111	170
1993	292	173	120	260	33	114	179
1994	295	174	121	263	31	114	181
1995	298	174	124	266	31	115	183
1996	298	173	126	267	31	117	182
1997	298	170	129	267	31	118	180
1998	302	169	134	271	31	121	182
1999	303	165	138	271	33	123	180
2000	307	164	143	274	33	124	183
2001	309	161	148	277	32	128	181
2002	319	163	156	286	33	132	187
Middle alternative projections							
2003	350	177	172	315	35	144	206
2004	352	177	175	317	35	145	207
2005	359	179	180	324	35	148	211
2006	366	182	184	331	35	151	215
2007	374	185	189	338	36	154	219
2008	382	188	194	346	36	158	224
2009	388	190	198	351	36	160	227
2010	392	192	200	356	36	162	230
2011	398	194	204	361	37	165	233
2012	406	198	208	369	37	168	238
2013	414	201	213	376	38	172	242
2014	422	204	218	383	39	175	247
Low alternative projections							
2003	349	177	172	315	35	144	206
2004	351	177	174	316	35	145	206
2005	358	179	179	323	35	148	210
2006	364	181	183	329	35	150	214
2007	370	183	186	334	35	153	217
2008	376	186	190	341	36	156	221
2009	381	188	193	345	36	158	223
2010	385	189	195	349	36	159	226
2011	390	192	198	353	36	161	228
2012	397	195	202	360	37	164	233
2013	404	198	206	367	37	167	237
2014	412	200	211	374	38	171	241
High alternative projections							
2003	350	177	172	315	35	144	206
2004	353	177	176	318	35	146	208
2005	356	179	177	321	35	147	209
2006	363	181	182	328	35	150	213
2007	371	184	187	335	36	153	218
2008	378	187	191	343	36	156	222
2009	387	190	197	351	36	160	227
2010	395	193	202	358	37	164	231
2011	405	197	208	368	37	168	237
2012	415	201	215	377	38	172	243
2013	427	205	222	388	39	177	250
2014	437	208	229	397	40	181	256

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared September 2004.)

Table 22. Actual and alternative projected numbers for full-time-equivalent enrollment in all degree-granting postsecondary institutions, by control and type of institution: Fall 1989 to fall 2014

[In thousands]

Year	Total	Public		Private	
		4-year	2-year	4-year	2-year
Actual					
1989	9,783	4,620	2,752	2,196	216
1990	9,985	4,740	2,818	2,230	197
1991	10,363	4,796	3,067	2,288	212
1992	10,438	4,798	3,114	2,333	194
1993	10,353	4,766	3,046	2,357	184
1994	10,349	4,750	3,035	2,389	176
1995	10,337	4,757	2,994	2,418	168
1996	10,482	4,767	3,028	2,467	219
1997	10,615	4,814	3,056	2,525	220
1998	10,699	4,869	3,011	2,599	220
1999	10,944	4,945	3,075	2,694	229
2000	11,267	5,026	3,241	2,770	231
2001	11,766	5,194	3,445	2,894	233
2002	12,331	5,406	3,655	3,033	237
Middle alternative projections					
2003	12,575	5,600	3,624	3,104	248
2004	12,736	5,670	3,673	3,142	252
2005	12,943	5,766	3,725	3,196	256
2006	13,199	5,882	3,794	3,261	261
2007	13,456	5,998	3,865	3,326	267
2008	13,769	6,141	3,950	3,405	273
2009	14,014	6,255	4,013	3,467	278
2010	14,161	6,328	4,044	3,508	281
2011	14,281	6,387	4,069	3,542	282
2012	14,390	6,438	4,095	3,575	284
2013	14,493	6,483	4,122	3,604	285
2014	14,614	6,534	4,156	3,637	287
Low alternative projections					
2003	12,572	5,598	3,623	3,103	248
2004	12,704	5,655	3,664	3,134	251
2005	12,918	5,754	3,718	3,190	255
2006	13,124	5,848	3,774	3,242	260
2007	13,334	5,943	3,832	3,295	264
2008	13,600	6,065	3,904	3,362	270
2009	13,806	6,161	3,956	3,414	274
2010	13,928	6,223	3,981	3,448	276
2011	14,025	6,272	3,999	3,477	277
2012	14,119	6,316	4,020	3,505	278
2013	14,207	6,354	4,043	3,531	279
2014	14,318	6,401	4,075	3,561	281
High alternative projections					
2003	12,577	5,601	3,624	3,104	248
2004	12,767	5,683	3,681	3,150	252
2005	12,862	5,729	3,703	3,175	254
2006	13,107	5,841	3,769	3,238	259
2007	13,373	5,961	3,842	3,305	265
2008	13,670	6,096	3,923	3,379	271
2009	14,000	6,248	4,010	3,463	278
2010	14,244	6,365	4,067	3,529	282
2011	14,484	6,478	4,125	3,594	286
2012	14,665	6,561	4,170	3,645	289
2013	14,867	6,651	4,223	3,700	292
2014	15,037	6,724	4,272	3,746	295

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011.*) Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared September 2004.)

Table 23. Actual and projected numbers for high school graduates, by control of school: 1988–89 to 2013–14

[In thousands]

School year ending	Total	Public	Private
Actual			
1989	2,744	2,459	285
1990 [1]	2,589	2,320	269
1991	2,493	2,235	258
1992 [1]	2,478	2,226	252
1993	2,481	2,233	247
1994 [1]	2,464	2,221	243
1995	2,519	2,274	246
1996 [1]	2,518	2,273	245
1997	2,612	2,358	254
1998 [1]	2,704	2,439	265
1999	2,759	2,486	273
2000 [1]	2,833	2,554	279
2001	2,848	2,569	279
2002 [1]	2,921	2,635	286
Projected			
2003	3,044	2,744	301
2004	3,062	2,758	305
2005	3,089	2,780	309
2006	3,152	2,836	315
2007	3,227	2,904	324
2008	3,309	2,978	331
2009	3,328	2,995	333
2010	3,311	2,980	331
2011	3,287	2,958	329
2012	3,259	2,931	328
2013	3,228	2,901	327
2014	3,209	2,881	328

[1] Private school numbers are estimated based on data from the Private School Universe Survey.

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1988–89 through 2001–02; Private School Universe Survey (PSS), selected years,1989–90 through 2001–02; and National Elementary and Secondary High School Graduates Enrollment Model, 1972–73 through 2001–02. (This table was prepared August 2004.)

Table 24. Actual and projected numbers for high school graduates of public schools, by region and state: 1995–96 to 2013–14

Region and state	Actual							Projected		
	1995–96	1996–97	1997–98	1998–99	1999–2000	2000–01	2001–02	2002–03	2003–04	2004–05
United States	2,273,109	2,358,403	2,439,050	2,485,630	2,553,844	2,568,956	2,635,272	2,744,220	2,757,540	2,780,180
Northeast	417,843	432,280	430,450	437,156	453,814	457,638	475,217	490,740	496,010	504,910
Connecticut	26,319	27,029	27,885	28,284	31,562	30,388	32,322	34,110	34,380	35,080
Maine	11,795	12,019	12,171	11,988	12,211	12,654	12,596	13,140	13,380	12,860
Massachusetts	47,993	49,008	50,452	51,465	52,950	54,393	55,272	56,740	57,930	58,940
New Hampshire	10,094	10,487	10,843	11,251	11,829	12,294	12,452	13,360	13,250	13,550
New Jersey	67,704	70,028	65,106	67,410	74,420	76,130	77,664	84,870	88,330	92,450
New York	134,401	140,861	138,531	139,426	141,731	141,884	153,879	153,030	150,880	152,670
Pennsylvania	105,981	108,817	110,919	112,632	113,959	114,436	114,943	119,210	121,550	122,520
Rhode Island	7,689	7,850	8,074	8,179	8,477	8,603	9,006	9,260	9,280	9,810
Vermont	5,867	6,181	6,469	6,521	6,675	6,856	7,083	7,020	7,030	7,030
Midwest	592,775	614,217	640,857	645,322	648,020	644,770	651,640	683,190	681,260	676,670
Illinois	104,626	110,170	114,611	112,556	111,835	110,624	116,657	120,980	121,270	121,510
Indiana	56,330	57,463	58,899	58,964	57,012	56,172	56,722	57,540	57,610	57,410
Iowa	31,689	32,986	34,189	34,378	33,926	33,774	33,789	33,860	33,820	32,580
Kansas	25,786	26,648	27,856	28,685	29,102	29,360	29,541	30,220	30,040	29,690
Michigan	85,530	89,695	92,732	94,125	97,679	96,515	95,001	105,370	106,320	108,900
Minnesota	50,481	48,193	54,628	56,964	57,372	56,581	57,440	61,140	59,780	57,880
Missouri	49,011	50,543	52,095	52,531	52,848	54,138	54,487	57,150	56,980	56,590
Nebraska	18,014	18,636	19,719	20,550	20,149	19,658	19,910	20,370	20,020	19,520
North Dakota	8,027	8,025	8,170	8,388	8,606	8,445	8,114	8,070	7,790	7,520
Ohio	102,098	107,422	111,211	111,112	111,668	111,281	110,608	116,490	116,270	114,630
South Dakota	8,532	9,247	9,140	8,757	9,278	8,881	8,796	9,170	9,090	8,810
Wisconsin	52,651	55,189	57,607	58,312	58,545	59,341	60,575	62,830	62,270	61,630
South	766,273	789,143	821,372	835,286	861,498	866,409	890,643	926,410	931,520	942,310
Alabama	35,043	35,611	38,089	36,244	37,819	37,082	35,887	38,890	37,610	37,960
Arkansas	25,094	25,146	26,855	26,896	27,335	27,100	26,984	27,290	26,890	26,690
Delaware	5,609	5,953	6,439	6,484	6,108	6,614	6,482	6,680	6,840	6,590
District of Columbia	2,696	2,853	2,777	2,675	2,695	2,808	3,090	3,120	3,150	3,170
Florida	89,242	95,082	98,498	102,386	106,708	111,112	119,537	126,380	129,020	131,180
Georgia	56,271	58,996	58,525	59,227	62,563	62,499	65,983	67,900	69,720	71,640
Kentucky	36,641	36,941	37,270	37,048	36,830	36,957	36,337	37,080	36,170	36,480
Louisiana	36,467	36,495	38,030	37,802	38,430	38,314	37,905	38,560	36,220	35,570
Maryland	41,785	42,856	44,555	46,214	47,849	49,222	50,881	52,580	53,030	54,780
Mississippi	23,032	23,388	24,502	24,198	24,232	23,748	23,740	23,760	23,610	23,170
North Carolina	57,014	57,886	59,292	60,081	62,140	63,288	65,955	69,590	71,380	72,150
Oklahoma	33,060	33,536	35,213	36,556	37,646	37,458	36,852	36,410	36,670	35,890
South Carolina	30,182	30,829	31,373	31,495	31,617	29,742	31,302	32,710	32,110	32,540
Tennessee	43,792	41,617	39,866	40,823	41,568	40,642	40,894	43,260	43,620	43,040
Texas	171,844	181,794	197,186	203,393	212,925	215,316	225,167	233,530	236,670	241,230
Virginia	58,166	60,587	62,738	63,875	65,596	66,067	66,519	71,510	71,740	73,470
West Virginia	20,335	19,573	20,164	19,889	19,437	18,440	17,128	17,160	17,070	16,760
West	496,218	522,763	546,371	567,866	590,512	600,139	617,772	643,880	648,750	656,290
Alaska	5,945	6,133	6,462	6,810	6,615	6,812	6,945	7,230	7,100	7,170
Arizona	30,008	34,082	36,361	35,728	38,304	46,773	47,175	53,290	57,010	57,230
California	259,071	269,071	282,897	299,221	309,866	315,189	325,895	342,690	342,580	349,150
Colorado	32,608	34,231	35,794	36,958	38,924	39,241	40,760	42,650	42,920	43,540
Hawaii	9,387	8,929	9,670	9,714	10,437	10,102	10,452	10,030	10,300	10,380
Idaho	14,667	15,407	15,523	15,716	16,170	15,941	15,874	15,840	15,460	15,710
Montana	10,139	10,322	10,656	10,925	10,903	10,628	10,554	10,710	10,520	10,320
Nevada	10,374	12,425	13,052	13,892	14,551	15,127	16,270	14,790	16,220	18,670
New Mexico	15,402	15,700	16,529	17,317	18,031	18,199	18,094	18,090	18,050	18,090
Oregon	26,570	27,720	27,754	28,245	30,151	29,939	31,153	32,250	32,530	31,860
Utah	26,293	30,753	31,567	31,574	32,501	31,036	30,183	30,320	29,920	29,260
Washington	49,862	51,609	53,679	55,418	57,597	55,081	58,311	60,060	60,410	59,400
Wyoming	5,892	6,381	6,427	6,348	6,462	6,071	6,106	5,930	5,730	5,510

See notes at end of table.

Table 24. Actual and projected numbers for high school graduates of public schools, by region and state: 1995–96 to 2013–14—Continued

Region and state	Projected—Continued								
	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14
United States	2,836,240	2,903,570	2,977,690	2,994,980	2,980,120	2,958,280	2,931,110	2,900,800	2,881,430
Northeast	514,020	528,770	538,570	535,540	531,230	523,710	515,170	506,190	496,440
Connecticut	35,340	36,360	37,100	36,470	36,390	35,880	35,240	34,860	34,910
Maine	13,120	12,920	12,860	12,570	12,470	11,850	11,430	11,140	10,980
Massachusetts	60,540	62,240	62,990	61,980	61,440	59,990	59,020	58,680	58,390
New Hampshire	13,500	13,710	13,910	13,460	13,410	12,830	12,750	12,470	12,070
New Jersey	96,970	100,140	102,580	103,050	103,150	103,430	102,070	102,560	100,620
New York	154,250	160,490	163,490	162,580	161,460	159,000	156,780	152,410	148,860
Pennsylvania	123,420	125,600	128,090	128,090	125,880	124,150	121,320	118,260	115,100
Rhode Island	10,010	10,350	10,600	10,670	10,580	10,390	10,510	9,990	9,990
Vermont	6,870	6,960	6,950	6,670	6,450	6,190	6,050	5,820	5,520
Midwest	687,260	698,950	716,630	717,660	709,840	701,620	688,550	678,110	668,540
Illinois	123,850	127,370	130,580	132,360	131,090	130,400	132,440	129,580	126,380
Indiana	59,030	60,890	62,120	63,090	62,540	62,290	61,000	61,600	61,900
Iowa	32,500	32,960	33,310	32,890	32,480	31,560	30,490	29,670	29,780
Kansas	29,670	29,390	30,020	29,440	29,370	28,650	28,340	28,170	27,780
Michigan	114,300	116,240	123,210	123,610	121,410	120,440	118,120	116,300	114,240
Minnesota	58,150	58,620	59,470	57,870	57,220	56,410	54,890	53,950	53,230
Missouri	56,690	58,320	59,550	60,560	61,420	59,130	56,660	55,930	55,940
Nebraska	19,700	19,630	20,310	19,840	19,670	19,340	18,940	18,810	18,780
North Dakota	7,640	7,340	7,140	7,030	6,880	6,670	6,310	6,110	6,050
Ohio	115,810	117,740	119,380	119,970	117,900	118,100	113,930	112,470	108,990
South Dakota	8,490	8,470	8,530	8,260	8,290	8,150	7,880	7,630	7,640
Wisconsin	61,430	61,980	63,010	62,740	61,570	60,480	59,550	57,890	57,830
South	955,150	983,240	999,410	1,015,660	1,016,250	1,011,310	1,005,100	997,290	996,520
Alabama	37,870	38,210	39,370	39,400	38,910	38,660	37,580	36,810	35,740
Arkansas	27,010	27,430	27,820	27,980	27,720	26,570	26,530	26,140	26,930
Delaware	6,600	7,220	7,110	7,250	7,380	7,330	7,370	7,110	7,010
District of Columbia	3,530	3,970	4,020	4,250	4,100	4,000	3,610	3,330	3,100
Florida	135,780	140,940	143,870	145,660	145,950	147,520	147,300	146,930	146,530
Georgia	71,860	74,920	77,760	78,750	78,260	79,120	78,260	78,300	77,760
Kentucky	35,170	36,520	36,910	38,160	37,420	36,640	35,200	35,110	36,570
Louisiana	35,930	37,350	35,150	36,640	36,600	35,980	35,310	34,120	32,500
Maryland	55,540	57,190	58,250	58,950	58,000	56,190	55,940	54,420	54,230
Mississippi	23,320	23,540	24,240	24,270	24,190	24,070	23,300	22,900	22,220
North Carolina	73,560	76,700	78,200	78,790	79,600	77,850	79,220	77,530	77,770
Oklahoma	35,790	36,340	36,650	36,650	36,710	35,500	34,910	34,410	33,600
South Carolina	34,200	35,310	33,390	36,110	36,250	36,130	35,240	35,140	34,810
Tennessee	44,100	45,720	46,260	47,010	46,230	45,680	44,770	44,160	43,320
Texas	243,360	247,310	252,940	257,350	261,040	263,190	264,550	265,720	270,560
Virginia	74,900	77,780	80,490	81,210	81,090	80,500	79,900	79,180	78,490
West Virginia	16,630	16,790	16,980	17,230	16,800	16,380	16,110	15,980	15,380
West	679,810	692,610	723,080	726,120	722,800	721,640	722,290	719,210	719,930
Alaska	7,330	7,450	7,560	7,570	7,570	7,110	7,130	6,880	6,770
Arizona	60,840	59,550	61,570	62,370	62,460	61,390	62,120	61,250	62,090
California	365,140	374,550	396,460	398,300	394,410	398,870	401,670	398,120	397,160
Colorado	44,280	45,140	46,350	47,060	47,680	47,230	46,880	47,170	48,170
Hawaii	10,400	10,600	10,960	10,840	10,480	10,300	10,230	9,870	9,820
Idaho	16,080	16,150	16,630	16,460	16,760	16,480	16,290	16,300	16,910
Montana	10,230	10,040	10,170	9,770	9,800	9,200	8,960	8,680	8,560
Nevada	19,540	20,910	22,250	23,250	23,660	24,100	24,710	25,670	25,900
New Mexico	17,920	18,340	18,190	18,440	18,130	17,990	17,360	17,040	16,800
Oregon	31,940	32,910	33,600	33,540	33,090	32,220	31,830	32,290	32,460
Utah	30,140	30,020	30,780	30,770	31,170	30,400	30,800	31,730	32,030
Washington	60,490	61,670	63,200	62,570	62,500	61,410	59,520	59,660	58,610
Wyoming	5,480	5,280	5,360	5,180	5,090	4,940	4,790	4,550	4,650

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1988–89 through 2001–02; and State Public High School Graduates Model, 1980–81 through 2001–02. (This table was prepared August 2004.)

Table 25. Actual and projected percentage changes in public high school graduates, by region and state: Selected years, 1995–96 to 2013–14

Region and state	Actual 1995–96 to 2001–02	Projected		
		2001–02 to 2007–08	2007–08 to 2013–14	2001–02 to 2013–14
United States	15.9	13.0	-3.2	9.3
Northeast	13.7	13.3	-7.8	4.5
Connecticut	22.8	14.8	-5.9	8.0
Maine	6.8	2.1	-14.6	-12.8
Massachusetts	15.2	14.0	-7.3	5.6
New Hampshire	23.4	11.7	-13.2	-3.1
New Jersey	14.7	32.1	-1.9	29.6
New York	14.5	6.2	-8.9	-3.3
Pennsylvania	8.5	11.4	-10.1	0.1
Rhode Island	17.1	17.7	-5.8	10.9
Vermont	20.7	-1.9	-20.6	-22.1
Midwest	9.9	10.0	-6.7	2.6
Illinois	11.5	11.9	-3.2	8.3
Indiana	0.7	9.5	-0.4	9.1
Iowa	6.6	-1.4	-10.6	-11.9
Kansas	14.6	1.6	-7.5	-6.0
Michigan	11.1	29.7	-7.3	20.3
Minnesota	13.8	3.5	-10.5	-7.3
Missouri	11.2	9.3	-6.1	2.7
Nebraska	10.5	2.0	-7.5	-5.7
North Dakota	1.1	-12.0	-15.3	-25.4
Ohio	8.3	7.9	-8.7	-1.5
South Dakota	3.1	-3.0	-10.4	-13.1
Wisconsin	15.1	4.0	-8.2	-4.5
South	16.2	12.2	-0.3	11.9
Alabama	2.4	9.7	-9.2	-0.4
Arkansas	7.5	3.1	-3.2	-0.2
Delaware	15.6	9.7	-1.4	8.1
District of Columbia	14.6	30.1	-22.9	0.3
Florida	33.9	20.4	1.8	22.6
Georgia	17.3	17.8	#	17.8
Kentucky	-0.8	1.6	-0.9	0.6
Louisiana	3.9	-7.3	-7.5	-14.3
Maryland	21.8	14.5	-6.9	6.6
Mississippi	3.1	2.1	-8.3	-6.4
North Carolina	15.7	18.6	-0.5	17.9
Oklahoma	11.5	-0.5	-8.3	-8.8
South Carolina	3.7	6.7	4.3	11.2
Tennessee	-6.6	13.1	-6.4	5.9
Texas	31.0	12.3	7.0	20.2
Virginia	14.4	21.0	-2.5	18.0
West Virginia	-15.8	-0.9	-9.4	-10.2
West	24.5	17.0	-0.4	16.5
Alaska	16.8	8.9	-10.4	-2.5
Arizona	57.2	30.5	0.8	31.6
California	25.8	21.7	#	21.9
Colorado	25.0	13.7	3.9	18.2
Hawaii	11.3	4.9	-10.4	-6.0
Idaho	8.2	4.8	1.7	6.5
Montana	4.1	-3.6	-15.8	-18.9
Nevada	56.8	36.8	16.4	59.2
New Mexico	17.5	0.5	-7.6	-7.2
Oregon	17.2	7.9	-3.4	4.2
Utah	14.8	2.0	4.1	6.1
Washington	16.9	8.4	-7.3	0.5
Wyoming	3.6	-12.2	-13.2	-23.8

Rounds to zero.

NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1995–96 and 2001–02; and State Public High School Graduates Model, 1980–81 through 2001–02. (This table was prepared August 2004.)

Table 26. Actual and alternative projected numbers for associate's degrees, by sex of recipient: 1988–89 to 2013–14

School year ending	Total	Men	Women
Actual			
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	530,632	215,261	315,371
1995	539,691	218,352	321,339
1996	555,216	219,514	335,702
1997	571,226	223,948	347,278
1998	558,555	217,613	340,942
1999	559,954	218,417	341,537
2000	564,933	224,721	340,212
2001	578,865	231,645	347,220
2002	595,133	238,109	357,024
2003	632,912	253,060	379,852
Middle alternative projections			
2004	667,000	261,000	406,000
2005	668,000	257,000	411,000
2006	668,000	256,000	412,000
2007	676,000	258,000	418,000
2008	689,000	262,000	427,000
2009	705,000	266,000	438,000
2010	719,000	271,000	448,000
2011	728,000	273,000	454,000
2012	731,000	274,000	457,000
2013	733,000	275,000	458,000
2014	735,000	275,000	460,000
Low alternative projections			
2004	657,000	257,000	400,000
2005	645,000	248,000	397,000
2006	628,000	241,000	388,000
2007	638,000	243,000	394,000
2008	645,000	245,000	400,000
2009	660,000	249,000	410,000
2010	673,000	253,000	420,000
2011	681,000	256,000	425,000
2012	684,000	257,000	427,000
2013	686,000	257,000	429,000
2014	688,000	257,000	430,000
High alternative projections			
2004	677,000	265,000	412,000
2005	690,000	266,000	425,000
2006	708,000	271,000	437,000
2007	715,000	273,000	442,000
2008	733,000	279,000	455,000
2009	750,000	283,000	466,000
2010	765,000	288,000	477,000
2011	774,000	291,000	483,000
2012	778,000	292,000	486,000
2013	780,000	293,000	487,000
2014	782,000	293,000	489,000

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), 89–99, and Fall 2000 through Fall 2003; and Degrees Conferred Model, 1975–76 through 2002–03. (This table was prepared October 2004.)

Table 27. Actual and alternative projected numbers for bachelor's degrees, by sex of recipient: 1988–89 to 2013–14

School year ending	Total	Men	Women
Actual			
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	1,160,134	526,131	634,003
1996	1,164,792	522,454	642,338
1997	1,172,879	520,515	652,364
1998	1,184,406	519,956	664,450
1999	1,200,303	518,746	681,557
2000	1,237,875	530,367	707,508
2001	1,244,171	531,840	712,331
2002	1,291,900	549,816	742,084
2003	1,348,503	537,079	775,424
Middle alternative projections			
2004	1,401,000	586,000	814,000
2005	1,416,000	584,000	832,000
2006	1,431,000	586,000	845,000
2007	1,449,000	590,000	859,000
2008	1,475,000	598,000	877,000
2009	1,507,000	608,000	898,000
2010	1,538,000	618,000	920,000
2011	1,558,000	625,000	933,000
2012	1,570,000	629,000	941,000
2013	1,578,000	632,000	946,000
2014	1,582,000	633,000	949,000
Low alternative projections			
2004	1,401,000	586,000	814,000
2005	1,416,000	584,000	832,000
2006	1,429,000	585,000	844,000
2007	1,447,000	589,000	857,000
2008	1,470,000	596,000	874,000
2009	1,496,000	605,000	891,000
2010	1,522,000	614,000	909,000
2011	1,537,000	619,000	918,000
2012	1,545,000	622,000	923,000
2013	1,549,000	623,000	925,000
2014	1,551,000	624,000	927,000
High alternative projections			
2004	1,401,000	586,000	814,000
2005	1,416,000	584,000	832,000
2006	1,433,000	586,000	847,000
2007	1,446,000	590,000	856,000
2008	1,468,000	597,000	871,000
2009	1,497,000	607,000	890,000
2010	1,526,000	617,000	908,000
2011	1,550,000	625,000	925,000
2012	1,570,000	631,000	939,000
2013	1,589,000	636,000	953,000
2014	1,606,000	640,000	966,000

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), 89–99, and Fall 2000 through Fall 2003; and Degrees Conferred Model, 1977–78 through 2002–03. (This table was prepared October 2004.)

Table 28. Actual and alternative projected numbers for master's degrees, by sex of recipient: 1988–89 to 2013–14

School year ending	Total	Men	Women
Actual			
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	397,629	178,598	219,031
1996	406,301	179,081	227,220
1997	419,401	180,947	238,454
1998	430,164	184,375	245,789
1999	439,986	186,148	253,838
2000	457,056	191,792	265,264
2001	468,476	194,351	274,125
2002	482,118	199,120	282,998
2003	512,645	211,381	301,264
Middle alternative projections			
2004	531,000	216,000	315,000
2005	562,000	224,000	338,000
2006	580,000	229,000	350,000
2007	596,000	236,000	361,000
2008	615,000	243,000	373,000
2009	634,000	249,000	384,000
2010	650,000	255,000	395,000
2011	661,000	260,000	402,000
2012	671,000	264,000	407,000
2013	680,000	269,000	411,000
2014	693,000	275,000	418,000
Low alternative projections			
2004	531,000	216,000	315,000
2005	562,000	224,000	338,000
2006	578,000	229,000	349,000
2007	594,000	235,000	359,000
2008	611,000	241,000	370,000
2009	626,000	247,000	378,000
2010	639,000	252,000	386,000
2011	647,000	256,000	391,000
2012	654,000	260,000	394,000
2013	661,000	264,000	397,000
2014	673,000	270,000	403,000
High alternative projections			
2004	531,000	216,000	315,000
2005	562,000	224,000	338,000
2006	581,000	230,000	352,000
2007	592,000	235,000	357,000
2008	608,000	242,000	366,000
2009	626,000	249,000	378,000
2010	642,000	255,000	387,000
2011	657,000	260,000	398,000
2012	674,000	266,000	408,000
2013	692,000	273,000	419,000
2014	713,000	281,000	432,000

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), 89–99, and Fall 2000 through Fall 2003; and Degrees Conferred Model, 1975–76 through 2002–03. (This table was prepared October 2004.)

Table 29. Actual and alternative projected numbers for doctor's degrees, by sex of recipient: 1988–89 to 2013–14

School year ending	Total	Men	Women
Actual			
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	44,446	26,916	17,530
1996	44,652	26,841	17,811
1997	45,876	27,146	18,730
1998	46,010	26,664	19,346
1999	44,077	25,146	18,931
2000	44,808	25,028	19,780
2001	44,904	24,728	20,176
2002	44,160	23,708	20,452
2003	46,024	24,351	21,683
Middle alternative projections			
2004	45,700	23,900	21,800
2005	47,200	24,600	22,600
2006	48,500	25,100	23,300
2007	49,500	25,600	24,000
2008	50,200	25,700	24,400
2009	50,600	25,800	24,800
2010	51,100	25,900	25,200
2011	51,800	26,100	25,700
2012	52,700	26,400	26,200
2013	53,800	26,900	26,900
2014	54,900	27,300	27,600
Low alternative projections			
2004	44,800	23,400	21,400
2005	45,800	23,900	22,000
2006	47,100	24,400	22,700
2007	47,700	24,600	23,100
2008	48,300	24,800	23,500
2009	48,700	24,900	23,900
2010	49,200	25,000	24,200
2011	49,900	25,200	24,700
2012	50,700	25,500	25,300
2013	51,800	25,900	25,900
2014	52,900	26,300	26,600
High alternative projections			
2004	46,600	24,400	22,200
2005	48,500	25,200	23,200
2006	49,800	25,800	24,000
2007	51,400	26,500	24,900
2008	52,000	26,700	25,300
2009	52,500	26,800	25,700
2010	53,000	26,900	26,100
2011	53,700	27,100	26,600
2012	54,600	27,400	27,200
2013	55,800	27,800	27,900
2014	57,000	28,300	28,700

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), 89–99, and Fall 2000 through Fall 2003; and Degrees Conferred Model, 1977–78 through 2002–03. (This table was prepared October 2004.)

Table 30. Actual and alternative projected numbers for first-professional degrees, by sex of recipient: 1988–89 to 2013–14

School year ending	Total	Men	Women
Actual			
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	75,800	44,853	30,947
1996	76,734	44,748	31,986
1997	78,730	45,564	33,166
1998	78,598	44,911	33,687
1999	78,439	44,339	34,100
2000	80,057	44,239	35,818
2001	79,707	42,862	36,845
2002	80,698	42,507	38,191
2003	80,810	41,834	38,976
Middle alternative projections			
2004	82,200	41,800	40,300
2005	85,000	42,000	43,000
2006	87,600	42,700	44,900
2007	89,600	43,300	46,400
2008	91,600	43,800	47,800
2009	93,700	44,500	49,200
2010	95,700	45,200	50,500
2011	97,200	45,700	51,500
2012	98,500	46,200	52,300
2013	99,600	46,700	52,900
2014	100,900	47,300	53,700
Low alternative projections			
2004	80,800	41,100	39,700
2005	83,700	41,400	42,300
2006	86,300	42,100	44,300
2007	86,200	41,600	44,600
2008	88,100	42,200	45,900
2009	90,200	42,800	47,300
2010	92,100	43,500	48,600
2011	93,500	44,000	49,600
2012	94,800	44,500	50,300
2013	95,800	45,000	50,900
2014	97,100	45,500	51,600
High alternative projections			
2004	83,500	42,500	41,000
2005	86,300	42,700	43,600
2006	88,800	43,300	45,500
2007	93,000	44,900	48,100
2008	95,100	45,500	49,600
2009	97,300	46,200	51,000
2010	99,400	46,900	52,500
2011	100,900	47,400	53,500
2012	102,300	48,000	54,300
2013	103,400	48,500	54,900
2014	104,800	49,100	55,700

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C), 89–99, and Fall 2000 through Fall 2003; and Degrees Conferred Model, 1976–77 through 2002–03. (This table was prepared October 2004.)

Table 31. Actual and alternative projected numbers for elementary and secondary teachers, by control of school: Fall 1989 to fall 2014

[In thousands]

Year	Total	Public	Private
Actual			
1989	2,734	2,357	377
1990 [1]	2,753	2,398	355
1991	2,787	2,432	355
1992 [1]	2,822	2,459	363
1993	2,870	2,504	366
1994 [1]	2,926	2,552	374
1995	2,978	2,598	380
1996 [1]	3,054	2,667	387
1997	3,134	2,746	388
1998 [1]	3,221	2,830	391
1999	3,306	2,911	395
2000 [1]	3,331	2,941	390
2001 [1]	3,390	3,000	390
2002 [1]	3,428	3,034	394
Middle alternative projections			
2003	3,472	3,074	399
2004	3,501	3,100	401
2005	3,526	3,122	404
2006	3,570	3,161	409
2007	3,601	3,188	413
2008	3,625	3,209	416
2009	3,650	3,230	420
2010	3,680	3,256	424
2011	3,718	3,288	430
2012	3,769	3,333	436
2013	3,825	3,382	443
2014	3,887	3,437	451
Low alternative projections			
2003	3,472	3,074	399
2004	3,495	3,094	401
2005	3,512	3,109	402
2006	3,548	3,142	407
2007	3,573	3,164	410
2008	3,593	3,181	413
2009	3,614	3,198	416
2010	3,641	3,221	420
2011	3,675	3,250	425
2012	3,724	3,293	431
2013	3,777	3,339	438
2014	3,836	3,392	445
High alternative projections			
2003	3,472	3,074	399
2004	3,506	3,104	402
2005	3,542	3,136	406
2006	3,592	3,180	411
2007	3,627	3,211	416
2008	3,658	3,238	420
2009	3,690	3,265	424
2010	3,724	3,295	429
2011	3,765	3,330	435
2012	3,820	3,378	442
2013	3,883	3,433	450
2014	3,952	3,494	458

[1] Private school numbers are estimated.

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1989–90 through 2002–03; Private School Universe Survey (PSS) , selected years, 1989–90 through 1999–2000; and Elementary and Secondary Teacher Model 1968–2001. (This table was prepared October 2004.)

Table 32. Actual and alternative projected numbers for the pupil/teacher ratios in elementary and secondary schools, by control of school: Fall 1989 to fall 2014

Year	Total	Public	Private
Actual			
1989	16.7	17.2	13.8
1990 [1]	16.9	17.2	14.7
1991	17.0	17.3	14.9
1992 [1]	17.1	17.4	14.7
1993	17.0	17.4	14.6
1994 [1]	17.0	17.3	14.7
1995	17.0	17.3	14.9
1996 [1]	16.8	17.1	14.9
1997	16.6	16.8	15.1
1998 [1]	16.3	16.4	15.2
1999	16.0	16.1	15.2
2000 [1]	16.0	16.0	15.8
2001 [1]	15.9	15.9	16.2
2002 [1]	15.9	15.9	15.9
Middle alternative projections			
2003	15.7	15.7	15.9
2004	15.6	15.6	15.8
2005	15.5	15.5	15.7
2006	15.4	15.4	15.7
2007	15.3	15.3	15.6
2008	15.2	15.2	15.5
2009	15.1	15.1	15.4
2010	15.0	15.0	15.3
2011	14.9	14.9	15.2
2012	14.8	14.8	15.1
2013	14.7	14.7	15.0
2014	14.6	14.5	14.9
Low alternative projections (based on high alternative projections of teachers)			
2003	15.7	15.7	15.9
2004	15.6	15.5	15.7
2005	15.5	15.4	15.7
2006	15.3	15.3	15.6
2007	15.2	15.2	15.5
2008	15.1	15.0	15.4
2009	15.0	14.9	15.3
2010	14.9	14.8	15.2
2011	14.8	14.7	15.1
2012	14.6	14.6	14.9
2013	14.5	14.4	14.8
2014	14.3	14.3	14.6
High alternative projections (based on low alternative projections of teachers)			
2003	15.7	15.7	15.9
2004	15.6	15.6	15.8
2005	15.6	15.6	15.8
2006	15.5	15.5	15.8
2007	15.4	15.4	15.7
2008	15.3	15.3	15.6
2009	15.3	15.2	15.6
2010	15.2	15.2	15.5
2011	15.1	15.1	15.4
2012	15.0	15.0	15.3
2013	14.9	14.9	15.2
2014	14.8	14.7	15.1

[1] Private school numbers are estimated.

NOTE: The pupil/teacher ratios were derived from tables 2 and 31. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1989–90 through 2002–03; Private School Universe Survey (PSS), selected years, 1989–90 through 2001–2002; National Elementary and Secondary Enrollment Model, 1972–2002; and Elementary and Secondary Teacher Model, 1968–2001. (This table was prepared October 2004.)

Table 33. Actual and alternative projected numbers for current expenditures and current expenditures per pupil in fall enrollment in public elementary and secondary schools: 1988–89 to 2013–14

School year ending	Fall enrollment[1] (in thousands)	Current expenditures: Constant 2002–03 dollars[2] Total (in billions)	Current expenditures: Constant 2002–03 dollars[2] Per pupil in fall enrollment	Current expenditures: Current dollars Total (in billions)	Current expenditures: Current dollars Per pupil in fall enrollment
Actual					
1989	40,188	$260.2	$6,474	$173.1	$4,307
1990	40,543	270.0	6,660	188.2	4,643
1991	41,217	274.7	6,666	202.0	4,902
1992	42,047	278.3	6,620	211.2	5,023
1993	42,823	282.3	6,593	220.9	5,160
1994	43,465	288.3	6,633	231.5	5,327
1995	44,111	295.3	6,694	243.9	5,529
1996	44,840	300.7	6,705	255.1	5,689
1997	45,611	309.6	6,788	270.2	5,923
1998	46,127	321.4	6,968	285.5	6,189
1999	46,539	335.2	7,203	302.9	6,508
2000	46,857	348.4	7,435	323.9	6,912
2001	47,204	362.3	7,675	348.4	7,380
2002	47,672	376.6	7,901	368.5	7,730
Middle alternative projections					
2003	48,202	386.7	8,023	386.7	8,023
2004	48,213	395.9	8,211	403.1	8,361
2005	48,270	406.1	8,412	418.4	8,667
2006	48,375	415.3	8,586	433.9	8,970
2007	48,574	430.0	8,852	456.8	9,404
2008	48,664	439.5	9,031	476.6	9,794
2009	48,696	446.8	9,174	†	†
2010	48,740	454.2	9,319	†	†
2011	48,842	462.1	9,461	†	†
2012	49,004	471.0	9,611	†	†
2013	49,248	483.0	9,808	†	†
2014	49,584	498.0	10,043	†	†
Low alternative projections					
2003	48,202	386.7	8,023	386.7	8,023
2004	48,213	395.6	8,205	402.8	8,355
2005	48,270	403.3	8,356	415.7	8,612
2006	48,375	408.6	8,446	427.8	8,843
2007	48,574	420.0	8,647	448.8	9,240
2008	48,664	426.5	8,765	467.6	9,608
2009	48,696	431.2	8,855	†	†
2010	48,740	436.4	8,953	†	†
2011	48,842	442.6	9,062	†	†
2012	49,004	449.6	9,176	†	†
2013	49,248	460.0	9,341	†	†
2014	49,584	472.7	9,533	†	†
High alternative projections					
2003	48,202	386.7	8,023	386.7	8,023
2004	48,213	396.0	8,214	403.2	8,364
2005	48,270	408.7	8,468	421.0	8,723
2006	48,375	422.7	8,738	441.4	9,125
2007	48,574	440.6	9,070	467.8	9,630
2008	48,664	452.1	9,290	490.1	10,072
2009	48,696	462.2	9,491	†	†
2010	48,740	472.6	9,696	†	†
2011	48,842	482.3	9,874	†	†
2012	49,004	492.1	10,042	†	†
2013	49,248	506.3	10,281	†	†
2014	49,584	524.5	10,578	†	†

†Not applicable; projections in current dollars are not shown after 2008 due to the uncertain behavior of inflation over the long term.

[1]Each enrollment number refers to the fall of the school year shown in column 1. For example, the enrollment number listed for 1989 is for fall 1988.

[2]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. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1988–89 through 2002–03; "National Public Education Financial Survey," 1988–89 through 2001–02; National Elementary and Secondary Enrollment Model, 1972–2002; and Elementary and Secondary School Current Expenditures Model, 1969–70 through 2001–02. (This table was prepared October 2004.)

Table 34. Actual and alternative projected numbers for current expenditures and current expenditures per pupil in average daily attendance in public elementary and secondary schools: 1988–89 to 2013–14

School year ending	ADA (in thousands)	Current expenditures: Constant 2002–03 dollars[1] Total (in billions)	Current expenditures: Constant 2002–03 dollars[1] Per pupil in ADA	Current expenditures: Current dollars Total (in billions)	Current expenditures: Current dollars Per pupil in ADA
Actual					
1989	37,268	$260.2	$6,981	$173.1	$4,645
1990	37,799	270.0	7,143	188.2	4,980
1991	38,427	274.7	7,150	202.0	5,258
1992	38,961	278.3	7,144	211.2	5,421
1993	39,570	282.3	7,135	220.9	5,584
1994	40,146	288.3	7,182	231.5	5,767
1995	40,721	295.3	7,251	243.9	5,989
1996	41,502	300.7	7,245	255.1	6,147
1997	42,262	309.6	7,326	270.2	6,393
1998	42,766	321.4	7,515	285.5	6,676
1999	43,187	335.2	7,762	302.9	7,013
2000	43,807	348.4	7,953	323.9	7,394
2001	44,076	362.3	8,220	348.4	7,904
2002	44,605	376.6	8,444	368.5	8,261
Middle alternative projections					
2003	44,744	386.7	8,643	386.7	8,643
2004	44,754	395.9	8,845	403.1	9,007
2005	44,807	406.1	9,062	418.4	9,337
2006	44,904	415.3	9,249	433.9	9,664
2007	45,089	430.0	9,537	456.8	10,130
2008	45,172	439.5	9,729	476.6	10,551
2009	45,202	446.8	9,884	†	†
2010	45,243	454.2	10,039	†	†
2011	45,337	462.1	10,192	†	†
2012	45,488	471.0	10,354	†	†
2013	45,714	483.0	10,566	†	†
2014	46,026	498.0	10,820	†	†
Low alternative projections					
2003	44,744	386.7	8,643	386.7	8,643
2004	44,754	395.6	8,839	402.8	9,001
2005	44,807	403.3	9,001	415.7	9,277
2006	44,904	408.6	9,098	427.8	9,527
2007	45,089	420.0	9,316	448.8	9,954
2008	45,172	426.5	9,442	467.6	10,350
2009	45,202	431.2	9,539	†	†
2010	45,243	436.4	9,645	†	†
2011	45,337	442.6	9,763	†	†
2012	45,488	449.6	9,885	†	†
2013	45,714	460.0	10,063	†	†
2014	46,026	472.7	10,270	†	†
High alternative projections					
2003	44,744	386.7	8,643	386.7	8,643
2004	44,754	396.0	8,849	403.2	9,010
2005	44,807	408.7	9,122	421.0	9,397
2006	44,904	422.7	9,413	441.4	9,831
2007	45,089	440.6	9,771	467.8	10,374
2008	45,172	452.1	10,008	490.1	10,850
2009	45,202	462.2	10,225	†	†
2010	45,243	472.6	10,446	†	†
2011	45,337	482.3	10,637	†	†
2012	45,488	492.1	10,818	†	†
2013	45,714	506.3	11,076	†	†
2014	46,026	524.5	11,396	†	†

†Not applicable; projections in current dollars are not shown after 2008 due to the uncertain behavior of inflation over the long term.

[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. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "National Public Education Financial Survey," 1988–89 through 2001–02; National Elementary and Secondary Average Daily Attendance Model, 1991–92 through 2001–02; and Elementary and Secondary School Current Expenditures Model, 1969–70 through 2001–02. (This table was prepared October 2004.)

Table 35. Estimated and alternative projected numbers for average annual salaries of classroom teachers in public elementary and secondary schools: 1988–89 to 2013–14

School year ending	Constant 2002–03 dollars[1]	Current dollars
Estimated		
1989	$44,438	$29,564
1990	44,994	31,367
1991	44,990	33,084
1992	44,889	34,063
1993	44,763	35,029
1994	44,500	35,737
1995	44,403	36,675
1996	44,364	37,642
1997	44,056	38,443
1998	44,301	39,350
1999	44,858	40,533
2000	44,970	41,807
2001	45,114	43,378
2002	45,617	44,632
2003	45,891	45,891
2004	45,993	46,826
Middle alternative projections		
2005	46,027	47,423
2006	46,338	48,412
2007	47,116	50,050
2008	47,233	51,220
2009	47,246	†
2010	47,354	†
2011	47,535	†
2012	47,779	†
2013	48,253	†
2014	48,923	†
Low alternative projections		
2005	45,792	47,195
2006	45,764	47,918
2007	46,287	49,461
2008	46,175	50,615
2009	45,994	†
2010	45,939	†
2011	46,012	†
2012	46,130	†
2013	46,504	†
2014	47,030	†
High alternative projections		
2005	46,256	47,649
2006	46,958	49,041
2007	47,991	50,954
2008	48,254	52,316
2009	48,476	†
2010	48,799	†
2011	49,100	†
2012	49,392	†
2013	50,006	†
2014	50,883	†

†Not applicable; projections in current dollars are not shown after 2008 due to the uncertain behavior of inflation over the long term.

[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. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary Teacher Salary Model, 1970–71 through 2001–02; and National Education Association, *Estimates of School Statistics.* (Latest edition 2004. Copyright 2004 by the National Education Association. All rights reserved.) (This table was prepared October 2004.)

Table 36. Actual and alternative projected numbers for current-fund expenditures and current-fund expenditures per full time-equivalent (FTE) student of public 4-year degree-granting institutions: 1988–89 to 2013–14

School year ending	FTE enrollment (in thousands)	Current-fund expenditures: Constant 2002–03 dollars[1] Total (in billions)	Current-fund expenditures: Constant 2002–03 dollars[1] Per student in FTE	Current-fund expenditures: Current dollars Total (in billions)	Current-fund expenditures: Current dollars Per student in FTE
Actual					
1989	4,506	$98.2	$21,800	$65.3	$14,503
1990	4,620	101.7	22,003	70.9	15,339
1991	4,740	104.3	22,011	76.7	16,186
1992	4,796	107.2	22,350	81.3	16,960
1993	4,798	110.0	22,923	86.1	17,938
1994	4,766	111.7	23,435	89.7	18,820
1995	4,750	114.9	24,190	94.9	19,980
1996	4,757	115.4	24,255	97.9	20,580
1997	4,767	118.1	24,778	103.1	21,621
1998	4,814	122.9	25,536	109.2	22,682
1999	4,869	127.4	26,176	115.2	23,652
2000	4,945	134.3	27,166	124.9	25,256
2001	5,026	146.2	29,092	140.6	27,973
Middle alternative projections					
2002	5,194	154.5	29,737	151.1	29,095
2003	5,406	159.0	29,409	159.0	29,409
2004	5,600	165.2	29,500	168.2	30,039
2005	5,670	172.8	30,475	178.0	31,400
2006	5,766	179.1	31,068	187.2	32,459
2007	5,882	184.9	31,434	196.4	33,390
2008	5,998	190.6	31,783	206.7	34,466
2009	6,141	196.5	32,005	†	†
2010	6,255	202.0	32,292	†	†
2011	6,328	207.2	32,736	†	†
2012	6,387	212.4	33,250	†	†
2013	6,438	217.6	33,799	†	†
2014	6,483	223.0	34,398	†	†
Low alternative projections					
2002	5,194	154.5	29,737	151.1	29,095
2003	5,406	159.0	29,409	159.0	29,409
2004	5,598	165.2	29,504	168.2	30,043
2005	5,655	168.4	29,784	173.6	30,696
2006	5,754	169.8	29,503	177.8	30,892
2007	5,848	173.3	29,626	185.2	31,658
2008	5,943	178.3	30,006	195.5	32,892
2009	6,065	183.4	30,241	†	†
2010	6,161	188.2	30,538	†	†
2011	6,223	192.8	30,980	†	†
2012	6,272	197.5	31,489	†	†
2013	6,316	202.2	32,015	†	†
2014	6,354	207.0	32,577	†	†
High alternative projections					
2002	5,194	154.5	29,737	151.1	29,095
2003	5,406	159.0	29,409	159.0	29,409
2004	5,601	165.2	29,497	168.2	30,035
2005	5,683	177.2	31,174	182.5	32,113
2006	5,729	187.3	32,689	195.6	34,139
2007	5,841	195.6	33,487	207.7	35,554
2008	5,961	202.0	33,882	219.0	36,734
2009	6,096	208.6	34,224	†	†
2010	6,248	215.5	34,494	†	†
2011	6,365	221.9	34,865	†	†
2012	6,478	228.6	35,288	†	†
2013	6,561	234.9	35,799	†	†
2014	6,651	242.0	36,395	†	†

†Not applicable; projections in current dollars are not shown after 2008 due to the uncertain behavior of inflation over the long term.

[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. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:88–89), and Spring 2001 through 2003; "Finance Survey" (IPEDS-F:FY89–99), and Spring 2001 and Spring 2002; Enrollment in Degree-Granting Institutions Model, 1980–2002; and Expenditures in Degree-Granting Institutions Model, 1968–69 through 2000–01. (This table was prepared October 2004.)

Table 37. Actual and alternative projected numbers for educational and general expenditures and educational and general expenditures per full-time-equivalent (FTE) student of public 4-year degree-granting institutions: 1988–89 to 2013–14

School year ending	FTE enrollment (in thousands)	Educational and general expenditures: Constant 2002–03 dollars[1] Total (in billions)	Constant 2002–03 dollars[1] Per student in FTE	Current dollars Total (in billions)	Current dollars Per student in FTE
Actual					
1989	4,506	$78.1	$17,323	$51.9	$11,525
1990	4,620	80.7	17,476	56.3	12,184
1991	4,740	82.0	17,299	60.3	12,721
1992	4,796	82.6	17,222	62.7	13,069
1993	4,798	83.3	17,360	65.2	13,585
1994	4,766	84.8	17,798	68.1	14,294
1995	4,750	87.1	18,343	72.0	15,151
1996	4,757	88.2	18,534	74.8	15,726
1997	4,767	89.5	18,775	78.1	16,383
1998	4,814	92.8	19,284	82.5	17,129
1999	4,869	96.7	19,855	87.3	17,940
2000	4,945	100.9	20,401	93.8	18,966
2001	5,026	113.0	22,487	108.7	21,622
Middle alternative projections					
2002	5,194	119.4	22,993	116.8	22,496
2003	5,406	121.4	22,464	121.4	22,464
2004	5,600	125.4	22,397	127.7	22,807
2005	5,670	131.9	23,267	135.9	23,973
2006	5,766	137.0	23,757	143.1	24,821
2007	5,882	141.2	24,001	150.0	25,495
2008	5,998	145.3	24,227	157.6	26,272
2009	6,141	149.3	24,322	†	†
2010	6,255	153.1	24,476	†	†
2011	6,328	156.9	24,790	†	†
2012	6,387	160.8	25,173	†	†
2013	6,438	164.8	25,594	†	†
2014	6,483	169.0	26,068	†	†
Low alternative projections					
2002	5,194	119.4	22,993	116.8	22,496
2003	5,406	121.4	22,464	121.4	22,464
2004	5,598	125.4	22,402	127.7	22,811
2005	5,655	127.7	22,573	131.6	23,265
2006	5,754	127.6	22,179	133.6	23,224
2007	5,848	129.7	22,170	138.6	23,691
2008	5,943	133.3	22,421	146.1	24,577
2009	6,065	136.6	22,521	†	†
2010	6,161	139.7	22,679	†	†
2011	6,223	143.0	22,983	†	†
2012	6,272	146.5	23,358	†	†
2013	6,316	150.0	23,749	†	†
2014	6,354	153.6	24,179	†	†
High alternative projections					
2002	5,194	119.4	22,993	116.8	22,496
2003	5,406	121.4	22,464	121.4	22,464
2004	5,601	125.4	22,395	127.7	22,803
2005	5,683	136.2	23,969	140.3	24,691
2006	5,729	145.5	25,388	151.9	26,515
2007	5,841	152.3	26,078	161.7	27,688
2008	5,961	157.1	26,357	170.3	28,575
2009	6,096	162.1	26,583	†	†
2010	6,248	167.1	26,736	†	†
2011	6,365	171.8	26,986	†	†
2012	6,478	176.8	27,294	†	†
2013	6,561	181.7	27,685	†	†
2014	6,651	187.4	28,175	†	†

†Not applicable; projections in current dollars are not shown after 2008 due to the uncertain behavior of inflation over the long term.

[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. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:88–89), and Spring 2001 through 2003; "Finance Survey" (IPEDS-F:FY89–99), and Spring 2001 and Spring 2002; Enrollment in Degree-Granting Institutions Model, 1980–2002; and Expenditures in Degree-Granting Institutions Model, 1968–69 through 2000–01. (This table was prepared October 2004.)

Table 38. Actual and alternative projected numbers for current-fund expenditures and current-fund expenditures per full-time-equivalent (FTE) student of public 2-year degree-granting institutions: 1988–89 to 2013–14

School year ending	FTE enrollment (in thousands)	Current-fund expenditures: Constant 2002–03 dollars[1] Total (in billions)	Current-fund expenditures: Constant 2002–03 dollars[1] Per student in FTE	Current-fund expenditures: Current dollars Total (in billions)	Current-fund expenditures: Current dollars Per student in FTE
Actual					
1989	2,591	$20.4	$7,887	$13.6	$5,247
1990	2,752	21.4	7,770	14.9	5,417
1991	2,818	22.1	7,837	16.2	5,763
1992	3,067	23.1	7,525	17.5	5,710
1993	3,114	23.6	7,595	18.5	5,943
1994	3,046	24.4	8,017	19.6	6,438
1995	3,035	24.9	8,206	20.6	6,778
1996	2,994	25.5	8,509	21.6	7,220
1997	3,028	25.6	8,463	22.4	7,385
1998	3,056	26.6	8,715	23.7	7,741
1999	3,011	28.1	9,328	25.4	8,429
2000	3,076	29.5	9,600	27.4	8,924
2001	3,241	31.0	9,551	29.8	9,183
Middle alternative projections					
2002	3,445	34.2	9,935	33.5	9,720
2003	3,655	34.9	9,543	34.9	9,543
2004	3,624	35.7	9,859	36.4	10,039
2005	3,673	38.6	10,515	39.8	10,834
2006	3,725	40.4	10,852	42.2	11,337
2007	3,794	41.8	11,011	44.4	11,696
2008	3,865	43.1	11,152	46.7	12,093
2009	3,950	44.4	11,227	†	†
2010	4,014	45.4	11,316	†	†
2011	4,044	46.5	11,487	†	†
2012	4,069	47.6	11,688	†	†
2013	4,095	48.7	11,899	†	†
2014	4,122	50.0	12,137	†	†
Low alternative projections					
2002	3,445	34.2	9,935	33.5	9,720
2003	3,655	34.9	9,543	34.9	9,543
2004	3,623	35.7	9,860	36.4	10,040
2005	3,664	38.6	10,522	39.7	10,844
2006	3,718	40.1	10,786	42.0	11,293
2007	3,774	41.1	10,904	44.0	11,651
2008	3,832	42.3	11,033	46.3	12,094
2009	3,904	43.3	11,081	†	†
2010	3,956	44.1	11,146	†	†
2011	3,981	44.9	11,292	†	†
2012	3,999	45.9	11,470	†	†
2013	4,021	46.8	11,646	†	†
2014	4,043	47.9	11,838	†	†
High alternative projections					
2002	3,445	34.2	9,935	33.5	9,720
2003	3,655	34.9	9,543	34.9	9,543
2004	3,624	35.7	9,858	36.4	10,037
2005	3,681	38.7	10,514	39.9	10,830
2006	3,703	40.7	10,990	42.5	11,477
2007	3,769	42.4	11,258	45.1	11,953
2008	3,842	44.0	11,449	47.7	12,412
2009	3,923	45.6	11,621	†	†
2010	4,010	47.2	11,766	†	†
2011	4,067	48.6	11,950	†	†
2012	4,125	50.2	12,170	†	†
2013	4,170	51.7	12,406	†	†
2014	4,224	53.7	12,724	†	†

†Not applicable; projections in current dollars are not shown after 2008 due to the uncertain behavior of inflation over the long term.

[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. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:88–89), and Spring 2001 through 2003; "Finance Survey" (IPEDS-F:FY89–99), and Spring 2001 and Spring 2002; Enrollment in Degree-Granting Institutions Model, 1980–2002; and Expenditures in Degree-Granting Institutions Model, 1968–69 through 2000–01. (This table was prepared October 2004.)

Table 39. Actual and alternative projected numbers for educational and general expenditures and educational and general expenditures per full-time-equivalent (FTE) student of public 2-year degree-granting institutions: 1988–89 to 2013–14

School year ending	FTE enrollment (in thousands)	Educational and general expenditures: Constant 2002–03 dollars[1] Total (in billions)	Constant 2002–03 dollars[1] Per student in FTE	Current dollars Total (in billions)	Current dollars Per student in FTE
Actual					
1989	2,591	$19.0	$7,348	$12.7	$4,888
1990	2,752	19.9	7,233	13.9	5,042
1991	2,818	20.6	7,299	15.1	5,367
1992	3,067	21.4	6,990	16.3	5,304
1993	3,114	22.1	7,082	17.3	5,542
1994	3,046	22.8	7,498	18.3	6,021
1995	3,035	23.3	7,683	19.3	6,346
1996	2,994	23.9	7,979	20.3	6,770
1997	3,028	24.1	7,945	21.0	6,933
1998	3,056	25.0	8,195	22.2	7,279
1999	3,011	26.4	8,775	23.9	7,929
2000	3,076	27.7	9,016	25.8	8,382
2001	3,241	29.1	8,968	27.9	8,623
Middle alternative projections					
2002	3,445	32.2	9,360	31.5	9,158
2003	3,655	32.8	8,973	32.8	8,973
2004	3,624	33.5	9,242	34.1	9,410
2005	3,673	36.3	9,875	37.4	10,174
2006	3,725	38.1	10,216	39.8	10,674
2007	3,794	39.4	10,382	41.8	11,029
2008	3,865	40.7	10,530	44.1	11,419
2009	3,950	41.9	10,615	†	†
2010	4,014	43.0	10,709	†	†
2011	4,044	44.0	10,876	†	†
2012	4,069	45.1	11,074	†	†
2013	4,095	46.2	11,282	†	†
2014	4,122	47.5	11,517	†	†
Low alternative projections					
2002	3,445	32.2	9,360	31.5	9,158
2003	3,655	32.8	8,973	32.8	8,973
2004	3,623	33.5	9,243	34.1	9,412
2005	3,664	36.2	9,880	37.3	10,183
2006	3,718	37.7	10,148	39.5	10,626
2007	3,774	38.8	10,269	41.4	10,973
2008	3,832	39.9	10,402	43.7	11,402
2009	3,904	40.8	10,456	†	†
2010	3,956	41.6	10,523	†	†
2011	3,981	42.5	10,664	†	†
2012	3,999	43.3	10,837	†	†
2013	4,021	44.3	11,008	†	†
2014	4,043	45.3	11,196	†	†
High alternative projections					
2002	3,445	32.2	9,360	31.5	9,158
2003	3,655	32.8	8,973	32.8	8,973
2004	3,624	33.5	9,241	34.1	9,409
2005	3,681	36.4	9,876	37.5	10,173
2006	3,703	38.3	10,351	40.0	10,810
2007	3,769	40.1	10,626	42.5	11,282
2008	3,842	41.6	10,825	45.1	11,736
2009	3,923	43.2	11,007	†	†
2010	4,010	44.8	11,163	†	†
2011	4,067	46.2	11,351	†	†
2012	4,125	47.7	11,576	†	†
2013	4,170	49.3	11,813	†	†
2014	4,224	51.3	12,136	†	†

†Not applicable; projections in current dollars are not shown after 2008 due to the uncertain behavior of inflation over the long term.

[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. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:88–89), and Spring 2001 through 2003; "Finance Survey" (IPEDS-F:FY89–99), and Spring 2001 and Spring 2002; Enrollment in Degree-Granting Institutions Model, 1980–2002; and Expenditures in Degree-Granting Institutions Model, 1968–69 through 2000–01. (This table was prepared October 2004.)

Technical Appendixes

Appendix A
Projection Methodology

The general procedure for *Projections of Education Statistics to 2014* 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 2002. This enrollment rate was then projected through the year 2014 and applied to projections of the 18-year-old population from the U.S. Census Bureau.

Enrollment projections are based primarily on population projections. Projections of high school graduates and earned degrees conferred 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 these projections. The rate at which the weights of older observations decrease is determined by the smoothing constant selected.

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

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, the more likely it is 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 for annual models tends to be less stable 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 of college enrollment and earned degrees conferred. This technique is used when it is believed that a strong relationship exists between the variable being projected (the dependent variable) and independent 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. Research has found that it is a reasonable way to represent human behavior. Constant elasticities are assumed, which means 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 the multiplicative model 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 analyses. For additional information, see *Forecasting: Methods and Applications* by Spiro Makridakis, Steven C. Wheelwright, and Rob J. Hyndman (John Wiley and Sons, 1998, p. 607).

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. Descriptions of the primary assumptions upon which the projections of time series are based are presented in table A1.

For some 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.

Two of the factors involved in the higher education enrollment projections are household income, which represents ability to pay, and an age-specific unemployment rate, which acts as a proxy for opportunity costs faced by students. During a pessimistic economy, both household income and the ability to pay are likely to decline, having a negative impact on higher education enrollment. However, during a pessimistic economy, unemployment rates would likely to increase, with the result that the estimated opportunity costs will be lower. This could have a positive impact on higher education enrollment, as the students face less attractive alternatives. This will be apparent in the short term, resulting in a potential reversal in the expected pattern across the alternative economic scenarios. As a result, the high alternative projections will be lower than the low alternative projections. However, in the long term, the effect of the per capita income variable dominates the effects of the unemployment rate. This results in a pattern where the high alternative projections are greater than the low alternative projections.

Many of the projections in this publication are demographically based on U.S. Census Bureau middle series projections of the population by age. The population projections developed by the U.S. Census Bureau are based on the 2000 census and the middle series assumptions for the fertility rate, internal migration, net immigration, and mortality rate. For a discussion on the intercensal population estimates, see appendix C.

The future fertility rate assumption, which determines projections of the number of births, is one key assumption in making population projections. 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, while the immigration assumptions affect all years.

For enrollments in secondary grades and college, the fertility assumption is of no consequence, since all the population cohorts for these enrollment ranges have already been born. 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's, bachelor's, master's, doctor's, and first-professional degrees are based on projections of college-age populations and college enrollment, by sex, attendance status, level enrolled by student, and type of institution. Projections of college enrollment are also based on disposable income per capita and unemployment rates. The projections of elementary and secondary teachers are based on education revenue receipts from state sources and enrollments. The projections of expenditures of public elementary and secondary schools and public degree-granting institutions are based on enrollments and 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 the company Global Insight, Inc. Many additional assumptions were made in projecting these variables.

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. The mean absolute percentage error is one way to express the forecast accuracy of past projections. This measure expresses the average value of the absolute value of errors in percentage terms. For example, the mean absolute percentage errors of public school enrollment in grades K–12 for lead times of 1, 2, 5, and 10 years were 0.3, 0.5, 1.1, and 2.6 percent, respectively. For more information on mean absolute percentage errors, see table A2.

Table A1. Summary of forecast assumptions to 2014

Variables	Middle alternative	Low alternative	High alternative
Demographic assumptions			
Population	Projections are consistent with the Census Bureau middle series estimates.	Same as middle alternative	Same as middle alternative
18- to 24-year-old population	Average annual growth rate of 0.6%	Same as middle alternative	Same as middle alternative
25- to 29-year-old population	Average annual growth rate of 1.3%	Same as middle alternative	Same as middle alternative
30- to 34-year-old population	Average annual growth rate of 0.4%	Same as middle alternative	Same as middle alternative
35- to 44-year-old population	Average annual decline of 0.7%	Same as middle alternative	Same as middle alternative
Economic assumptions			
Disposable income per capita in constant dollars	Annual percent changes range between 1.6% and 3.1% with an annual growth rate of 2.4%	Annual percent changes range between 1.2% and 2.4% with an annual growth rate of 1.8%	Annual percent changes range between 1.8% and 3.8% with an annual growth rate of 3.0%
Education revenue receipts from state sources per capita in constant dollars	Annual percent changes range between 1.5% and 3.5% with an annual growth rate of 2.4%	Annual percent changes range between 0.8% and 2.7% with an annual growth rate of 1.7%	Annual percent changes range between 1.8% and 4.4% with an annual growth rate of 3.2%
Inflation rate	Inflation rate ranges between 1.2% and 2.9%	Inflation rate ranges between 1.2% and 3.5%	Inflation rate ranges between 1.2% and 2.9%
Personal taxes and nontax receipts to state and local governments per capita in constant dollars	Annual percent changes range between 1.9% and 7.1% with an annual growth rate of 3.9%	Annual percent changes range between 1.4% and 7.0% with an annual growth rate of 3.1%	Annual percent changes range between 2.8% and 7.2% with an annual growth rate of 5.7%
Unemployment rate (men)			
Ages 18 to 19	Remains between 12.8% and 17.0%	Remains between 13.5% and 17.5%	Remains between 12.9% and 14.9%
Ages 20 to 24	Remains between 7.1% and 9.6%	Remains between 7.5% and 10.0%	Remains between 7.2% and 8.5%
Age 25 and over	Remains between 3.4% and 4.6%	Remains between 3.6% and 4.8%	Remains between 3.4% and 4.1%
Unemployment rate (women)			
Ages 18 to 19	Remains between 10.7% and 13.9%	Remains between 11.2% and 14.1%	Remains between 10.8% and 12.5%
Ages 20 to 24	Remains between 6.8% and 9.0%	Remains between 7.1% and 9.3%	Remains between 6.9% and 8.0%
Age 25 and over	Remains between 3.3% and 4.4%	Remains between 3.5% and 4.6%	Remains between 3.3% and 3.9%

SOURCE: U.S. Department of Commerce, Bureau of the Census, previously unpublished tabulation (June 2004); and Global Insight, Inc., "U.S. Quarterly Model." (This table was prepared October 2004.)

Table A2. Mean absolute percentage errors (MAPEs) by lead time for selected statistics in all public elementary and secondary schools and degree-granting institutions

Statistics	Lead time (years)									
	1	2	3	4	5	6	7	8	9	10
Public elementary and secondary schools										
PK–12 enrollment	0.3	0.5	0.7	1.0	1.1	1.3	1.5	1.8	2.2	2.6
PK–8 enrollment	0.3	0.6	0.8	1.0	1.1	1.4	1.9	2.5	3.1	3.7
9–12 enrollment	0.4	0.7	1.0	1.1	1.2	1.5	1.9	2.1	2.3	2.4
High school graduates	0.8	0.9	1.5	1.6	1.2	1.6	2.5	3.5	3.9	4.2
Elementary and secondary teachers	1.0	1.5	1.8	2.2	2.7	3.3	4.0	4.0	4.7	5.4
Total current expenditures [1]	1.4	2.4	2.4	2.2	3.2	4.0	4.2	4.1	3.1	3.1
Current expenditures per pupil in fall enrollment [1]	1.4	2.2	2.2	2.3	3.7	4.5	4.6	4.9	5.2	5.7
Estimated average annual teacher salaries [1]	1.2	1.6	2.1	3.6	5.1	6.7	8.3	9.1	10.3	10.7
Degree-granting institutions										
Total enrollment	1.8	2.6	2.3	1.7	4.0	6.0	7.4	—	—	—
Men	1.9	3.0	3.2	3.3	5.3	6.9	7.7	—	—	—
Women	1.9	3.0	2.8	1.2	3.0	5.3	7.2	—	—	—
4-year institutions	1.2	2.1	2.2	2.2	3.9	5.3	6.5	—	—	—
2-year institutions	2.7	4.4	3.9	2.7	4.8	7.0	9.0	—	—	—
Associate's degrees	2.5	2.9	3.2	4.9	5.6	5.5	6.2	8.6	8.9	—
Bachelor's degrees	1.0	2.0	2.6	3.4	5.7	6.8	7.5	7.4	8.0	—
Master's degrees	1.2	4.1	7.3	8.8	11.3	12.9	13.5	11.6	12.0	—
Doctor's degrees	2.2	3.5	2.2	3.1	2.5	2.2	4.4	3.5	2.1	—
First-professional degrees	1.3	1.3	1.8	3.8	5.5	8.0	8.8	9.4	9.0	—
Current-fund expenditures in public 4-year institutions [1]	0.9	0.9	1.3	2.7	4.6	4.6	4.3	3.3	3.7	4.5
Current-fund expenditures in public 2-year institutions [1]	1.6	3.0	3.1	3.3	3.8	3.8	4.6	5.3	5.9	7.6

—Not available. Not all actual values were available to calculate a MAPE for this lead time.

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

NOTE: Mean absolute percentage error is the average value of the absolute values of errors expressed in percentage terms. MAPEs for K-12 enrollments were calculated using the last 21 editions of *Projections of Education Statistics* . MAPEs for high school graduates were calculated from the past 14 editions of *Projections of Education Statistcs.* MAPES for teachers were calculated from the past 14 editions containing teachers projections and MAPEs for current expenditures and teacher salaries were calculated using projections from the last 14 editions containing current expenditure and teacher salary projections. MAPEs for degree-granting institution enrollments and earned degrees were calculated using the last 7 and 8 editions, respectively. MAPEs for current-fund expenditures were calculated using the last 9 editions of *Projections of Education Statistcs* that included projections of current-fund expenditures. Calculations were made using unrounded numbers. Some data have been revised from previously published numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics,* various issues. (This table was prepared October 2004.)

Enrollment

National

Enrollment projections are based on projected enrollment rates, by age and sex, where the enrollment rate for a given population for a certain level of education is the number of people in that population enrolled at that level of education divided by the total number of people in that population. These enrollment rates were projected by taking into account the most recent trends, as well as the effects of economic conditions and demographic changes. The projected enrollment rates were then used in the Education Forecasting Model (EDMOD), which consists of age-specific rates by sex and by enrollment levels.

Enrollments by age and age groups from the U.S. Census Bureau were adjusted to NCES totals to compute rates for 1972 through 2002. The first stage of EDMOD is an age-specific enrollment model in which these enrollment rates are projected and applied to age-specific population projections from the U.S. Census Bureau. This stage includes all ages for students enrolled in grades K–12 and for students enrolled in colleges and universities. This stage, which is used separately for each sex, consists of 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.

At the postsecondary level, projections of full-time and part-time college enrollments were considered only for ages 16 and over. College enrollment is negligible for earlier ages. Full-time and part-time enrollments are modeled separately, with each model run by sex. Within an enrollment category, where applicable, college enrollment rates were projected by individual ages 16 through 24 and for the age groups 25 to 29, 30 to 34, and 35 years and over. Three alternative projections were made using various economic assumptions. Table A3 shows enrollment rates for 2002 and middle alternative projected enrollment rates for 2009 and 2014. Table A4 shows the equations used to project the enrollments for men by attendance status. Table A5 shows the equations used to project enrollment rates for women by attendance.

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, and secondary ungraded and special. Grade progression rate projections were used for grades 2 through 12. Table A6 shows the public school enrollment rates, and table A7 shows the public school grade progression rates for 2002 and projections for 2009 and 2014. The projected rates in tables A6 and A7 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 degree-granting institutions, by age group, sex, attendance status, and level enrolled by student, and by type and control of institution. These projections for 2009 and 2014 are shown in tables A8 and A9, along with actual values for 2002. 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 A8 and A9 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 2009 and 2014 are shown in table A10, along with actual percents for 2002. 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 2002 and projections for 2009 and 2014 are shown in table A11. The projected rates in table A11 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 2002 and projections for 2009 and 2014 are shown in table A12.

These projected percents were applied to part-time projections of enrollment by level enrolled and by type and control of institution from the third stage of EDMOD. These equivalent of part-time 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 21 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 0.3, 0.5, 1.1, and 2.6 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 0.3 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 out were 0.3, 0.6, 1.1, and 3.7 percent, respectively, while those for projections of public school enrollment in grades 9–12 were 0.4, 0.7, 1.2, and 2.4 percent for the same lead times.

For projections of total enrollment in degree-granting institutions, an analysis of projection errors based on the past 7 editions of *Projections of Education Statistics* indicates that the MAPEs for lead times of 1, 2, and 5 years were 1.8, 2.6, and 4.0 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 1.8 percent of the actual value, on the average. For more information on MAPEs, see table A2, page 94.

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 = Subscript 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

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} = Progression 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:

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

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

where:

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

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

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

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

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

Enrollment in Degree-Granting Institutions

For degree-granting institutions, 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

j = Subscript denoting sex

k = Subscript denoting attendance status

E_{ijkt} = Enrollment of students age i by sex and attendance status

P_{ijt} = Population age i by sex

R_{ijkt} = Enrollment rate for students age i by sex and attendance status

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

Then:

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

where:

$$E_{ijkt} = R_{ijkt}(P_{ijt})$$

Methodological Tables

Tables A13 and A14 give the rates used to calculate projections of enrollments and basic assumptions underlying enrollment projections.

Private School Enrollment

This edition is the fourth report that projected trends in elementary and secondary enrollment by grade level in private schools using the grade progression rate method.

Private school enrollment data from the National Center for Education Statistics Private School Universe Survey for 1989–90, 1991–92, 1993–94, 1995–96, 1997–98, 1999–2000, and 2001–02 were used to develop these projections. In addition, population estimates for 1989 to 2002 and population projections for 2003 to 2014 from the U.S. Census Bureau were used to develop the projections.

The grade progression rate method was used to project private elementary and secondary school enrollment. The grade progression rate method starts with 6-year-olds entering first grade and then follows their progress through private 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.

Projections of enrollment in private elementary and secondary schools were developed using primarily the grade progression rate method. In contrast, 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 U.S. Census Bureau.

Enrollments in grades 2 through 12 are based on projected grade progression rates. 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 grade

progression rates are projected using single exponential smoothing. Elementary ungraded and secondary ungraded are projected to remain constant at their 2001 levels. To obtain projections of total enrollment, projections of enrollments for the individual grades (kindergarten through 12) and ungraded were summed.

The grade progression rate method assumes that past trends in factors affecting private school enrollments will continue over the projection period. This assumption implies that all factors influencing enrollments will display future patterns consistent with past patterns. This method implicitly includes the net effect of such factors as migration, dropouts, deaths, nonpromotion, and transfers to and from public schools.

Mean absolute percentage errors (MAPEs) of the projection accuracy of private school enrollment were not developed because this projection method has been developed only recently and there is not yet enough historical information to evaluate model performance. As additional data become available, MAPEs can then be calculated.

State Level

For the 50 states and the District of Columbia, this edition contains projected trends in elementary and secondary enrollment by grade level in public schools from 2003 to the year 2014. This is the 10th 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 1980 to 2002 were used to develop these projections. This survey does not collect enrollment data for private schools.

Population estimates for 1980 to 2002 and population projections for 2003 to 2014 from the U.S. Census Bureau were used to develop the enrollment projections. Both the population estimates and projections used in this year's update have been revised relative to last year's update. First, the population estimates used in this year's *Projections of Education Statistics to 2014* incorporate the Census Bureau's state-level intercensal revisions to the population from 1990 to 1999. These intercensal revisions were released by the Census Bureau to ensure consistency in the data between the 1990 Census and the 2000 Census. Second, due to the timing of the release of the new set of the U.S. Census Bureau's state-level population projections, the old set of state-level population projections were adjusted for use in this year's edition. The old set of state-level population projections from the U.S. Census Bureau are consistent with the 2001 population estimates, but do not take into account the new 2002 estimates that were available, nor do they match with the new set of national-level population projections.

The adjustment of the state-level population projections had two steps. First, the projections for the years 2003 to 2014 were adjusted to match with the new 2002 data using the overlap year of data for 2002. The ratio used to adjust each state's projections was constructed by taking the new estimate for 2002 divided by the old 2002 projection from the old set of state-level population projections from the U.S. Census Bureau that match the 2001 estimate. This level adjustment ensured that the projections were consistent with the new 2002 estimates. A second adjustment was then done to ensure that the sum of the adjusted states summed to the new national totals. The final adjusted state-level projections used to develop the state-level projections for this edition of the *Projections of Education Statistics to 2014* both line up with the new 2002 state-level estimates and take into account the new national level, but do not take account new patterns in state by state enrollment that may emerge when the complete population forecast is released.

The changes in both the underlying population estimates and projections impact the final state-level enrollment projections in this year's edition of the *Projections of Education Statistics*. While the impact varies by state, this year's state-level projections are substantially different than the state-level projections released in last year's publication, *Projections of Education Statistics to 2013*.

Table A13 describes the number of years, projection methods, and smoothing constants used to project enrollments in public schools. Also included in table A13 is the procedure for choosing the different smoothing constants for the time-series models.

All states, with the exception of Washington, DC, were projected using the same single exponential smoothing parameter. Due to the quality of the Washington, DC data, the smoothing parameters for Washington DC were estimated using a feature of the model software EViews 4.1 using the available historical data. This approach yielded more consistent projections of Washington, DC enrollments.

Projections of enrollment in public elementary and secondary schools by state were developed using primarily the grade progression rate 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 U.S. Census Bureau.

Enrollments in grades 2 through 12 are based on projected grade progression 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 grade progression rates are projected using single exponential smoothing. Elementary ungraded and secondary

ungraded are projected to remain constant at their 2002 levels. To obtain projections of total enrollment, projections of enrollments for the individual grades (kindergarten through 12) and ungraded were summed.

The grade progression rate method assumes 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.

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.

Table A3. Actual and middle alternative projected numbers for college enrollment rates, by age, sex and attendance status: Fall 2002, 2009, and 2014

Age, sex, and attendance status	Actual 2002	Projected	
		2009	2014
Men			
Full-time			
16 years old	0.4	0.3	0.3
17 years old	2.4	2.6	2.7
18 years old	28.8	30.1	30.9
19 years old	34.2	32.8	33.6
20 years old	30.0	31.3	32.1
21 years old	29.4	30.7	31.5
22 years old	20.8	21.9	22.6
23 years old	13.6	14.3	14.8
24 years old	10.5	11.1	11.4
25 to 29 years old	4.8	5.1	5.3
30 to 34 years old	1.7	1.9	1.9
35 to 44 years old	1.1	1.2	1.2
Part-time			
16 years old	#	#	#
17 years old	0.8	0.8	0.9
18 years old	5.0	5.2	5.3
19 years old	8.7	9.4	9.7
20 years old	7.7	8.0	8.3
21 years old	5.7	5.9	6.1
22 years old	6.0	6.2	6.5
23 years old	6.7	7.0	7.3
24 years old	7.0	7.4	7.7
25 to 29 years old	4.4	4.6	4.8
30 to 34 years old	3.5	3.7	3.8
35 to 44 years old	4.1	4.4	4.6
Women			
Full-time			
16 years old	0.4	0.4	0.4
17 years old	4.1	4.5	4.9
18 years old	35.1	38.6	40.6
19 years old	46.9	50.5	52.5
20 years old	41.2	44.8	46.8
21 years old	32.3	35.6	37.5
22 years old	22.3	25.0	26.5
23 years old	15.2	17.2	18.4
24 years old	12.5	14.3	15.3
25 to 29 years old	5.9	7.9	8.5
30 to 34 years old	2.7	3.2	3.4
35 to 44 years old	1.9	2.3	2.4
Part-time			
16 years old	0.5	0.2	0.2
17 years old	0.8	0.9	0.9
18 years old	7.8	8.1	8.3
19 years old	9.4	9.6	9.6
20 years old	7.6	7.9	7.9
21 years old	8.2	8.5	8.7
22 years old	11.2	11.9	12.1
23 years old	9.7	10.4	10.7
24 years old	10.0	10.7	11.1
25 to 29 years old	7.2	7.7	8.0
30 to 34 years old	4.6	5.0	5.3
35 to 44 years old	6.9	7.5	7.9

Rounds to zero.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared October 2004.)

Table A4. Equations for full-time and part-time college enrollment rates of men

Independent variable	Coefficient	Standard error	T-statistic	R^2	D.W. statistic
Full-time					
Age17	-5.87	0.20	-29.8	0.99	2.16
Age18	-3.23	0.15	-21.7		
Age19	-3.22	0.73	-4.4		
Age 20	-3.22	0.14	-23.5		
Age 21	-3.34	0.14	-24.6		
Age 22	-3.83	0.14	-27.7		
Age 23	-4.25	0.14	-31.2		
Age 24	-4.56	0.14	-32.1		
Age 25	-5.40	0.15	-35.8		
Age25-29	-6.38	0.15	-44.0		
Age35-44	-7.05	0.15	-47.5		
LNRYPDRNMA	0.45	0.03	17.2		
LNRUM	0.08	0.02	4.0		
Rho17	0.58	0.12	4.9		
Rho18	0.61	0.08	8.0		
Rho19	0.96	0.11	8.4		
Rho20	0.36	0.12	3.0		
Rho21	-0.05	0.15	-0.3		
Rho22	0.17	0.13	1.3		
Rho23	-0.05	0.12	-0.4		
Rho24	0.51	0.10	5.1		
Rho25-29	0.70	0.07	9.5		
Rho30-34	0.49	0.09	5.4		
Rho35-44	0.59	0.09	6.7		
Part-time					
Age17	-8.79	0.77	-11.4	0.30	1.51
Age18	-4.98	0.27	-18.2		
Age19	-4.66	0.31	-14.9		
Age 20	-4.62	0.27	-16.8		
Age 21	-4.72	0.27	-17.3		
Age 22	-4.57	0.28	-16.3		
Age 23	-4.88	0.27	-17.9		
Age 24	-5.10	0.29	-17.5		
Age 25	-5.25	0.35	-15.0		
Age25-29	-5.61	0.35	-16.2		
Age35-44	-5.60	0.28	-20.0		
LNRYPDRNMA	0.43	0.05	8.5		
LNRUM	0.06	0.02	2.4		
Rho17	-0.38	0.16	-2.4		
Rho18	-0.31	0.10	-3.0		
Rho19	0.77	0.06	13.6		
Rho20	0.25	0.11	2.3		
Rho21	0.00	0.10	0.0		
Rho22	0.36	0.14	2.5		
Rho23	0.10	0.08	1.2		
Rho24	0.61	0.08	8.1		
Rho25-29	0.84	0.07	11.8		
Rho30-34	0.84	0.06	13.3		
Rho35-44	0.65	0.07	9.5		

R^2 = Coefficient of determination.
D.W. statistic = Durbin-Watson statistic.
Where:
AGE(age) = Enrollment rate by age.
Rho(age) = Autocorrelation coefficient for each age.
LNRUM = Log unemployment rate for men.
LNRYPDRNMA = Log of three-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 seemingly unrelated regression with first-order autocorrelation correction. The time period used to estimate the equations is from 1975 to 2002. The number of observations is 297. For additional information, see M. D. Intriligator,*Econometric Models, Techniques, & Applications* , New Jersey: Prentice-Hall, Inc., 1978, pp. 165–173.
SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared October 2004.)

Table A5. Equations for full-time and part-time college enrollment rates of women

Independent variable	Coefficient	Standard error	T-statistic	R^2	D.W. statistic
Full-time					
Age17	-8.88	0.55	-16.2	0.99	2.30
Age18	-6.02	0.23	-26.7		
Age19	-5.85	0.17	-35.2		
Age 20	-6.04	0.16	-38.0		
Age 21	-6.24	0.16	-39.1		
Age 22	-6.97	0.19	-36.9		
Age 23	-7.38	0.19	-39.7		
Age 24	-7.66	0.17	-46.0		
Age 25	-8.08	1.56	-5.2		
Age25-29	-9.08	0.16	-58.3		
Age35-44	-9.31	0.16	-59.6		
LNRYPDRNMA	1.06	0.04	27.1		
LNRUF	0.26	0.05	5.2		
Rho17	0.90	0.07	13.5		
Rho18	0.81	0.09	8.7		
Rho19	0.13	0.15	0.9		
Rho20	-0.23	0.16	-1.4		
Rho21	0.07	0.14	0.5		
Rho22	0.75	0.09	8.3		
Rho23	0.73	0.10	7.2		
Rho24	0.58	0.12	4.9		
Rho25-29	0.97	0.13	7.4		
Rho30-34	0.02	0.17	0.1		
Rho35-44	-0.18	0.12	-1.4		
Part-time					
Age17	-8.84	0.80	-11.1	0.76	2.4
Age18	-5.82	0.21	-27.1		
Age19	-5.65	0.23	-24.4		
Age 20	-5.58	0.21	-26.7		
Age 21	-5.70	0.21	-27.0		
Age 22	-5.56	0.21	-26.5		
Age 23	-5.87	0.21	-27.9		
Age 24	-6.05	0.22	-27.7		
Age 25	-6.02	0.21	-28.3		
Age25-29	-6.30	0.24	-26.4		
Age35-44	-6.01	0.22	-27.0		
LNRYPDRNMA	0.70	0.04	17.2		
LNRUF	0.19	0.04	4.7		
Rho17	0.61	0.12	5.1		
Rho18	0.30	0.15	2.0		
Rho19	0.61	0.11	5.7		
Rho20	-0.14	0.12	-1.2		
Rho21	0.09	0.09	1.1		
Rho22	0.13	0.12	1.1		
Rho23	0.01	0.12	0.1		
Rho24	0.53	0.12	4.4		
Rho25-29	0.38	0.12	3.1		
Rho30-34	0.74	0.07	9.9		
Rho35-44	0.67	0.10	6.5		

R^2 = Coefficient of determination.
D.W. statistic = Durbin-Watson statistic.

Where:

AGE(age) = Enrollment rate by age.

Rho(age) = Autocorrelation coefficient for each age.

LNRUM = Log unemployment rate for men.

LNRYPDRNMA = Log of three-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 seemingly unrelated regression with first-order autocorrelation correction. The time period used to estimate the equations is from 1975 to 2002. The number of observations is 297. For additional information, see M. D. Intriligator,*Econometric Models, Techniques, & Applications* , New Jersey: Prentice-Hall, Inc., 1978, pp. 165–173.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:89–99), and Spring 2001 through Spring 2003; and Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared October 2004.)

Table A6. Actual and projected numbers for enrollment rates in public schools, by grade level: Fall 2002, and 2003 through 2014

Grade level	Actual 2002	Projected 2003 through 2014
Kindergarten	105.5	108.7
Grade 1	91.1	91.0
Elementary ungraded	1.0	0.9
Secondary ungraded	0.9	0.9

NOTE: The the base age for each grade level is as follows: kindergarten, 5-years-old; grade 1, 6-years-old; elementary ungraded, 5- to 13-years-olds; and secondary ungraded 14- to 17-years-olds.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Elementary and Secondary Enrollment Model, 1972–2002. (This table was prepared October 2004.)

Table A7. Actual and projected numbers for public school grade progression rates: Fall 2002, and 2003 through 2014

Grade	Actual 2002	Projected 2003 through 2014
1 to 2	98.5	98.5
2 to 3	100.4	100.6
3 to 4	100.3	100.3
4 to 5	100.4	100.4
5 to 6	101.5	101.6
6 to 7	101.5	101.5
7 to 8	99.4	99.5
8 to 9	113.1	113.3
9 to 10	88.9	89.1
10 to 11	90.4	90.8
11 to 12	92.3	93.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Elementary and Secondary Enrollment Model, 1972–2002. (This table was prepared October 2004.)

Table A8. Actual and projected numbers for the percentage distribution of full-time enrollment rates, by level enrolled and type of institutions, for each age and sex classification: Fall 2002, and 2003 through 2014

	Men		Women	
Age	Actual 2002	Projected 2003 through 2014	Actual 2002	Projected 2003 through 2014
Undergraduate, 4-year institutions				
16 and 17 years old	53.3	54.1	58.8	53.4
18 and 19 years old	65.4	65.3	68.0	67.9
20 and 21 years old	76.6	75.9	77.8	77.9
22 to 24 years old	63.5	62.9	60.1	60.6
25 to 29 years old	44.4	44.2	44.9	42.1
30 to 34 years old	39.1	34.3	42.1	41.1
35 years and over	34.4	37.6	39.8	38.2
Undergraduate, 2-year institutions				
16 and 17 years old	44.6	44.0	39.8	43.9
18 and 19 years old	33.7	33.6	31.1	31.4
20 and 21 years old	21.3	21.9	20.0	20.1
22 to 24 years old	16.4	17.1	17.8	18.2
25 to 29 years old	16.6	19.6	21.2	23.1
30 to 34 years old	16.0	19.9	31.2	29.1
35 years and over	33.1	26.8	32.6	34.5
Postbaccalaureate, 4-year institutions				
16 and 17 years old	2.1	1.9	1.5	2.7
18 and 19 years old	0.9	1.1	0.8	0.7
20 and 21 years old	2.2	2.2	2.2	2.0
22 to 24 years old	20.0	20.0	22.1	21.2
25 to 29 years old	39.0	36.2	33.9	34.8
30 to 34 years old	44.9	45.8	26.7	29.8
35 years and over	32.6	35.6	27.6	27.3

NOTE: Projections shown for 2009 and 2014 were adjusted to add to 100 percent before computing projections shown in tables 10 through 21.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared October 2004.)

Table A9. Actual and projected numbers for the percentage distribution of part-time enrollment rates, by level enrolled and type of institutions, for each age and sex classification: Fall 2002, and 2003 through 2014

	Men		Women	
Age	Actual 2002	Projected 2003 through 2014	Actual 2002	Projected 2003 through 2014
Undergraduate, 4-year institutions				
16 and 17 years old	19.4	23.4	43.0	26.9
18 and 19 years old	15.1	13.9	19.6	21.2
20 and 21 years old	31.2	29.1	27.0	28.5
22 to 24 years old	30.3	30.3	31.0	28.4
25 to 29 years old	27.6	27.3	23.4	21.9
30 to 34 years old	22.6	23.7	23.5	23.8
35 years and over	20.7	21.1	22.1	22.0
Undergraduate, 2-year institutions				
16 and 17 years old	80.2	76.4	56.7	72.9
18 and 19 years old	84.1	85.5	80.0	78.5
20 and 21 years old	67.8	69.9	72.1	70.8
22 to 24 years old	61.4	61.6	58.7	61.1
25 to 29 years old	53.9	53.3	53.2	55.5
30 to 34 years old	46.9	48.2	54.4	52.0
35 years and over	53.3	53.3	53.6	54.0
Postbaccalaureate, 4-year institutions				
16 and 17 years old	0.4	0.2	0.3	0.2
18 and 19 years old	0.8	0.6	0.4	0.3
20 and 21 years old	0.9	0.9	0.9	0.8
22 to 24 years old	8.3	8.1	10.3	10.6
25 to 29 years old	18.6	19.4	23.5	22.7
30 to 34 years old	30.5	28.2	22.1	24.2
35 years and over	25.9	25.6	24.4	24.0

NOTE: Projections shown for 2009 and 2014 were adjusted to add to 100 percent before computing projections shown in tables 10 through 21.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared October 2004.)

Table A10. Actual and projected numbers for public college enrollment as a percent of total enrollment, by attendance status, sex, level enrolled, and type of institution: Fall 2002, and 2003 through 2014

	Men		Women	
Enrollment category	Actual 2002	Projected 2003 through 2014	Actual 2002	Projected 2003 through 2014
Full-time, undergraduate, 4-year institutions	67.2	67.0	66.2	66.0
Part-time, undergraduate, 4-year institutions	71.2	71.0	68.4	68.5
Full-time, undergraduate, 2-year institutions	90.1	90.5	90.9	91.1
Part-time, undergraduate, 2-year institutions	99.0	99.1	98.9	98.9
Full-time, postbaccalaureate, 4-year institutions	52.9	52.8	54.1	53.5
Part-time, postbaccalaureate, 4-year institutions	57.0	57.1	61.9	61.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared October 2004.)

Table A11. Actual and projected numbers for graduate enrollment as a percent of total postbaccalaureate enrollment, by sex, attendance status, sex, and type and control of institution: Fall 2002, and 2003 through 2014

	Men		Women	
Enrollment category	Actual 2002	Projected 2003 through 2014	Actual 2002	Projected 2003 through 2014
Full-time, 4-year, public	78.0	78.5	80.8	80.9
Part-time, 4-year, public	98.8	98.8	99.3	99.3
Full-time, 4-year, private	65.0	66.5	72.8	73.8
Part-time, 4-year, private	91.7	92.0	95.4	95.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared October 2004.)

Table A12. Actual and projected numbers for full-time enrollment as a percent of part-time enrollment, by level enrolled and by type and control of institution: Fall 2002, and 2003 through 2014

Enrollment category	Actual 2002	Projected 2003 through 2014
Public, 4-year, undergraduate	40.4	40.4
Public, 2-year, undergraduate	33.6	33.6
Private, 4-year, undergraduate	39.3	39.3
Private, 2-year, undergraduate	39.7	39.7
Public, 4-year, graduate	36.2	36.2
Private, 4-year, graduate	38.2	38.2
Public, 4-year, first-professional	60.1	60.1
Private, 4-year, first-professional	54.6	54.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared October 2004.)

Table A13. Number of years, projection methods, and smoothing constants used to project state-level public school enrollments and high school graduates

Projected state variable	Number of years (1972–2002)	Projection method	Smoothing constant[1]	Basis for smoothing constant
Grade progression rates	30	Single exponential smoothing	0.4	Empirical research
Graduates/grade 12 enrollment	30	Single exponential smoothing	0.4	Empirical research

[1]Alternative smoothing constants were used for the District of Columbia. These smoothing constants were estimated using a feature of the model software program EViews 4.1.

SOURCE: U.S. Department of Education, National Center for Education Statistics, State Public Elementary and Secondary Enrollment Model, 1980–2002, and State Public High School Graduates Model, 1980–81 through 2001–02. (This table was prepared October 2004.)

Table A14. 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)	1-9
	Public enrollment rates and public grade retention rates will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	1-9
	The percentage of 7th- and 8th-grade public students enrolled in schools organized as secondary schools will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	1-9
College enrollment, by age			
Full-time men, full-time women, and part-time women	Age-specific enrollment rates 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	10-19
	Age-specific enrollment rates 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	10-19
	Age-specific enrollment rates 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	10-19
Part-time men	Age-specific enrollment rates for men are a function of dummy variables by age, the middle alternative log of four-period weighted average of real disposable income per capita, and middle alternative log unemployment rate by age group.	Middle	10-19
	Age-specific enrollment rates for men are a function of dummy variables by age, the low alternative log of four-period weighted average of real disposable income per capita, and low alternative log unemployment rate by age group.	Low	10-19
	Age-specific enrollment rates for men are a function of dummy variables by age, the high alternative log of four-period weighted average of real disposable income per capita, and high alternative log unemployment rate by age group.	High	10-19
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 2014. For each age group and attendance status category, the sum of the percentages must equal 100 percent.	High, middle, and low	10-19
College enrollment, by control of institution	For each enrollment category, by sex, attendance status, and level enrolled, and by 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	10-19
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	20
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	22

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Elementary and Secondary Enrollment Model, 1972–2002, State Public Elementary and Secondary Enrollment Model, 1980–2002, and Enrollment in Degree-Granting Institutions Model, 1980–2002. (This table was prepared October 2004.)

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 1972–73 to 2001–02. 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. (This percent does not make any specific assumptions regarding the dropout rate. The effect of the 12th- grade dropout proportion is reflected implicitly in the graduate proportion.) The grade 12 enrollment was projected based on grade progression rates. 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 ratios, such as dropouts, migration, and public or private transfers, will continue over the projection period. In addition to student behaviors, the projected number of graduates could be impacted by changes in policies affecting graduation requirements.

Projections of private high school graduates were calculated using the same methodology as public high school graduates, using data from 1988–89 to 2000–02.

Projection Accuracy

An analysis of projections from models used in the past 14 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for projections of public high school graduates were 0.8 percent for 1 year ahead, 0.9 percent for 2 years ahead, 1.2 percent for 5 years ahead, and 4.2 percent for 10 years ahead. For the 1-year-ahead prediction, this means that one would expect the projection to be within 0.8 percent of the actual value, on the average. For more information on the mean absolute percentage errors, see table A2, page 94.

State Level

This edition contains projections of high school graduates from public schools by state from 2002–03 to 2013–14. Public school graduate data from the National Center for Education Statistics Common Core of Data survey for 1980–81 to 2001–02 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 1980–81 to 2001–02. 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. All states, with the exception of Washington, DC, were projected using the same single exponential smoothing parameter. Due to the quality of the Washington, DC data, the smoothing parameters for Washington DC were estimated using a feature of the model software program EViews 4.1 using the available historical data. This approach yielded more consistent projections of Washington, DC graduates. Projections of grade 12 enrollment were developed based on the grade progression rates discussed in appendix A, 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.

Degrees Conferred

Projections of associate's, 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's Degrees

Associate's degree projections by sex were based on a weighted average over the last 2 years of undergraduate enrollment by attendance status in 2-year institutions and sex relative to the 18- to 24-year-old population by sex. The previous year is weighted two-thirds, and 2 years back is weighted one-third. Results of the regression analysis used to project associate's degrees by sex are shown in table A15.

Bachelor's Degrees

Bachelor's degree projections by sex were based on a weighted average over the last 4 years of undergraduate enrollment by attendance status in 4-year institutions and sex relative to the 18- to 24-year-old population by sex. The weights for the previous 4 years—0.4, 0.3, 0.2, and 0.1—give more weight to the most recent years. Results of the regression analysis used to project bachelor's degrees by sex are shown in table A15. For some years, projections of undergraduate enrollment from the middle alternative projections were greater than those from the high alternative projections. (See page 92.) Hence, for some years, projections of bachelor's degrees from the middle alternative projections are greater than those from the high alternative projections.

Master's Degrees

Master's degree projections by sex were based on a weighted average over the last 2 years of graduate enrollment by attendance status and sex relative to the 25- to 34-year-old population by sex. The previous year is weighted two-thirds, and 2 years back is weighted one-third. Results of the regression analysis used to project master's degrees by sex are shown in table A15. For some years, projections of graduate enrollment from the middle alternative projections were greater than those from the high alternative projections. (See page 92.) Hence, for some years, projections of master's degrees from the middle alternative projections are greater than those from the high alternative projections.

Doctor's Degrees

Doctor's degree projections by sex were based on a weighted average over the last 4 years of graduate enrollment by attendance status and sex relative to the 5- to 44-year-old population by sex. The weights for the previous 4 years—0.4, 0.3, 0.2, and 0.1—give more weight to the most recent years. The results of the regression analysis used to project doctor's degrees by sex are shown in table A15.

First-Professional Degrees

First-professional degree projections by sex were based on a weighted average over the last 3 years of first-professional enrollment by attendance status in 4-year institutions and sex relative to the 25- to 34-year-old population by sex. The weights for the previous 3 years—0.5, 0.33, and 0.17—give more weight to the most recent years. Results of the regression analysis used to project first-professional degrees by sex are shown in table A15.

Methodological Tables

These tables describe equations used to calculate projections (table A15), and basic assumptions underlying projections (table A16).

Projection Accuracy

An analysis of projection errors from similar models used in the past eight editions of *Projections of Education Statistics* indicates that mean absolute percentage errors (MAPEs) for associate's degrees were 2.5 percent for 1 year out, 2.9 percent for 2 years out, and 5.6 percent for 5 years out. For the 1-year-out prediction, this means that one would expect the projection to be within 2.5 percent of the actual value, on average. MAPEs for bachelor's degree projections were 1.0 percent for 1 year out, 2.0 percent for 2 years out, and 5.7 percent for 5 years out. MAPEs for master's degrees were 1.2, 4.1, and 11.3 percent, respectively. For doctor's degrees, the MAPEs were 2.2, 3.5, and 2.5 percent, respectively. For first-professional degrees, the MAPEs were 1.3, 1.3, and 5.5 percent, respectively. For more information on the MAPEs, see table A2.

Table A15. Equations for degrees conferred

Dependent variable	Equation	R^2	Durbin-Watson statistic[1]	Error distribution pattern[2]	Rho	Time period
Associate degrees Men	LNASSOCM = 4.9 + 0.4LNUG2ML2 (9.6)	0.95	2.0	AR(1)	0.58 (5.0)	1975–76 to 2002–03
Associate degrees Women	LNASSOCW = 5.6 + 0.5LNUG2WL2 (16.3)	0.99	1.5	AR(1)	0.64 (8.1)	1975–76 to 2002–03
Bachelor's degrees Men	LNBACHM = 6.3 - 0.6LNUG4ML4 (4.4)	0.98	1.6	AR(1)	0.87 (3.9)	1977–78 to 2002–03
Bachelor's degrees Women	LNBACHW = 6.7 - 0.7LNUG4WL4 (10.2)	0.99	1.3	AR(1)	0.81 (4.5)	1977–78 to 2002–03
Master's degrees Men	LNMASTM = 6.9 + 0.6LNGML2 (4.4)	0.97	1.4	AR(1)	1.02 (9.2)	1975–76 to 2002–03
Master's degrees Women	LNMASTW = 7.7 + 0.7LNGWL2 (19.9)	0.99	1.4	AR(1)	0.79 (18.2)	1975–76 to 2002–03
Doctor's degrees Men	LNDOCM = 3.2 + 0.4LNGML4 (6.3)	0.99	1.7	AR(1)	0.69 (6.7)	1977–78 to 2002–03
Doctor's degrees Women	LNDOCW = 1.2 + 0.3LNGWL4 (2.8)	0.93	2.3	AR(1)	1.01 (15.9)	1977–78 to 2002–03
First-professional degrees Men	LNFPROM = 3.5 + 0.2LNFPML3 (3.1)	0.99	1.7	AR(1)	0.87 (22.7)	1976–77 to 2002–03
First-professional degrees Women	LNFPROW = 7.9 + 0.6LNFPWL3 (34.6)	0.98	0.9	AR(1)	0.05 (0.5)	1976–77 to 2002–03

[1]For an explanation of the Durbin-Watson statistic, see J. Johnston and J. Dinardo, *Econometric Methods*, New York: McGraw-Hill, 1996.

[2]AR(1) indicates that the models was estimated using least squares with the AR(1) process for correcting for first-order autocorrelation. 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, pp. 315–318.

Where:

LNASSOCM = Log of the ratio of associate degrees awarded to men relative to the population of 18- to 24- year old men

LNASSOCW = Log of the ratio of associate degrees awarded to woman relative to the population of 18- to 24- year old women

LNBACHM = Log of the ratio of bachelor's degrees awarded to men relative to the population of 18- to 24- year old men

LNBACHW = Log of the ratio of bachelor's degrees awarded to women relative to the population of 18- to 24- year old women

LNMASTM = Log of the ratio of master's degrees awarded to men relative to the population of 25- to 34- year old men

LNMASTW = Log of the ratio of master's degrees awarded to women relative to the population of 25- to 34- year old women

LNDOCM = Log of the ratio of doctor's degrees awarded to men relative to the population of 35- to 44- year old men

LNDOCW = Log of the ratio of doctor's degrees awarded to women relative to the population of 35- to 44- year old women

LNFPROM = Log of the ratio of first-professional degrees awarded to men relative to the population of 25- to 34- year old men

LNFPROW = Log of the ratio of first-professional degrees awarded to women relative to the population of 25- to 34- year old women

LNUG2ML2 = Log of the ratio of full-time male undergraduate enrollment in 2-year institutions to the male population of 18- to 24-year-olds, weighted over the last 2 years (where weights are .67 and .33 for descending lagged years), plus the similar Log ratio for part-time male undergraduate enrollment in 2-year institutions.

LNUG2WL2 = Log of the ratio of full-time female undergraduate enrollment in 2-year institutions to the female population of 18- to 24-year-olds, weighted over the last 2 years (where weights are .67 and .33 for descending lagged years), plus the similar Log ratio for part-time female undergraduate enrollment in 2-year institutions.

LNUG4ML4 = Log of the ratio of full-time male undergraduate enrollment in 4-year institutions to the male population of 18- to 24-year-olds, weighted over the last 4 years (where weights are .4, .3, .2, and .1 for descending lagged years), plus the similar Log ratio for part-time male undergraduate enrollment in 4-year institutions.

LNUG4WL4 = Log of the ratio of full-time female undergraduate enrollment in 4-year institutions to the female population of 18- to 24-year-olds, weighted over the last 4 years (where weights are .4, .3, .2, and .1 for descending lagged years), plus the similar Log ratio for part-time female undergraduate enrollment in 4-year institutions.

LNGML2 = Log of the ratio of full-time male graduate school enrollment to the male population of 25- to 34-year-olds, weighted over the last 2 years (where weights are .67 and .33 for descending lagged years), plus the similar Log ratio for part-time male graduate school enrollment.

LNGWL2 = Log of the ratio of full-time female school graduate enrollment to the female population of 25- to 34-year-olds, weighted over the last 2 years (where weights are .67 and .33 for descending lagged years), plus the similar Log ratio for part-time female graduate school enrollment.

LNGML4 = Log of the ratio of full-time male graduate school enrollment to the male population of 35- to 44-year-olds, weighted over the last 4 years (where weights are .4, .3., .2, and .1 for descending lagged years), plus the similar Log ratio for part-time male graduate school enrollment.

LNGWL4 = Log of the ratio of full-time female graduate school enrollment to the female population of 35- to 44-year-olds, weighted over the last 4 years (where weights are .4, .3, .2, and .1 for descending lagged years), plus the similar Log ratio for part-time female graduate school enrollment.

LNFPML3 = Log of the ratio of full-time male first-professional school enrollment to the male population of 25- to 34-year-olds, weighted over the last 3 years (where weights are .5, .33, and .17 for descending lagged years), plus the similar Log ratio for part-time male first-professional school enrollment.

LNFPWL3 = Log of the ratio of full-time female first-professional school enrollment to the female population of 25- to 34-year-olds, weighted over the last 3 years (where weights are .5, .33, and .17 for descending lagged years), plus the similar Log ratio for part-time female first-professional school enrollment.

NOTE: R^2 indicates the coefficient of determination. Rho measures the correlation between errors in time period t and time period t minus 1. Numbers in parentheses are t-statistics.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Degrees Conferred Model, 1975–76 through 2002–03. (This table was prepared October 2004.)

Table A16. Degrees conferred (assumptions)

Variables	Assumptions	Alternative	Table
Associate's degrees			
Men	The number of associate's degrees awarded to men is a linear function of the log of the ratio of full-time male undergraduate enrollment in 2-year institutions to the male population of 18- to 24-year-olds, weighted over the last 2 years (where weights are .67 and .33 for descending lagged years), plus the similar log ratio for part-time male undergraduate enrollment in 2-year institutions. This relationship will continue through 2013–14.	Middle	26
Women	The number of associate's degrees awarded to women is a linear function of the log of the ratio of full-time female undergraduate enrollment in 2-year institutions to the female population of 18- to 24-year-olds, weighted over the last 2 years (where weights are .67 and .33 for descending lagged years), plus the similar log ratio for part-time female undergraduate enrollment in 2-year institutions. This relationship will continue through 2013–14.	Middle	26
Bachelor's degrees			
Men	The number of bachelor's degrees awarded to men is a linear function of the log of the ratio of full-time male undergraduate enrollment in 4-year institutions to the male population of 18- to 24-year-olds, weighted over the last 4 years (where weights are .4, .3, .2, and .1 for descending lagged years), plus the similar log ratio for part-time male undergraduate enrollment in 4-year institutions. This relationship will continue through 2013–14.	Middle	27
Women	The number of bachelor's degrees awarded to women is a linear function of the log of the ratio of full-time female undergraduate enrollment in 4-year institutions to the female population of 18- to 24-year-olds, weighted over the last 4 years (where weights are .4, .3, .2, and .1 for descending lagged years), plus the similar log ratio for part-time female undergraduate enrollment in 4-year institutions. This relationship will continue through 2013–14.	Middle	27
Master's degrees			
Men	The number of master's degrees awarded to men is a linear function of the log of the ratio of full-time male graduate school enrollment to the male population of 25- to 34-year-olds, weighted over the the last 2 years (where weights are .67 and .33 for descending lagged years), plus the similar log ratio for part-time male graduate school enrollment. This relationship will continue through 2013–14.	Middle	28
Women	The number of master's degrees awarded to women is a linear function of the log of the ratio of full-time female graduate school enrollment to the female population of 25- to 34-year-olds, weighted over the the last 2 years (where weights are .67 and .33 for descending lagged years), plus the similar log ratio for part-time female graduate school enrollment. This relationship will continue through 2013–14.	Middle	28
Doctor's degrees			
Men	The number of doctor's degrees awarded to men is a linear function of the log of the ratio of full-time male graduate school enrollment to the male population of 35- to 44-year-olds, weighted over the the last 4 years (where weights are .4, .3, .2, and .1 for descending lagged years), plus the similar log ratio for part-time male graduate school enrollment. This relationship will continue through 2013–14.	Middle	29
Women	The number of doctor's degrees awarded to women is a linear function of the log of the ratio of full-time female graduate school enrollment to the female population of 35- to 44-year-olds, weighted over the the last 4 years (where weights are .4, .3, .2, and .1 for descending lagged years), plus the similar log ratio for part-time female graduate school enrollment. This relationship will continue through 2013–14.	Middle	29
First-professional degrees			
Men	The number of first-professional degrees awarded to men is a linear function of the log of the ratio of full-time male first-professional school enrollment to the male population of 25- to 34-year-olds, weighted over the last 3 years (where weights are .5, .33, and, .17 for descending lagged years), plus the similar log ratio for part-time male first-professional school enrollment. This relationship will continue through 2013–14.	Middle	30
Women	The number of first-professional degrees awarded to women is a linear function of the log of the ratio of full-time female first-professional school enrollment to the female population of 25- to 34-year-olds, weighted over the last 3 years (where weights are .5, .33, and, .17 for descending lagged years), plus the similar log ratio for part-time female first-professional school enrollment. This relationship will continue through 2013–14.	Middle	30

SOURCE: U.S. Department of Education, National Center for Education Statistics, Degrees Conferred Model, 1975–76 through 2002–03. (This table was prepared October 2004.)

Elementary and Secondary Teachers

Public Elementary and Secondary Teachers

The number of public elementary and secondary teachers was projected separately for the elementary and secondary levels. The number of public elementary teachers was projected using the public elementary student/teacher ratio. The ratio was modeled as a function of local education revenue from state sources per student, and the level of elementary and secondary teacher wages relative to the overall economy-level wages. The number of public elementary teachers was obtained by applying the projected public elementary student/teacher ratio to previously projected enrollment in public elementary schools. The number of public secondary teachers was projected using the public secondary student-teacher ratio. The ratio was modeled as a function of local education revenue from state sources per student and public secondary enrollment relative to the 11- to 18-year-old population. The number of public secondary teachers was obtained by applying the projected public secondary student-teacher ratio to previously projected enrollment in public secondary schools.

The models were estimated using the AR1 model for correcting for autocorrelation, and all variables are in log form. Local education revenue from state sources were in constant 2000 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 teacher model is:

$$\ln(RELENRTCH_t) = b_0 + b_1\ln(RSALARY_t) + b_2 \ln(RSGRNTELENR_t)$$

where:

$RELENRTCH_t$ is the public elementary student/teacher ratio in year t;

$RSALARY_t$ is the average teacher wage relative to the overall economy-level wage in year t; and

$RSGRNTELENR_t$ is the level of education revenue from state sources deflated by the consumer prices chained-price index in constant 2000 dollars per public elementary student in year t.

Each variable affects the public elementary student/teacher ratio in the expected way. As the average teacher wage relative to the overall economy-level wage increases, schools economize on teachers by increasing the student/teacher ratio as teachers are now more expensive to hire. As the level of real grants per elementary student increases, the class size decreases. The more money being devoted to education, the more teachers are hired, thus decreasing the student/teacher ratio.

The public secondary teacher model is:

$$\ln(RSCENRTCH_t) = b_0 + b_1\ln(RSGRNTSCENR_t) + b_2\ln(RSCENRPU_t)$$

where:

$RSCENRTCH_t$ is the public secondary student/teacher ratio in year t;

$RSGRNTSCENR_t$ is the level of education revenue from state sources deflated by the consumer prices chained-price index in constant 2000 dollars per public secondary student in year t; and

$RSCENRPU_t$ is the number of students enrolled in public secondary schools relative to the secondary school-age population in year t.

Each variable affects the public secondary student-teacher ratio in the expected way. As the level of real grants per secondary student increases, the student/teacher ratio decreases. The more money being devoted to education, the more teachers are hired, thus decreasing the student-teacher ratio. As enrollment rates (number of enrolled students relative to the school-age population) increase, the ratio also increases: increases in the enrollment rate are not matched one-for-one in increases in the number of teachers.

Table A17 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 Elementary and Secondary Teachers

Projections of private elementary and secondary teachers were derived in the following manner. From 1960 to 2001, 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 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 the CCD to produce the number of teachers by organizational level.

Projection Accuracy

An analysis of projection errors from the past 14 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 1.0 percent for 1 year out, 1.5 percent for 2 years out, 2.7 percent for 5 years out, and 5.4 percent for 10 years out. For the 2-year-ahead prediction, this means that one would expect the projection to be within 1.5 percent of the actual value, on average. For more information on the MAPEs, see table A2.

Table A17. Equations for public elementary and secondary teachers

Dependent variable	Equation	R^2	Watson statistic[1]	Error distribution pattern[2]	Rho	Time period
Elementary	ln(RELENRTCH) = 3.8 + .1 ln(RSALARY) (5.0) – .2 ln(RSGRNTELENR) (-7.7)	0.99	2.0	AR(1)	0.22 (1.24)	1968 to 2001
Secondary	ln(RSCENRTCH) = 4.1 – .2 ln(RSGRNTSCENR) (-13.3) + .6 ln(RSCENRPU) (4.29)	0.99	1.8	AR(1)	0.61 (3.6)	1973 to 2001

[1]For an explanation of the Durbin-Watson statistic, see J. Johnston and J. Dinardo, *Econometric Methods* , New York: McGraw-Hill, 1996.

[2]AR(1) indicates that the models was estimated using least squares with the AR(1) process for correcting for first-order autocorrelation. 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, pp. 315–318.

Where:

RELENRTCH = Log of the ratio of public elementary school enrollment to classroom teachers (i.e., student/teacher ratio)

RSCENRTCH = Log of the ratio of public secondary school enrollment to classroom teachers (i.e., student/teacher ratio)

RSALARY = Log of the average annual teacher salary relative to the overall economy wage in 2000 dollars

RSGRNTELENR = Log of the ratio of education revenue receipts from state sources per capita to public elementary school enrollment in 2000 dollars

RSGRNTSCENR = Log of the ratio of education revenue receipts from state sources per capita to public secondary school enrollment in 2000 dollars

RSCENRPU = Log of the ratio of enrollment in public secondary schools to the 11- to 18-year-old population

NOTE: R^2 indicates the coefficient of determination. Rho measures the correlation between errors in time period t and time period t minus 1. Numbers in parentheses are t-statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary Teacher Model, 1968–2001. (This table was prepared October 2004.)

Expenditures of Public Elementary and Secondary Schools

Econometric techniques were used to produce the projections for current expenditures and average teacher salaries. 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 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.

Elementary and Secondary School Current Expenditure Model

There is a large body of work, both theoretical and empirical, on the demand for local public services such as education.[1] 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, spending for 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. 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."

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 two types of variables. The model is:

$$\ln(CUREXP_t) = b_0 + b_1\ln(PCI_t) + b_2\ln(SGRNT_t)$$

where:

ln indicates the natural log;

$CUREXP_t$ equals current expenditures of public elementary and secondary schools per pupil in fall enrollment in constant 1982–84 dollars in year t;

PCI_t equals disposable income per capita in constant 2000 dollars in year t; and

$SGRNT_t$ equals local governments' education revenue from state sources, per capita, in constant year 1982–84 dollars in year t. The model used to project this variable is discussed below.

The model was estimated using least squares with the AR(1) process for correcting for autocorrelation. This is the 11th edition of *Projections of Education Statistics* in which AR(1) was used. No correction for autocorrelation had been made in the previous in the prior four editions of *Projections of Education Statistics*. The model was estimated using data from 1969–70 to 2001–02.

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 that local governments receive for education from state governments 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. Data 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

[1] For a discussion of the theory together with a review of some of the older 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. More recent empirical work include: Gamkhar, S. and Oates, W. (1996). Asymmetries in the Response to Increases and Decreases in Intergovernmental Grants: Some Empirical Findings. *National Tax Journal*, *49*(3): 501-512 and Mitias, P. and Turnbull, G. (2001) Grant Illusion, Tax Illusion, and Local Government Spending. *Public Finance Review*. *29*(5): 347-368.

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 A18. Each variable affects current expenditures in the direction that would be expected. With high levels of income (PCI) or revenue from state sources (SGRNT), the level of spending increases.

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. 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 held constant, would result in an increase of current expenditures per pupil in fall enrollment of approximately .73 percent. With PCI held constant, an increase of 1 percent in SGRNT would result in an increase in current expenditures per pupil in fall enrollment of approximately .24 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 previous editions of *Projections of Education Statistics*. First, in those earlier editions, the sample period used to estimate the model began with either 1959–60 or 1967–68 rather than 1969–70. Second, in the earlier editions the model contained an additional variable, the ratio of enrollment to the population. Third, in editions prior to *Projections of Education Statistics to 2011* and *Projections of Education Statistics to 2013,*[2] average daily attendance rather than fall enrollment, was used as the measure of enrollment. This change was made because the definitions of fall enrollment are more consistent from state to state than those of average daily attendance. This change was made due to superior model diagnostics.

There have been other changes to the model used in earlier editions. As with the current expenditure projections in the most recent editions, the population number for each school year is the U.S. Census Bureau's July 1 population number for the upcoming school year. In earlier editions, the school year population numbers were from an economic consulting firm. These changes were made to be consistent with population projections used in producing other projections of education statistics. Also, there have been changes in the definition of disposable income.

Projections for total current expenditures were made by multiplying the projections for current expenditures per pupil in fall enrollment by projections for fall enrollment. The projections for total current expenditures were also divided by projections for average daily attendance to produce projections of current expenditures per pupil in average daily attendance to provide projections that are consistent with those from earlier years. Projections were developed in 1982–84 dollars and then placed in 2002–03 dollars using the Consumer Price Index. Current-dollar projections were produced by multiplying the constant-dollar projections by projections for the Consumer Price Index. The Consumer Price Index and the other economic variables used in calculating the projections presented in this report were placed in school year terms rather than calendar year terms.

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 from state sources.

The alternative sets of projections for the economic variables, including disposable income, were developed using three economic scenarios prepared by the economic consulting firm, Global Insight, Inc.

Global Insight's February 2004 trend scenario was used as a base for the middle alternative projections of the economic variables. Global Insight'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, without major fluctuations.

Global Insight's February 2004 pessimistic scenario was used for the low alternative projections, and Global Insight's February 2004 optimistic scenario was used for the high alternative projections.

In the middle alternative projections, disposable income per capita rises each year from 2004–05 to 2013–14 at rates between 1.6 percent and 3.1 percent. In the low alternative projections, disposable income per capita ranges between 1.2 percent and 2.4 percent, and in the high alternative projections, disposable income per capita rises at rates between 1.8 percent and 3.8 percent.

The alternative projections for revenue from state sources, which form a component of the current expenditures model, were produced using the following model:

$$\ln(SGRNT_t) = b_0 + b_1\ln(PCI_t) + b_2\ln(ENRPOP_t)$$

where:

ln indicates the natural log;

$SGRNT_t$ equals local governments' education revenue

[2] There were no projections of either current expenditures or teacher salaries in *Projections of Education Statistics to 2012*.

from state sources, per capita, in constant 1982–84 dollars in year t;

$ENRPOP_t$ equals the ratio of fall enrollment to the population in year t; and

PCI_t equals disposable income per capita in constant 2000 dollars in year t.

The model was estimated using least squares with the AR(1) process for correcting for autocorrelation. The model was estimated using the period from 1971–72 to 2001–02. These models are shown in table A18.

The values of the coefficients in this model follow expectations. As the enrollment increases relative to the population (higher ENRPOP), so does the amount of aid going to education. Finally, other things being equal, as the value of disposable income per capita in real dollar values (higher PCI) increases, the level of local governments' education revenue from state sources per capita also increases.

The revenue from state sources model varies slightly from the models used in the previous two editions of the *Projections of Education Statistics.* This edition's model dropped the term for personal taxes and nontax receipts (PERTAX1) and the inflation rate term (RCPIANN), and added disposable income per capita (PCI). Also, with this edition, the sample period began in 1971–72 rather than 1967–68. This model specification yielded superior model diagnostics than the model used in the previous two editions of the *Projections of Education Statistics.* As in the past two editions of the *Projections of Education Statistics,* this year's model used the same variable to represent enrollment (ENRPOP). In the earlier editions, models used average daily attendance rather than fall enrollment as the measure of enrollment, and the sample period used to produce the forecast began in 1959–60. As with the current expenditures model, the change to fall enrollment was done because the definition of fall enrollment is more consistent across states, and the change in sample period was done because of superior model diagnostics. Other models in the past have contained a second measure of state and local government revenue. Also in earlier editions, similar models were used except the variables were not in log form. Both of these changes were made because of superior model diagnostics.

Three alternative sets of projections for SGRNT were produced using this model. Each is based on a different set of projections for disposable income per capita. The middle set of projections was produced using the values 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 alternative projections, disposable income per capita rises each year from 2004–05 to 2013–14 at rates between 1.6 percent and 3.1 percent. In the low alternative projections, disposable income per capita ranges between 1.2 percent and 2.4 percent, and in the high alternative projections, disposable income per capita rises at rates between 1.8 percent and 3.8 percent.

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. Instead, 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:

$$\ln(SALRY_t) = b_0 + b_1\ln(CUREXP_t) + b_2\ln(ENRPOP_t) + b_3\ln(ENR_t/ENR1_t)$$

where:

ln indicates the natural log;

$SALRY_t$ equals the estimated average annual salary of all full- and part-time teachers in public elementary and secondary schools in constant 1982–84 dollars in year t;

$CUREXP_t$ equals current expenditures of public elementary and secondary schools per pupil in fall enrollment in constant 1982–84 dollars in year t;

$ENRPOP_t$ equals the ratio of fall enrollment to the population in year t;

ENR_t equals fall enrollment in year t; and

$ENR1_t$ equals fall enrollment in year t-1.

The model was estimated using the period from 1970–71 to 2001–02. The model was estimated using least squares with the AR(1) process for correcting for autocorrelation.

Due to the effects on current expenditures caused by the change in survey forms discussed above, the values for current expenditures for 1969–70 to 1987–88 were increased by 1.4 percent when the salary model was estimated.

The equations and results for this model are also shown in table A18. 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 ENRPOP and ENR/ENR1), demand for teachers may increase, so salaries may increase.

The model used in *Projections of Education Statistics to 2014* differs from those in the last two editions. In those two editions, the enrollment ratio variable was the ratio of enrollment lagged one period to enrollment lagged two periods. The models used for the five editions of *Projections of Education Statistics* before that were identical to those used in the two prior editions, except that average daily attendance was used rather than fall enrollment as the measure of enrollment, and the sample period used to produce the forecast began in 1959–60 rather than 1969–70. As with the current expenditures model, the change to fall enrollment was done because the definition of fall enrollment is more consistent across states.

Beginning with the *Projections of Education Statistics to 2006,* variables were in log form. In earlier editions, they were not.

As with current expenditures, three different scenarios are presented for teacher salaries. The same projections for ENRPOP and ENR 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; analysis 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 1987–88 until 2013–14 (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 1987–88 to 36 percent in 2002–03. With the projected values, the portion of current expenditures that goes toward teacher salaries continues to fall slowly, to 33 percent in 2013–14. The results of this analysis indicate that the projections of these three time series are consistent.

Projection Accuracy

Fourteen of the last 15 editions of *Projections of Education Statistics* 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 1982–84 dollars using the Consumer Price Indices that appeared in each edition.

In most of the earlier editions of *Projections of Education Statistics,* average daily attendance rather than fall enrollment was used as the measure of enrollment in the calculation of the current expenditure per pupil projection. However, projections of current expenditures per fall enrollment were presented in most of these earlier editions, and projections of fall enrollment were presented in all of these earlier editions. As a result, the projected values of both current expenditures per pupil in fall enrollment and current expenditures per pupil in average daily attendance can be compared to their respective actual values.

Similar sets of independent variables have been used in the production of the current expenditure projections presented in the last 12 editions of *Projections of Education Statistics*, including this one. The one major change is that in all the earlier editions the set of variables included the ratio of the number of students to the population. There have also been some differences in the construction of the variables. First, as noted, average daily attendance was used in most of the previous editions rather than fall enrollment. Second, in *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. Third, there have been two revisions in the disposable income time series, the first affecting the *Projections of Education Statistics to 2004* and the second, *Projections of Education Statistics to 2007*. Fourth, in the more recent editions, including this one, the U.S. Bureau of the Census's July 1 number for the population has been used. In the earlier editions, an average of the quarterly values was used. Fifth, in the more recent editions, the U.S. Census Bureau's population projections have been used. In the earlier editions, the population projections came from an economic consulting firm.

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.

Several commonly used statistics can be used to evaluate projections. The values for one of these, the mean absolute percentage error (MAPE), are presented in table A2. MAPEs of expenditure projections are presented for total current expenditures, current expenditures per pupil in fall enrollment, current expenditures per pupil in average daily attendance, and teacher salaries.

To calculate the MAPEs presented in table A2, 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 separate average for each lead time. These means are the MAPEs. Table A2 contains a series of MAPEs for each dependent 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 1 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 2 years. The value that appeared for 1989–1990 was from NCES *Early Estimates*. Only those projections that appeared in an edition of *Projections of Education Statistics* were used in this evaluation.

Projections for teacher salaries also appeared in 14 of the last 15 editions of *Projections of Education Statistics*. In these earlier editions, average daily attendance rather than fall enrollment was used as the measure of enrollment. Beginning with *Projections of Education Statistics to 2006*, all the variables for the teacher salary model 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.

Sources of Past and Projected Data

Data from several different sources were used to produce the projections in this report. 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 1969–70 to 1975–76, the numbers for current expenditures were taken from various issues of *Statistics of State School Systems*, published by NCES. 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 2001–02, the data are 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 data 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 U.S. Census Bureau'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.

Projections for average daily attendance for the period from 2002–03 to 2013–14 were made by multiplying the projections for enrollment by the average value of the ratios of average daily attendance to the enrollment from 1990–91 to 2001–02; this average value was approximately .93.

The values for fall enrollment from 1979–80 to 2001–02 were taken from the NCES Common Core of Data survey. The projections for fall enrollment are those presented in chapter 1 of this publication.

For 1969–70 to 2001–02, the sources for revenue 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 from state sources are outlined above.

The estimates for average teacher salaries were taken from various issues of the National Education Association's *Estimates of School Statistics*. These numbers come from their annual survey of states.

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 projections developed by Global Insight's U.S. Quarterly Model. Projected values of the Consumer Price Index for all urban consumers, which was used for adjusting current expenditures, teacher salaries, revenue from state sources, and the

state revenue variables, were also developed using the U.S. Quarterly Model.

The U.S. Census Bureau supplied both the historical and projected values for the population.

The values of all the variables from Global Insight were placed in school-year terms. The school-year numbers were calculated by taking the average of the last two quarters of one 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. This index could not be used because the required projections of the index are not available. There are other price indexes, such as the implicit price deflator for state and local government purchases, which could have been used instead of the Consumer Price Index. These alternatives would have produced somewhat different projections.

Table A18. Equations for current expenditures per pupil in fall enrollment, estimated average annual salaries of teachers, and education revenue from state sources

Dependent variable	Equation	R^2	Durbin-Watson statistic[1]	Error distribution pattern[2]	Rho	Time period
Current expenditures per pupil	ln(CUREXP) = – 0.5 + 0.7ln(PCI) (5.1) + 0.2ln(SGRANT) (2.5)	0.99	1.4	AR(1)	0.82 (11.2)	1969–70 to 2001–02
Estimated average annual salaries	ln(SALRY) = 7.4 + 0.8ln(CUREXP) (5.6) + 0.5ln(ENRPOP) (2.1) + 1.3ln(ENR/ENR1) (2.4)	0.96	1.58	AR(1)	0.98 (31.2)	1970–71 to 2001–02
Education revenue from state sources per capita	ln(SGRNT) = – .3 + 1.3ln(PCI) (16.1) + 0.7ln(ENRPOP) (5.0)	0.98	1.87	AR(1)	0.49 (3.0)	1971–72 to 2001–02

[1]For an explanation of the Durbin-Watson statistic, see J. Johnston and J. Dinardo, *Econometric Methods,* New York: McGraw-Hill, 1996.

[2]AR(1) indicates that the models was estimated using least squares with the AR(1) process for correcting for first-order autocorrelation. For a general discussion of the problem of autocorrelation, and the method used to forecast when correcting for 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, pp. 315–318.

Where:

CUREXP = Current expenditures of public elementary and secondary schools per pupil in fall enrollment in constant 1982–84 dollars

SALRY = Average annual salary of teachers in public elementary and secondary schools in constant 1982–84 dollars

SGRANT = Local governments' education revenue from state sources, per capita, in constant 1982–84 dollars

PCI = Disposable income per capita in constant 2000 chained dollars

ENRPOP = Ratio of fall enrollment to the population

ENR = Fall enrollment

ENR1 = Fall enrollment lagged one period

NOTE: R^2 indicates the coefficient of determination. Rho measures the correlation between errors in time period t and time period t minus 1. Numbers in parentheses are t-statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics; Elementary and Secondary School Current Expenditures Model, 1969–70 through 2001–02; Elementary and Secondary Teacher Salary Model, 1970–71 through 2001–02; and Revenue Receipts from State Sources Model, 1971–72 through 2001–02. (This table was prepared October 2004.)

Expenditures of Public Degree-Granting Postsecondary Institutions

One current-fund expenditure model and one educational and general expenditure model were estimated for each of two types of degree-granting institutions—public 4-year and public 2-year. Projections are presented for public institutions only, because financial surveys of private institutions have been redesigned and there are not enough data to model with the new accounting method.

The degree-granting institution 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.

Degree-Granting Institutions Expenditure Models

Similar econometric models were developed for the two types of public institutions, 4-year and 2-year. Each of the models presented here contains variables measuring at least two of the following three factors historically associated with the level of expenditures: (1) the state of the economy; (2) the inflation rate; and (3) enrollments. Revenues of state and local governments per capita were used to measure the state of the economy, and a dummy for years with inflation rates greater than 8 percent was used in the models for public 4-year institutions. In each model, 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 expost mean absolute percentage errors. The final specification of each model has the dependent variables and some of the independent variables as first differences.

Public 4-Year Institutions Expenditure Models

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

$$DPUTCUR4_t = b_0 + b_1 DDSTREV_t + b_2 DPUFTE4_t + b_3 DUMMY_t$$

where:

$DPUTCUR4_t$ is the change from the year t-1 to year t in current-fund expenditures per student in full-time-equivalent (FTE) enrollment in public 4-year institutions in constant 1982–84 dollars;

$DDSTREV_t$ is the change from the year t-2 to year t-1 in the sum of personal tax and nontax receipts for state and local governments and indirect business taxes and tax accruals, excluding property taxes, for state and local governments, per capita, in constant 1982–84 dollars;

$DPUFTE4_t$ is the change from the year t-1 to year t in FTE enrollment in public 4-year institutions in thousands of students; and

$DUMMY_t$ is a dummy variable equaling 1 if the inflation rate in year t 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 2000–01. Ordinary least squares was used to estimate all the public institution models.

The results for this model are in table A19. 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 is available 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 the economic consulting firm, Global Insight, Inc.

In the middle set of alternative projections, the revenues of state and local governments per capita

increase at rates between 1.4 percent and 5.6 percent from 2003–04 to 2013–14. In the low set of alternative projections, the revenues of state and local governments per capita increase at rates between 0.9 and 5.5 percent. In the high set of alternative projections, the revenues of state and local governments per capita increase at rates between 2.5 percent and 6.9 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 2002–03 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.

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:

$$DPUED4_t = b_0 + b_1DDSTREV_t + b_2DPUFTE4_t + b_3DUMMY_t$$

where:

$DPUED4_t$ is the change from the year t-1 to year t 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 A19.

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

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:

$$DPUTCUR2_t = b_0 + b_1DDSTREV_t + b_2DPUFTE2_t$$

where:

$DPUTCUR2_t$ is the change from the year t-1 to year t in current-fund expenditures per student in FTE enrollment in public 2-year institutions in constant 1982–84 dollars; and

$DPUFTE2_t$ is the change from the year t-1 to year t in FTE enrollment in public 2-year institutions in thousands of students.

The results for this model are in table A19. Again, DDSTREV 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 expenditure counterpart. It is:

$$DPUED2_t = b_0 + b_1DDSTREV_t + b_2DPUFTE2_t$$

where:

$DPUED2_t$ is the change from the year t-1 to year t 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 A19.

Projection Accuracy

The majority of editions of *Projections of Education Statistics* in the past two decades had projections of expenditures of postsecondary institutions data. The projections that appeared in recent editions of *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 substantially different models.

Several commonly used statistics can be used to evaluate projections. The values for one of these, the mean absolute percentage error (MAPE), are presented in table A2. MAPEs are presented for current-fund expenditures in public 4-year and public 2-year institutions. The MAPEs were calculated using projections from the last nine editions of the *Projections of Education Statistics*.

To calculate the MAPEs, 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 separate average for each lead time. These means are the MAPEs.

Sources of Data

The current-fund expenditure data and the educational and general expenditure data are from 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 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 components 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. FTE enrollment was derived by adding one-third of part-time enrollment to total full-time-enrollment.

Between the *Projections of Education Statistics to 2013* and this year's edition to 2014, there were some redefinitions in Global Insight's U.S. Macro Model. In the government sector, tax receipts no longer include social insurance contributions/taxes. Total taxes are the sum of personal and corporate income taxes, and taxes on production and imports. Thus, the old total tax receipt concepts are more comparable to current total receipts than to total tax receipts. Personal tax receipts have been reduced by the shift of some receipts from taxes to personal current transfers. Receipts formerly classified as negative expenditures have been reclassified as receipts. Thus, both receipts and expenditures are higher than before. Net government saving has not changed. These changes affected the levels of the state revenue variable used in both the 2-year and 4-year current expenditure models; however, both the historical and forecast data were revised such that the data used throughout the models are consistent over time. The newly defined variables have the same desired effect on expenditures as the earlier models.

Table A19. Equations for current-fund expenditures per full-time-equivalent enrollment and educational and general expenditures per full-time-equivalent enrollment in public 4-year institutions and public 2-year institutions

Dependent variable	Equation	R^2	Durbin-Watson statistic[1]	Error distribution pattern[2]	Time period
Current-fund expenditures per student in public 4-year institutions	DPUTCUR4 = 289.74 (4.48) + 2.12DDSTREV (2.33) – 1.68DPUFTE4 (-3.73) - 257DUMMY (-2.67)	0.537	1.19	AR(0)	1968–69 to 2000–01
Current-fund expenditures per student in public 2-year institutions	DPUTCUR2 = 47.94 (1.84) + 1.95DDSTREV (4.7) – 0.85DPUFTE2 (-5.54)	0.725	1.90	AR(0)	1968–69 to 2000–01
Educational and general expenditures per student in public 4-year institutions	DPUED4 = 204.97 (2.93) + 2.38DDSTREV (2.42) – 1.64DPUFTE4 (-3.35) - 223DUMMY (-2.14)	0.492	1.09	AR(0)	1968–69 to 2000–01
Educational and general expenditures per student in public 2-year institutions	DPUED2 = 41.9 (1.51) + 1.97DDSTREV (4.46) – 0.73DPUFTE2 (-4.44)	0.665	1.64	AR(0)	1968–69 to 2000–01

[1]For an explanation of the Durbin-Watson statistic, see J. Johnston and J. Dinardo, *Econometric Methods,* New York: McGraw-Hill, 1996.

[2]AR(0) indicates that the models was estimated using least squares with no for correcting for autocorrelation. For a general discussion of the problem of autocorrelation, and the method used to forecast when correcting for 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, pp. 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

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

DDSTREV = Change in the 2 years prior to the current year in the sum of personal tax receipts for state and local governments, and total state and local government tax

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

DUMMY = Dummy variable equaling 1 when the inflation rate is greater than 8 percent and 0 otherwise

SOURCE : U.S. Department of Education, National Center for Education Statistics, Higher Education Expenditure Models, 1968–69 to 2000–01. (This table was prepared October 2004.)

Appendix B
Supplementary Tables

Table B1. Annual number of births: 1946 to 2002

Calendar year	Number of births, in thousands	Calendar year	Number of births, in thousands
1946	3,426	1975	3,144
1947	3,834	1976	3,168
1948	3,655	1977	3,327
1949	3,667	1978	3,333
1950	3,645	1979	3,494
1951	3,845	1980	3,612
1952	3,933	1981	3,629
1953	3,989	1982	3,681
1954	4,102	1983	3,639
1955	4,128	1984	3,669
1956	4,244	1985	3,761
1957	4,332	1986	3,757
1958	4,279	1987	3,809
1959	4,313	1988	3,910
1950	4,307	1989	4,041
1961	4,317	1990	4,158
1962	4,213	1991	4,111
1963	4,142	1992	4,065
1964	4,070	1993	4,000
1965	3,801	1994	3,953
1966	3,642	1995	3,900
1967	3,555	1996	3,891
1968	3,535	1997	3,881
1969	3,626	1998	3,942
1970	3,739	1999	3,959
1971	3,556	2000	4,059
1972	3,258	2001	4,026
1973	3,137	2002	4,022
1974	3,160		

NOTE: Some data have been revised from previously published figures.

SOURCE: 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, National Vital Statistics Reports. (This table was prepared October 2004.)

Table B2. Actual and projected numbers for preprimary school-age populations (U.S. Census projections, Middle series): 1989 to 2014

[In thousands]

Year (July 1)	3- to 5-year-olds	3-year-olds	4-year-olds	5-year-olds
Actual				
1989	10,874	3,646	3,669	3,559
1990	11,040	3,660	3,699	3,681
1991	11,151	3,723	3,722	3,707
1992	11,346	3,824	3,790	3,732
1993	11,692	3,989	3,898	3,805
1994	12,001	4,023	4,066	3,912
1995	12,188	4,004	4,103	4,081
1996	12,141	3,936	4,086	4,119
1997	12,019	3,894	4,021	4,104
1998	11,880	3,862	3,979	4,040
1999	11,768	3,827	3,946	3,996
2000	11,681	3,815	3,915	3,951
2001	11,598	3,836	3,829	3,933
2002	11,525	3,828	3,850	3,847
Projected				
2003	11,589	3,879	3,842	3,868
2004	11,831	4,067	3,905	3,859
2005	12,062	4,073	4,075	3,914
2006	12,266	4,101	4,081	4,084
2007	12,331	4,133	4,109	4,089
2008	12,427	4,170	4,140	4,116
2009	12,534	4,209	4,177	4,148
2010	12,650	4,250	4,216	4,184
2011	12,772	4,293	4,256	4,223
2012	12,901	4,338	4,300	4,263
2013	13,033	4,381	4,345	4,307
2014	13,160	4,420	4,388	4,352

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Estimates and Projections* (September 2004). (This table was prepared October 2004.)

Table B3. Actual and projected numbers for school-age populations (U.S. Census projections, Middle series), ages 5, 6, 5 to 13, and 14 to 17: 1989 to 2014

[In thousands]

Year (July 1)	5-year-olds	6-year-olds	5- to 13-year-olds	14- to 17-year-olds
Actual				
1989	3,559	3,625	31,412	13,535
1990	3,681	3,563	32,030	13,330
1991	3,707	3,686	32,609	13,491
1992	3,732	3,715	33,199	13,775
1993	3,805	3,743	33,761	14,096
1994	3,912	3,814	34,217	14,637
1995	4,081	3,919	34,825	15,013
1996	4,119	4,088	35,375	15,443
1997	4,104	4,127	35,915	15,769
1998	4,040	4,112	36,454	15,829
1999	3,996	4,045	36,804	16,007
2000	3,951	4,017	37,038	16,092
2001	3,933	3,969	37,059	16,181
2002	3,847	3,951	36,952	16,320
Projected				
2003	3,868	3,865	36,752	16,522
2004	3,859	3,840	36,266	16,897
2005	3,914	3,869	35,968	17,175
2006	4,084	3,923	35,907	17,306
2007	4,089	4,092	35,909	17,289
2008	4,116	4,098	36,012	17,060
2009	4,148	4,124	36,186	16,801
2010	4,184	4,155	36,439	16,566
2011	4,223	4,192	36,805	16,318
2012	4,263	4,230	37,229	16,134
2013	4,307	4,271	37,670	16,023
2014	4,352	4,315	38,106	16,011

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Estimates and Projections* (September 2004). (This table was prepared October 2004.)

Table B4. Actual and projected numbers for college-age populations (U.S. Census projections, Middle series), ages 18, 18 to 24, 25 to 29, 30 to 34, and 35 to 44: 1989 to 2014

[In thousands]

Year (July 1)	18-year-olds	18- to 24-year-olds	25- to 29-year-olds	30- to 34-year-olds	35- to 44-year-olds
Actual					
1989	3,888	27,378	21,690	21,759	36,494
1990	3,609	27,062	21,402	22,023	37,866
1991	3,410	26,655	21,044	22,387	39,413
1992	3,354	26,282	20,591	22,564	40,046
1993	3,455	26,102	20,146	22,646	40,975
1994	3,428	25,821	19,809	22,648	41,877
1995	3,601	25,585	19,742	22,425	42,765
1996	3,650	25,376	19,927	21,996	43,605
1997	3,780	25,574	19,960	21,494	44,282
1998	3,984	26,155	19,863	20,999	44,802
1999	3,993	26,780	19,632	20,647	45,130
2000	4,062	27,387	19,300	20,610	45,183
2001	4,056	28,009	19,015	20,750	45,098
2002	4,049	28,553	18,949	20,849	44,797
Projected					
2003	4,098	28,997	19,218	20,741	44,420
2004	4,153	29,117	19,350	20,311	43,932
2005	4,157	29,241	19,804	19,885	43,651
2006	4,233	29,372	20,360	19,493	43,378
2007	4,316	29,616	20,811	19,382	42,929
2008	4,446	29,980	21,161	19,531	42,338
2009	4,429	30,342	21,362	19,873	41,672
2010	4,356	30,565	21,426	20,310	41,168
2011	4,293	30,692	21,462	20,849	40,889
2012	4,212	30,739	21,536	21,288	40,789
2013	4,168	30,671	21,682	21,630	40,794
2014	4,122	30,478	21,929	21,828	40,829

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Estimates and Projections* (September 2004). (This table was prepared October 2004.)

Table B5. Actual and projected numbers for fall enrollment in public elementary and secondary schools, change in fall enrollment, the population, and fall enrollment as a proportion of the population: 1988–89 to 2013–14

School year ending	Fall enrollment (in thousands)	Change in fall enrollment (in thousands)	Population (in millions)	Fall enrollment as a ratio of the population
Actual				
1989	40,188	180	245.0	0.164
1990	40,543	355	247.3	0.164
1991	41,217	674	250.1	0.165
1992	42,047	830	253.5	0.166
1993	42,823	776	256.9	0.167
1994	43,465	642	260.3	0.167
1995	44,111	647	263.4	0.167
1996	44,840	729	266.6	0.168
1997	45,611	771	269.7	0.169
1998	46,127	516	272.9	0.169
1999	46,539	412	276.1	0.169
2000	46,857	319	279.3	0.168
2001	47,204	346	282.4	0.167
2002	47,672	468	285.3	0.167
2003	48,202	530	288.2	0.167
Projected				
2004	48,213	11	291.0	0.166
2005	48,270	57	293.0	0.165
2006	48,375	105	295.7	0.164
2007	48,574	199	298.4	0.163
2008	48,664	89	301.1	0.162
2009	48,696	32	303.8	0.160
2010	48,740	44	306.5	0.159
2011	48,842	102	309.2	0.158
2012	49,004	162	311.8	0.157
2013	49,248	244	314.5	0.157
2014	49,584	336	317.2	0.156

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Estimates and Projections* (September 2004); U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1988–89 through 2002–03; and Elementary and Secondary Enrollment Model, 1972–2002. (This table was prepared October 2004.)

Table B6. Actual and alternative projected numbers for macroeconomic measures of the economy: Fiscal years 1988–89 to 2013–14

School year ending	Disposable income per capita[1]	Education revenue receipts from state sources per capita[2]	Consumer Price Index	Rate of change for the inflation rate
Actual				
1989	$22,035	$563	0.666	0.109
1990	22,317	570	0.697	0.046
1991	22,253	573	0.735	0.145
1992	22,400	566	0.759	-0.418
1993	22,634	564	0.783	-0.021
1994	22,722	562	0.803	-0.159
1995	23,193	587	0.826	0.085
1996	23,446	604	0.848	-0.043
1997	23,933	622	0.873	0.043
1998	24,802	650	0.889	-0.369
1999	25,647	679	0.903	-0.038
2000	26,262	711	0.930	0.673
2001	26,819	735	0.962	0.187
2002	27,433	741	0.979	-0.487
2003	27,768	762	1.000	0.260
Middle alternative projections				
2004	28,466	780	1.018	-0.176
2005	29,185	801	1.030	-0.349
2006	29,815	818	1.045	0.181
2007	30,746	847	1.062	0.195
2008	31,394	865	1.085	0.246
2009	31,926	878	1.108	0.038
2010	32,461	891	1.134	0.097
2011	32,981	904	1.164	0.107
2012	33,523	919	1.196	0.044
2013	34,210	941	1.228	-0.008
2014	35,019	967	1.264	0.047
Low alternative projections				
2004	28,447	779	1.018	-0.177
2005	28,994	794	1.031	-0.333
2006	29,343	802	1.047	0.312
2007	30,056	823	1.069	0.286
2008	30,496	834	1.096	0.259
2009	30,847	841	1.126	0.053
2010	31,225	849	1.158	0.048
2011	31,634	858	1.195	0.113
2012	32,049	869	1.234	0.045
2013	32,630	886	1.276	0.020
2014	33,294	908	1.321	0.033
High alternative projections				
2004	28,477	780	1.018	-0.178
2005	29,371	807	1.030	-0.359
2006	30,327	836	1.044	0.186
2007	31,479	872	1.062	0.204
2008	32,264	895	1.084	0.269
2009	32,994	915	1.108	0.041
2010	33,735	935	1.136	0.149
2011	34,377	953	1.169	0.132
2012	34,979	970	1.200	-0.037
2013	35,809	996	1.231	-0.082
2014	36,825	1,030	1.262	0.015

[1]In 2002–03 dollars based on the price deflator for personal consumption expenditures, Bureau of Labor Statistics, U.S. Department of Labor.

[2]In 2002–03 dollars 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. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 1988–89 through 2002–03; Revenue Receipts From State Sources Model, 1971–72 through 2001–02; and Global Insight, Inc., "U.S. Quarterly Model: February 2004 Long-Term-Projections." (This table was prepared October 2004.)

Table B7. Actual and alternative projected numbers for measures of state and local government revenues: Fiscal years 1988–89 to 2013–14

School year ending	Personal tax and nontax payments per capita[1]	Indirect business taxes and tax accruals per capita[1]	Tax and nontax payments per capita[1]
Actual			
1989	$680	$2,032	$2,712
1990	680	2,004	2,684
1991	672	1,962	2,634
1992	676	1,988	2,664
1993	686	2,014	2,700
1994	692	2,064	2,756
1995	704	2,105	2,809
1996	723	2,140	2,863
1997	742	2,167	2,908
1998	794	2,255	3,050
1999	828	2,317	3,144
2000	881	2,403	3,284
2001	903	2,393	3,296
2002	800	2,255	3,055
2003	764	2,222	2,985
Middle alternative projections			
2004	818	2,336	3,154
2005	859	2,465	3,323
2006	883	2,532	3,415
2007	900	2,599	3,499
2008	919	2,642	3,560
2009	938	2,673	3,611
2010	962	2,716	3,678
2011	990	2,766	3,757
2012	1,020	2,820	3,840
2013	1,054	2,885	3,939
2014	1,094	2,959	4,054
Low alternative projections			
2004	817	2,333	3,150
2005	852	2,432	3,284
2006	868	2,475	3,344
2007	880	2,531	3,411
2008	892	2,556	3,448
2009	905	2,573	3,479
2010	923	2,605	3,528
2011	946	2,643	3,589
2012	970	2,682	3,652
2013	997	2,727	3,724
2014	1,028	2,785	3,813
High alternative projections			
2004	819	2,341	3,160
2005	869	2,508	3,377
2006	906	2,616	3,522
2007	931	2,702	3,633
2008	966	2,775	3,741
2009	1,004	2,835	3,839
2010	1,037	2,897	3,934
2011	1,080	2,968	4,048
2012	1,123	3,037	4,160
2013	1,177	3,144	4,321
2014	1,244	3,272	4,515

[1]In 2002–03 dollars 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. Some data have been revised from previously published figures.
SOURCE: Global Insight, Inc., "U.S. Quarterly Model: February 2004 Long-Term-Projections." (This table was prepared October 2004.)

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 on the survey.

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 of the surveys, universe and sample, are subject to errors of design, reporting, and 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. 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 similar to those of the respondent.

Although the magnitude of nonsampling errors in the data used in *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 from each of the 50 states, the District of Columbia, the Bureau of Indian Affairs, Department of Defense Dependents' Schools (overseas), and the outlying areas. Information about staff and students is collected annually at the school, local education agency or school district (LEA), and state levels. Information about revenues and expenditures is also collected at the state and LEA levels.

Data are collected for a particular school year (July 1 through June 30) via survey instruments sent to the state education agencies during the school year. States have 1 year in which to modify the data originally submitted.

Since the CCD is a universe survey, the CCD information presented in this edition of the *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 six CCD survey instruments each year, but submissions are sometimes incomplete or too late for publication.

Understandably, when 58 education agencies compile and submit data for approximately 95,000 public schools and 17,000 local school districts, misreporting can occur. Typically, this results from varying interpretations of NCES definitions and differing recordkeeping systems. NCES attempts to minimize these errors by working closely with the state education agencies through the National Forum on Education Statistics.

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 revise their state-level aggregates from the previous survey cycle.

Further information on the CCD may be obtained from

John Sietsema
Elementary/Secondary Cooperative System and Institutional Studies Division (ESCSISD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
John.Sietsema@ed.gov
http://nces.ed.gov/ccd/

Private School Universe Survey

The purposes of Private School Survey (PSS) data collection activities are to build an accurate and complete list of private schools to serve as a sampling frame for NCES sample surveys of private schools, and to report data on the total number of private schools, teachers, and students in the survey universe. The PSS is conducted every 2 years, with collections in the 1989–90, 1991–92, 1993–94, 1995–96, 1997–98, 1999–2000, 2001–02, and 2003–04 school years.

The PSS produces data similar to that of the CCD for public schools and can be used for public-private comparisons. The data are useful for a variety of policy and research-relevant issues, such as the growth of religiously affiliated schools, the number of private high school graduates, the length of the school year for various private schools, and the number of private school students and teachers.

The target population for the universe survey consists of all private schools in the United States that meet NCES criteria of a school (e.g., a private school is an institution that provides instruction for any of grades K through 12, has one or more teachers to give instruction, is not administered by a public agency, and is not operated in a private home). The survey universe is composed of schools identified from a variety of sources. The main source is a list frame, initially developed for the 1989–90 PSS. The list is updated regularly, matching it with lists provided by nationwide private school associations, state departments of education, and other national guides and sources that list private schools. The other source is an area frame

search in approximately 120 geographic areas, conducted by the Bureau of the Census.

Further information on the PSS may be obtained from

Steve Broughman
Elementary/Secondary Sample Survey Studies program (ESLSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Stephen.Broughman@ed.gov
http://nces.ed.gov/surveys/pss/

Integrated Postsecondary Education Data System

The Integrated Postsecondary Education Data System (IPEDS) surveys approximately 10,000 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, replaced the Higher Education General Information Survey (HEGIS).

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 instructional activity; Fall Enrollment, including age and residence; Completions; Finance; Staff; Salaries of Full-Time Instructional Faculty; Student Financial Aid; and Graduation Rate.

The degree-granting institutions portion of this survey is a census of colleges awarding associates or higher degrees and that were eligible to participate in Title IV financial aid programs. Prior to 1993, data from the technical and vocational institutions were collected through a sample survey. Beginning in 1993, all data were gathered in a census of all postsecondary institutions. The IPEDS tabulations developed for this edition of *Projections of Education Statistics* are based on lists of all institutions and are not subject to sampling errors.

The definition of institutions generally thought of as offering college and university education has been changed in recent years. The old standard for higher education institutions included those institutions that had courses that led to an associate degree or higher, or were accepted for credit towards those degrees. The higher education institutions were accredited by an agency or association that was recognized by the U.S. Department of Education or recognized directly by the Secretary of Education. The current category includes institutions that award associate or higher level degrees that are eligible to participate in Title IV federal financial aid programs. The impact of this change has generally not been large. For example, tables on faculty salaries and benefits were only affected to a very small extent. Also, degrees awarded at the bachelor's level or higher were not heavily affected. Most of the data on public 4-year colleges has been affected only to a minimal extent. The impact on enrollment in public 2-year colleges was noticeable in certain states, but relatively small at the national level. The largest impact has been on private 2-year college enrollment. Overall, enrollment for all institutions was about one-half of a percent higher for degree-granting institutions compared to the total for higher education institutions.

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 accredited at the college level by an agency recognized by the Secretary of the U.S. Department of Education. These institutions were listed in the NCES publication *Education Directory, Colleges and Universities*.

HEGIS surveys solicited information concerning institutional characteristics, faculty salaries, finances, enrollment, and degrees. Since these surveys were distributed to all higher education institutions, the data presented are not subject to sampling error. However, they are subject to nonsampling error, the sources of which varied with the survey instrument. Information concerning the nonsampling error of the enrollment and degrees surveys draws extensively on the *HEGIS Post-Survey Validation Study* conducted in 1979.

Further information on IPEDS may be obtained from

Susan Broyles
Postsecondary Institutional Studies Program (PSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Susan.Broyles@ed.gov
http://nces.ed.gov/ipeds/

Institutional Characteristics This survey provides the basis for the universe of institutions presented in the *Directory of Postsecondary Institutions*. The survey collects basic information necessary to classify the institutions, including control, level, and kinds of programs, and information on tuition, fees, and room and board charges. Beginning in 2000, the survey collected institutional pricing data from institutions with first-time, full-time, degree/certificate-seeking undergraduate students. Unduplicated full-year enrollment counts and instructional activity are now collected on the Fall Enrollment survey. The overall response rate was 99.2 percent for Title IV degree-granting institutions in 2002.

Further information may be obtained from

Patricia Brown
Postsecondary Institutional Studies Program (PSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Patricia.Brown@ed.gov
http://nces.ed.gov/ipeds/

Fall Enrollment This survey has been part of the HEGIS and IPEDS series since 1966. The enrollment survey response rate is relatively high. The 2002 overall response rate was 99.6 percent for degree-granting institutions. Beginning in 2000, the data collection method was web-based, replacing the paper survey forms that had been used in past years. Imputation methods and response bias analysis for the 2001–02 survey are discussed in *Enrollment in Postsecondary Institutions, Fall 2002 and Financial Statistics, Fiscal Year 2002* (NCES 2005–168). Major sources of nonsampling error for this survey, as identified in the 1979 report, 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 and other first–time 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 IPEDS (see above). The survey allows (in alternating years) for the collection of age and residence data. In 2000, the Fall Enrollment survey collected the instructional activity and unduplicated headcount data, which are needed to compute a standardized, full-time-equivalent (FTE) enrollment statistic for the entire academic year. Starting in 2001, unduplicated headcounts by level of student, and by race/ethnicity and gender of student were also requested, as well as the total number of students in the entering class.

Further information may be obtained from

Cathy Statham
Postsecondary Institutional Studies Program (PSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Cathy.Statham@ed.gov
http://nces.ed.gov/ipeds/

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 comparison. The nonresponse rate did not appear to be a significant source of nonsampling error for this survey. The return rate over the years has been high, with the degree–granting institutions response rate for the 2001–02 survey at 98.9 percent. The overall response rate for the non-degree-granting institutions was 93.2 percent in 2001–02. Because of the high return rate for the degree-granting institutions, nonsampling error caused by imputation was also minimal. Imputation methods and response bias analysis for the 2001–02 survey are discussed in *Postsecondary Institutions in the United States: Fall 2002 and Degrees and Other Awards Conferred: 2001–02* (NCES 2004–154).

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, operational problems, and survey timing. In the 1979 HEGIS validation study, these sources of nonsampling error contributed 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 Ph.D. 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 Ph.D. programs in business and commerce, and in distributive education (5 percent and 9 percent); master's programs in philosophy (8 percent); and Ph.D. programs in psychology (11 percent).

Further information on IPEDS Completions surveys may be obtained from

Andrew Mary
Postsecondary Institutional Studies Program (PSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Andrew.Mary@ed.gov
http://nces.ed.gov/ipeds/

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 the categories of federal restricted grants and contracts revenues, and restricted scholarships and fellowships expenditures. The introduction of 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 years. The response rate for the FY 2002 survey was 98.7 percent for degree-granting institutions. Because of the higher response rate for public colleges (99.7 percent for public 4-year and 98.5 percent for public 2-year, compared to 98.7 percent for not-for-profit 4-year and 98.4 percent for not-for-profit 2-year), it is probable that the public colleges' data are more accurate than the data for private colleges. Imputation methods and response bias analysis for the 2001–02 survey are discussed in *Enrollment in Postsecondary Institutions, Fall 2002 and Financial Statistics, Fiscal Year 2002* (NCES 2005–168).

Two general methods of imputation were used in HEGIS. If the prior year's 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 no previous year's data were available, current data were used from peer institutions selected for location (state or region), control, level, and enrollment size. In most cases, estimates for nonreporting institutions in IPEDS were made using data from peer institutions.

Beginning with FY 87, the IPEDS survey system included all postsecondary institutions, but maintained comparability with earlier surveys by allowing 2- and 4-year institutions to be tabulated separately. For FY 87 through FY 91, in order to maintain comparability with the historical time series of HEGIS institutions, data were combined from two of the three different survey forms that make up the IPEDS survey system. The vast majority of the data were tabulated from form 1, which was used to collect information from public and private not-for-profit 2- and 4-year colleges. Form 2, a condensed form, was used to gather data from 2-year for-profit institutions. Because of the differences in the data requested on the two forms, several assumptions were made about the form 2 reports so that their figures could be included in the degree-granting institutions totals.

In IPEDS, the form 2 institutions were not asked to separate appropriations from grants and contracts, nor state from local sources of funding. For the form 2 institutions, all the federal revenues were assumed to be federal grants and contracts, and all of the state and local revenues were assumed to be restricted state grants and contracts. All other form 2 sources of revenue, except for tuition and fees, and sales and services of educational activities, were included under "other." Similar adjustments were made to the expenditure accounts. The form 2 institutions reported instruction and scholarship and fellowship expenditures only. All other educational and general expenditures were allocated to academic support.

To reduce reporting error, NCES uses 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 form are consistent with those in these four accounting texts.

Further information on IPEDS Financial Statistics surveys may be obtained from

Cathy Statham
Postsecondary Institutional Studies Program (PSD)
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
Cathy.Statham@ed.gov
http://nces.ed.gov/ipeds/

Bureau of the Census

Current Population Survey

Prior to July 2001, estimates of school enrollment rates, as well as social and economic characteristics of students, were based on data collected in the Census

Bureau's monthly household survey of about 50,000 dwelling units. Beginning in July 2001, this sample was expanded to 60,000 dwelling units. The monthly Current Population Survey (CPS) sample consists of 754 areas comprising 2,007 geographic areas, independent cities, and minor civil divisions throughout the 50 states and the District of Columbia. The samples are initially selected based on the decennial census files and are 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 post and inmates of institutions). In addition, in October of each year, supplemental questions are asked about highest grade completed, level and grade of current enrollment, attendance status, number and type of courses, degree or certificate objective, and type of organization offering instruction for each member of the household. In March of each year, supplemental questions on income are asked. The responses to these questions are combined with answers to two questions on educational attainment: highest grade of school ever attended, and whether that grade was completed.

The estimation procedure employed for 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; statistics on births, deaths, immigration, and emigration; and statistics on the population in the armed services. Generalized standard error tables are provided in the *Current Population Reports*. The data are subject to both nonsampling and sampling errors.

Caution should also be used when comparing newer data, which reflect 1990 census-based population controls, with data from March 1993 and earlier years, which reflect 1980 or earlier census-based population controls. This change in population controls had relatively little impact on summary measures, such as means, medians, and percentage distributions. It does, however, have a significant impact on levels. For example, use of 1990- based population controls results in about a 1 percent increase in the civilian noninstitutional population and in the number of families and households. Thus, estimates of levels for data collected in 1994 and later years will differ from those for earlier years by more than what could be attributed to actual changes in the population. These differences could be disproportionately greater for certain subpopulation groups than for the total population.

Further information on CPS may be obtained from

Education and Social Stratification Branch
Population Division
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233
http://www.bls.census.gov/cps/cpsmain.htm

School Enrollment Each October, the Current Population Survey (CPS) includes supplemental questions on the enrollment status of the population 3 years old and over, in addition to the monthly basic survey on labor force participation. Prior to 2001, the October supplement consisted of approximately 47,000 interviewed households. Beginning with the October 2001 supplement, the sample was expanded by 9,000 to a total of approximately 56,000 interviewed households. The main sources of nonsampling variability in the responses to the supplement are those inherent in the survey instrument. 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.

For the October 2001 basic CPS, the nonresponse rate was 6.7 percent, and for the school enrollment supplement, the nonresponse rate was an additional 3.6 percent, for a total supplement nonresponse rate of 10.1 percent.

Further information on CPS methodology may be obtained from

http://www.bls.census.gov/cps/cpsmain.htm

Further information on CPS "School Enrollment" may be obtained from

Education and Social Stratification Branch
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233
http://www.census.gov/population/www/socdemo/school.html

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 datasets 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 was added to each group. The population under age 1 was 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 P25-1131. These reports may be obtained from

Statistical Information Staff
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233
(301) 763-3030
http://www.census.gov

Other Sources

National Education Association

Estimates of School Statistics

The National Education Association (NEA) reports enrollment, 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
1201 16th Street NW
Washington, DC 20036
http://www.nea.org

Global Insight, Inc.

Global Insight, Inc. provides an information system that includes databases of economic and financial information: 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 Global Insight Model of the U.S. Economy, which contains annual projections of U.S. economic and financial conditions, including forecasts for the federal government, incomes, population, prices

and wages, and state and local governments, over a long-term (10- to 25-year) forecast period.

Additional information is available from

Global Insight, Inc.
1000 Winter Street Suite 4300N
Waltham, MA 02451-124
http://www.globalinsight.com/

Appendix D
Glossary

Data Terms

Associate's 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 ADM for groups of schools having varying lengths of terms is the average of the ADMs 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 (e.g., year of birth).

College: A postsecondary school that offers a general or liberal arts education, usually leading to an associate's, 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 ADA 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.

Degree-granting institutions: Postsecondary institutions that are eligible for Title IV federal financial aid programs and that grant an associate's or higher degree. For an institution to be eligible to participate in Title IV financial aid programs it must offer a program of at least 300 clock hours in length, have accreditation recognized by the U.S. Department of Education, have been in business for at least 2

years, and have signed a participation agreement with the Department.

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, 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.), podiatry (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: Undergraduate—A student enrolled for 12 or more semester credits, or 12 or more quarter credits, or 24 or more contact hours a week each term. Graduate—A student enrolled for 9 or more semester credits, or 9 or more quarter credits, or a student involved in thesis or dissertation preparation that is considered full time by the institution. First-professional—As defined by the institution .

Full-time-equivalent (FTE) enrollment: For institutions of higher education, enrollment of full-time students, plus the FTE of part-time students as reported by institutions.

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's, 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's degree or is principally creditable toward a baccalaureate.

See also *Degree-granting institutions* and *Postsecondary education*.

Higher Education Price Index: A price index that measures average changes in the prices of goods and services purchased by colleges and universities through current-fund expenditures and educational 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. This includes consultants or supervisors of instruction, principals, teachers, guidance personnel, librarians, psychological personnel, and other instructional staff. This 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 (e.g., 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 (e.g., the Master of Laws (LL.M.) and Master of Science in various medical specializations).

Part-time enrollment: Undergraduate—A student enrolled for either 11 semester credits or less, or 11 quarter credits or less, or less than 24 contact hours a week each term. Graduate—A student enrolled for either 8 semester credits or less, or 8 quarter credits or less. First-professional—As defined by the institution.

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*.

Postsecondary education: The provision of formal instructional programs with a curriculum designed primarily for students who have completed the requirements for a high school diploma or equivalent. This includes programs of an academic, vocational, and continuing professional education purpose, and excludes avocational and adult basic education programs.

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 (i.e., 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 generally 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 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 sales, assets, and income components against which a tax is levied.

Total expenditures per pupil in average daily attendance (ADA): Includes all expenditures allocable to per pupil costs divided by ADA. 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 were excluded and expenditures for other programs (summer schools, community colleges, and private schools) were 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's degree.

Statistical Terms

Autocorrelation: 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. In a time series regression with t time periods and k independent variables including a constant term, there would be t minus k degrees of freedom.

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: Variable for which the values are determined outside the model but that influence the model.

Exponential smoothing: A method used in time series to 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.

First-order serial correlation: When errors in one time period are correlated directly with errors in the ensuing time period. Also called *autocorrelation*.

Forecast: An estimate of the future based on rational study and analysis of available pertinent data, as opposed to subjective prediction.

Forecast horizon: The number of time periods into the future that are forecasted. Forecasts for next year are said to have a 1-year forecast horizon.

Forecasting: Assessing the magnitude that 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.

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, 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."

Interpolation: See *Linear interpolation*.

Linear interpolation: A method that allows the prediction of an unknown value if any two particular values on the same scale are known and the rate of change is assumed constant.

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.

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, predict, and 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 of the same variable. Also called *autocorrelation*.

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.