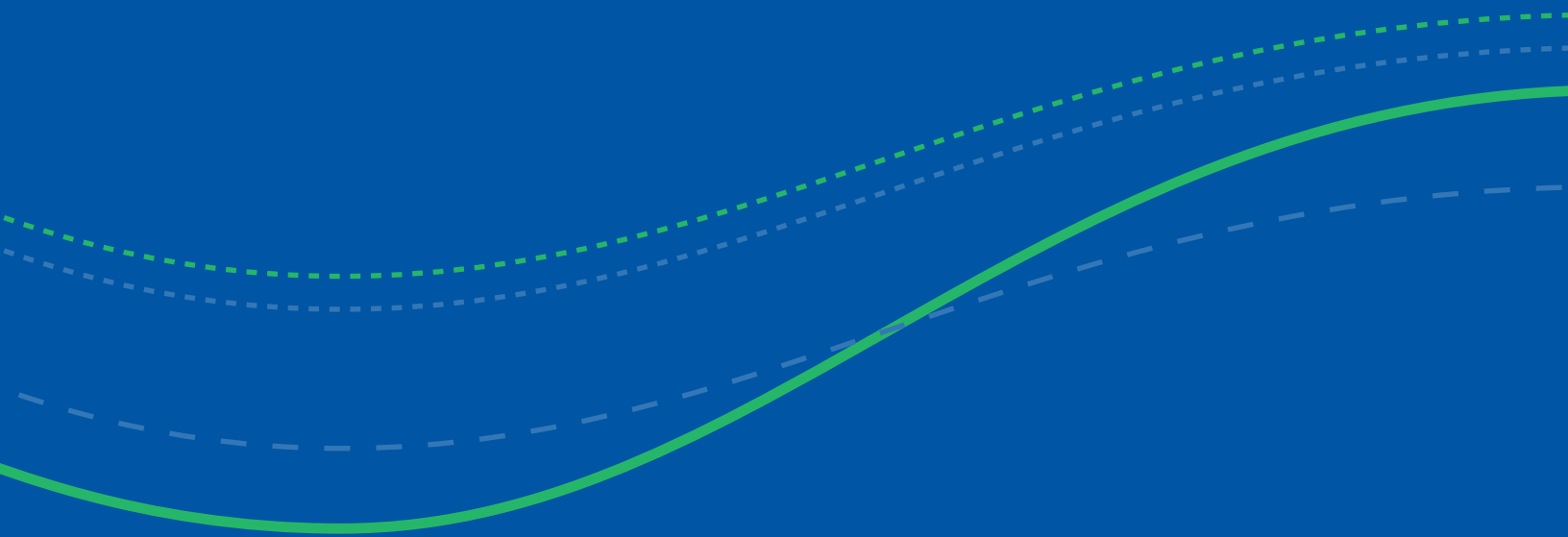


Projections of Education Statistics to 2017

Thirty-sixth Edition



Projections of Education Statistics to 2017

Thirty-sixth Edition

SEPTEMBER 2008

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Foreword

Projections of Education Statistics to 2017 is the 36th report in a series begun in 1964. This report provides revisions of projections shown in *Projections of Education Statistics to 2016*. It includes statistics on elementary and secondary schools and degree-granting institutions. Included are projections of enrollment, graduates, teachers, and expenditures to the year 2017. This is the first edition of the *Projections of Education Statistics* to include projections of new teacher hires in public and private elementary and secondary schools. 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 2017 at the state level. The projections in this report 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 for 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 and describes 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 projections) in each table is deemed to represent the most likely projections, the low and high alternatives provide a range of outcomes.

Val Plisko, Associate Commissioner
Early Childhood, International, and Crosscutting
Studies Division
September 2008

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Many people have contributed to the development of the *Projections of Education Statistics to 2017*. Michael Stock of MacroSys Research and Technology and Mary Ann Fox of the American Institutes for Research (AIR) coordinated the production and design. The cover was designed by Kalle Culotta of MacroSys Research and Technology.

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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. Included are national data on enrollment and graduates for the past 15 years and projections to the year 2017, as well as state-level data on enrollment in public elementary and secondary schools and public high school graduates to the year 2017.

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. The projections of public and private elementary and secondary school enrollment do not include projections of the number of students who will be homeschooled because more data are required to develop reliable projections.

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. All calculations within the *Projections of Education Statistics* are based on unrounded estimates. Therefore, the reader may find that a calculation, such as a difference or percentage change, cited in the text or figure may not be identical to the calculation obtained by using the rounded values shown in the accompanying tables.

Appendix A describes the methodology and assumptions used to develop the projections, appendix B presents supplementary tables, appendix C describes data sources, appendix D is a list of abbreviations, and appendix E 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. The low and high alternative projections are not statistical confidence limits. They are based on alternative forecasts of economic variables produced by the economic consulting firm Global Insight, Inc.

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 PK–12 for lead times of 1, 2, 5, and 10 years were 0.3, 0.6, 1.3, and 2.3 percent, respectively. In contrast, mean absolute percentage errors for bachelor's degrees for lead times of 1, 2, 5, and 10 years were 1.0, 1.9, 5.6, and 12.1 percent, respectively. For more information on mean absolute percentage errors, see table A-2 in appendix A.

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

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Summary of Projections

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Section 1. Elementary and Secondary Enrollment

Introduction

Total public and private elementary and secondary school enrollment reached a record 55 million in fall 2005, representing a 14 percent increase since fall 1992. Between 2005, the last year of actual data, and 2017, a further increase of 10 percent is expected, with increases projected in both public and private schools. Increases in public school enrollment are expected in the Midwest, South, and West, and a decrease is expected in the Northeast.

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

Enrollment increases are expected at both the PK–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 14 percent between 1992 and 2005; and
- is projected to increase an additional 10 percent between 2005 and 2017.

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.

Enrollment in grades PK–8

Enrollment in prekindergarten through grade 8

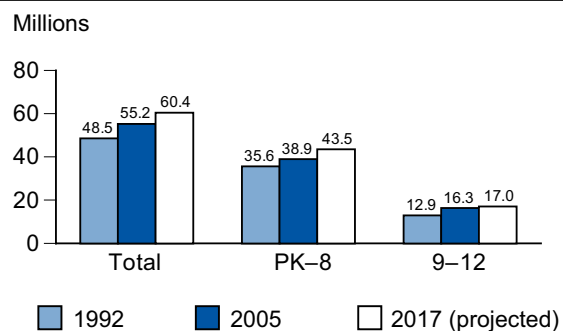
- increased 9 percent between 1992 and 2005; and
- is projected to increase an additional 12 percent between 2005 and 2017.

Enrollment in grades 9–12

Enrollment in grades 9–12

- increased 26 percent between 1992 and 2005; and
- is projected to increase an additional 4 percent between 2005 and 2017.

Figure A. Actual and projected numbers for elementary and secondary enrollment, total and by grade level: Selected years, 1992–2017



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

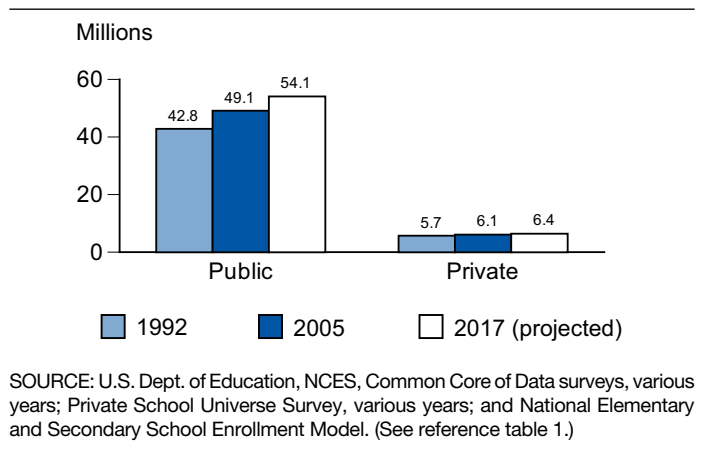
- increased 15 percent between 1992 and 2005; and
- is projected to increase an additional 10 percent between 2005 and 2017.

Private elementary and secondary enrollment

Enrollment in private elementary and secondary schools

- increased 7 percent between 1992 and 2005; and
- is projected to increase an additional 5 percent between 2005 and 2017.

Figure B. Actual and projected numbers for elementary and secondary enrollment, by control of school: Selected years, 1992–2017



State and Regional (Public School Data)

States

The expected 10 percent national increase in public school enrollment between 2005 and 2017 plays out differently among the states (reference figures 5–7 and tables 4–9).

- Increases are projected for 37 states and the District of Columbia, with
 - increases of more than 15 percent projected for 9 states;
 - increases between 5 and 15 percent projected for 13 states and the District of Columbia; and
 - increases of less than 5 percent projected for 15 states.

Table A. Projected percentage increases in public elementary and secondary school enrollment, by state: 2005 through 2017

State	Percent change	State	Percent change
Arizona	44.8	Washington	7.4
Nevada	43.2	Oklahoma	7.4
Texas	32.9	Alaska	6.1
Florida	28.9	Maryland	5.3
Utah	27.5	Nebraska	4.6
Georgia	27.1	Minnesota	4.2
North Carolina	23.1	Missouri	3.5
Idaho	22.9	Illinois	3.2
Colorado	18.9	Indiana	3.0
District of Columbia	14.3	Kentucky	2.7
Delaware	13.1	Alabama	2.6
Virginia	13.0	Wyoming	1.8
Hawaii	13.0	New Jersey	1.7
Oregon	11.2	Kansas	1.5
New Mexico	11.1	Wisconsin	0.9
Tennessee	10.4	Mississippi	0.4
Arkansas	9.9	Montana	0.4
California	8.7	South Dakota	0.4
South Carolina	7.8	Iowa	0.2

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

- Decreases are projected for 13 states, with
 - decreases of 5 percent or more projected for 8 states; and
 - decreases between 4.99 and 0.1 percent projected for 5 states.

Regions

Between 2005 and 2017, public elementary and secondary enrollment is projected to

- increase 19 percent in the South;
- increase 15 percent in the West;
- increase less than 1 percent in the Midwest; and
- decrease 3 percent in the Northeast.

Table B. Projected percentage decreases in public elementary and secondary school enrollment, by state: 2005 through 2017

State	Percent change	State	Percent change
Louisiana	-12.4	New York	-5.2
Vermont	-11.7	Massachusetts	-4.0
Rhode Island	-11.4	New Hampshire	-3.8
Maine	-8.0	West Virginia	-3.5
North Dakota	-7.6	Ohio	-3.2
Connecticut	-6.3	Pennsylvania	-2.0
Michigan	-6.2		

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 23 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 PK–12 were 0.3, 0.6, 1.3, and 2.3 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 PK–8, the MAPEs for lead times of 1, 2, 5, and 10 years out were 0.4, 0.6, 1.3, and 3.2 percent, respectively, while the MAPEs for projections of public school enrollment in grades 9–12 were 0.4, 0.7, 1.4, and 2.3 percent, respectively, for the same lead times. For more information, see table A-2 in appendix A.

Section 2. Enrollment in Degree-Granting Postsecondary Institutions

Introduction

Total enrollment in degree-granting institutions is expected to increase between 2006, the last year of actual data, and 2017. Degree-granting institutions are postsecondary institutions that 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 2006 and 2017. An important factor is the expected increase in the population of 25- to 29-year-olds (reference figure 8 and appendix table B-4).

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.

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. The racial/ethnic backgrounds of nonresident aliens are not known.

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 alternative forecasts are based on variables from alternative economic scenarios that were developed by the economic consulting firm Global Insight, Inc. For more details, see appendix A.

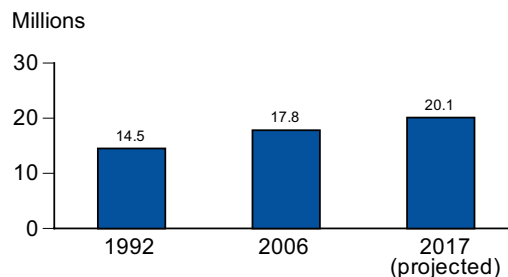
Total Enrollment

Total enrollment in degree-granting institutions increased 23 percent from 1992 to 2006, a period of 14 years (figure C; reference figure 10 and table 10).

Between 2006 and 2017, a period of 11 years, total enrollment is projected to increase

- 13 percent, to 20.1 million, in the middle alternative projections;
- 9 percent, to 19.4 million, in the low alternative projections; and
- 16 percent, to 20.6 million, in the high alternative projections.

Figure C. Actual and middle alternative projected numbers for total enrollment in degree-granting institutions: Selected years, 1992–2017



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 2006 and 2017, in the middle alternative projections, enrollment (figure D; reference figures 11, 13, and 14 and tables 11–13) is projected to increase

- 10 percent for students who are 18 to 24 years old;
- 27 percent for students who are 25 through 34 years old; and
- 8 percent for students who are 35 years old and over.

Enrollment by sex of student

Between 2006 and 2017, in the middle alternative projections, enrollment (figure D; reference figure 12 and tables 10–21) is projected to increase

- 13 percent for men; and
- 13 percent for women.

Enrollment by attendance status

Between 2006 and 2017, in the middle alternative projections, enrollment (figure D; reference figure 15 and tables 10–21) is projected to increase

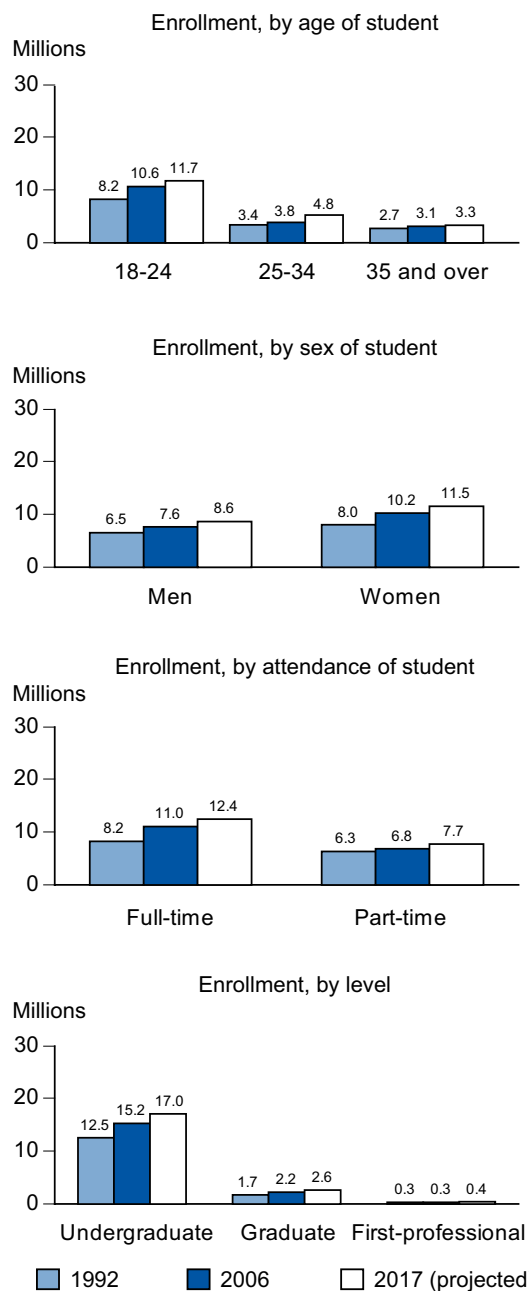
- 13 percent for full-time students; and
- 12 percent for part-time students.

Enrollment by level

Between 2006 and 2017, in the middle alternative projections, enrollment (figure D; reference figures 18 and 19 and tables 19–21) is projected to increase

- 12 percent for undergraduate students;
- 18 percent for graduate students; and
- 22 percent for first-professional students (see page 14 for a definition of first-professional).

Figure D. Actual and middle alternative projected numbers for total enrollment in degree-granting institutions, by selected characteristics: Selected years, 1992–2017



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

Enrollment by race/ethnicity

Between 2006 and 2017, enrollment (figure D, reference figure 20 and table 22) is projected to increase

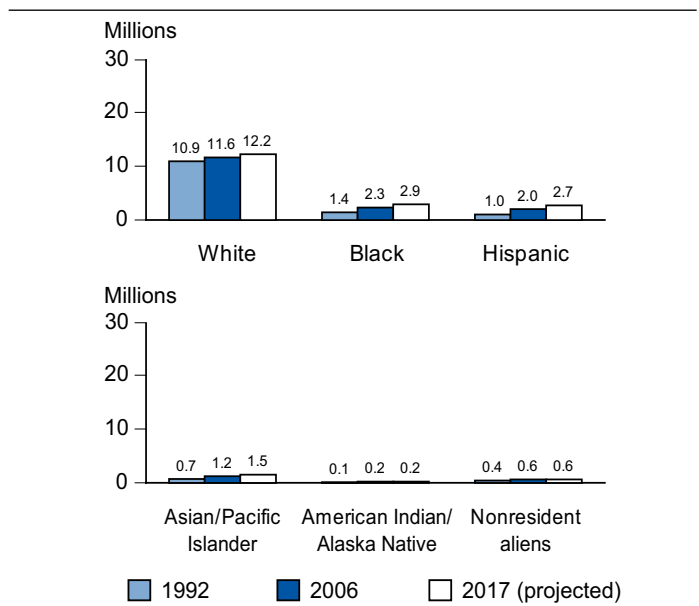
- 5 percent for students who are White;
- 26 percent for students who are Black;
- 39 percent for students who are Hispanic;
- 26 percent for students who are Asian or Pacific Islanders;
- 30 percent for students who are American Indian or Alaska Native; and
- 1 percent for students who are nonresident aliens.

Enrollment in public and private institutions

Between 2006 and 2017, in the middle alternative projections, enrollment (figure E; reference figure 16 and tables 10 and 15–22) is projected to increase

- 13 percent in public institutions; and
- 12 percent in private institutions.

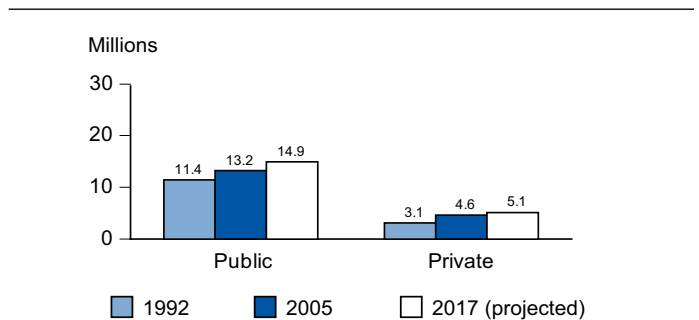
Figure D. Actual and middle alternative projected numbers for total enrollment in degree-granting institutions, by selected characteristics: Selected years, 1992–2017 — Continued



NOTE: Race categories exclude persons of Hispanic ethnicity. The racial/ethnic backgrounds of nonresident aliens are not known.

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 and Enrollment in Degree-Granting Institutions by Race/Ethnicity Model. (See reference tables 10 and 22.)

Figure E. Actual and middle alternative projected numbers for total enrollment in degree-granting institutions, by control of institution: Selected years, 1992–2017



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, 5, and 10 years out were 1.5, 2.1, 4.6, and 10.9 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 1.5 percent of the actual value, on average. For more information, see table A-2 in appendix A.

Section 3. High School Graduates

Introduction

Between 2004–05, the last year of actual data, and 2017–18, the number of high school graduates is projected to increase nationally by 6 percent. Public schools are expected to have increases in high school graduates, while private schools are expected to have decreases. Increases are expected in the West and South and decreases are expected in the Northeast and Midwest.

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. Projections of graduates could be affected by changes in policies influencing 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 figure 22 and table 24)

- increased 25 percent between 1992–93 and 2004–05, a period of 12 years; and
- is projected to increase an additional 6 percent between 2004–05 and 2017–18, a period of 13 years.

Public high school graduates

The number of public high school graduates

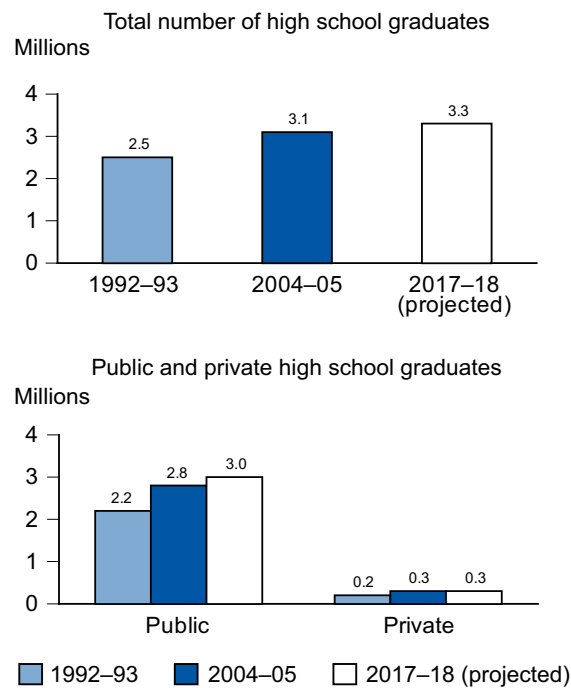
- increased 25 percent between 1992–93 and 2004–05; and
- is projected to increase an additional 8 percent between 2004–05 and 2017–18.

Private high school graduates

The number of private high school graduates

- increased 24 percent between 1992–93 and 2004–05; and
- is projected to decrease 7 percent between 2004–05 and 2017–18.

Figure F. Actual and projected numbers for high school graduates, total and by control of school: Selected years, 1992–93 to 2017–18



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 High School Graduates Model. (See reference table 24.)

State and Regional (Public School Data)

States

The expected 8 percent national increase in public high school graduates between 2004–05 and 2017–18 plays out differently among the states (reference figure 23 and tables 25 and 26).

- Increases are projected for 27 states and the District of Columbia, with
 - increases of more than 15 percent projected for 12 states;
 - increases between 5 and 15 percent projected for 7 states; and
 - increases of less than 5 percent projected for 8 states and the District of Columbia.
- Decreases are projected for 23 states, with
 - decreases of 15 percent or more projected for 5 states;
 - decreases between 5 and 15 percent projected for 9 states; and
 - decreases between 4.99 and 0.1 percent projected for 9 states.

Regions

Between 2004–05 and 2017–18, the number of public high school graduates is projected to

- increase 18 percent in the South;
- increase 12 percent in the West;
- decrease less than 1 percent in the Midwest; and
- decrease 5 percent in the Northeast.

Table C. Projected percentage changes in the number of public high school graduates, by state: 2004–05 through 2017–18

State	Percent change	State	Percent change
Nevada	66.1	Louisiana	-43.2
Arizona	62.5	Vermont	-23.9
Utah	37.6	North Dakota	-21.5
Georgia	34.4	Rhode Island	-20.6
Texas	32.9	Maine	-17.9
North Carolina	28.3	New Hampshire	-13.5
Idaho	26.4	Montana	-12.5
Florida	24.9	South Dakota	-11.4
Colorado	18.4	Hawaii	-10.3
Arkansas	17.0	Wyoming	-10.1
Delaware	15.8	New York	-9.8
Indiana	15.4	Massachusetts	-7.2
Virginia	11.3	Kansas	-5.5
Tennessee	10.9	Michigan	-5.2
New Jersey	8.9	Maryland	-4.9
South Carolina	8.2	Wisconsin	-4.6
Alabama	6.4	Connecticut	-4.5
Washington	5.9	Minnesota	-4.0
Kentucky	5.7	West Virginia	-3.7
Iowa	4.6	Pennsylvania	-2.9
New Mexico	4.5	Ohio	-2.9
District of Columbia	4.3	Alaska	-1.6
Illinois	4.0	Nebraska	-0.9
Oklahoma	3.6		
Mississippi	3.1		
California	2.4		
Missouri	2.1		
Oregon	1.9		

SOURCE: U.S. Dept. of Education, NCES, Common Core of Data surveys and State Public High School Graduates Model. (See reference table 26.)

Accuracy of Projections

For NCES projections of public high school graduates produced over the last 17 years, the mean absolute percentage errors (MAPEs) for lead times of 1, 2, 5, and 10 years out were 0.8, 0.8, 1.8, and 3.9, respectively. For more information, see table A-2 in appendix A.

Section 4. Degrees Conferred

Introduction

Continuing 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 2005–06, the last year of actual data, and 2017–18.

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.

Assumptions underlying the projections

The middle alternative uses projections of the college-age populations developed by the Census Bureau and the middle alternative projections of college enrollment from this report. The low and high alternative projections of degrees were based on the alternative enrollment projections. 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 1992–93 and 2005–06, the number and proportion of degrees awarded to women rose at all levels. In 2005–06, women earned the majority of associate’s, bachelor’s, and master’s degrees; 49 percent of doctor’s degrees; and slightly less than 50 percent of first-professional degrees. Between 2005–06 and 2017–18, continued increases are expected in the number of degrees awarded to women at all levels (figure G; reference figures 24–28 and tables 27–31).

Associate’s degrees

Between 2005–06 and 2017–18, in the middle alternative projections, the number of associate’s degrees is projected to

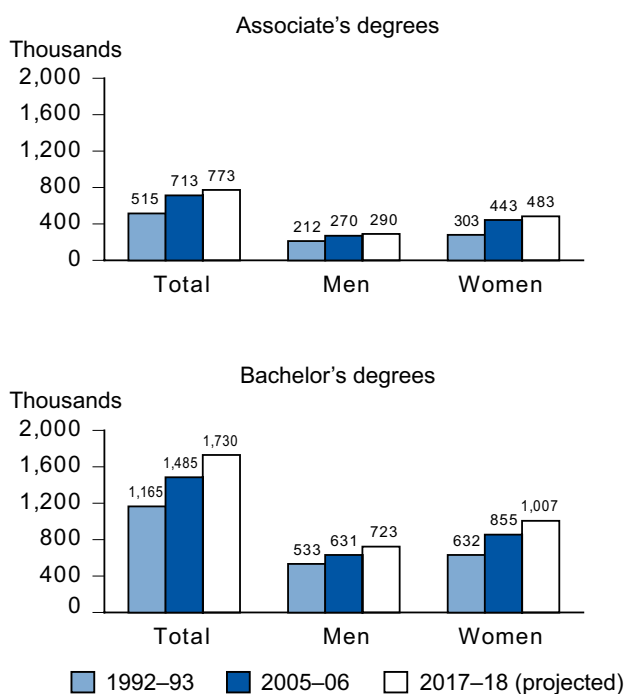
- increase 8 percent overall;
- increase 7 percent for men; and
- increase 9 percent for women.

Bachelor’s degrees

Between 2005–06 and 2017–18, in the middle alternative projections, the number of bachelor’s degrees is projected to

- increase 16 percent overall;
- increase 15 percent for men; and
- increase 18 percent for women.

Figure G. Actual and middle alternative projected numbers for degrees conferred, by level and sex of recipient: Selected years, 1992–93 to 2017–18



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

Master's degrees

Between 2005–06 and 2017–18, in the middle alternative projections, the number of master's degrees is projected to

- increase 28 percent overall;
- increase 29 percent for men; and
- increase 27 percent for women.

Doctor's degrees

Between 2005–06 and 2017–18, in the middle alternative projections, the number of doctor's degrees is projected to

- increase 27 percent overall;
- increase 22 percent for men; and
- increase 32 percent for women.

Beginning in 2006–07, women are projected to receive more doctor's degrees than men in each set of alternative projections.

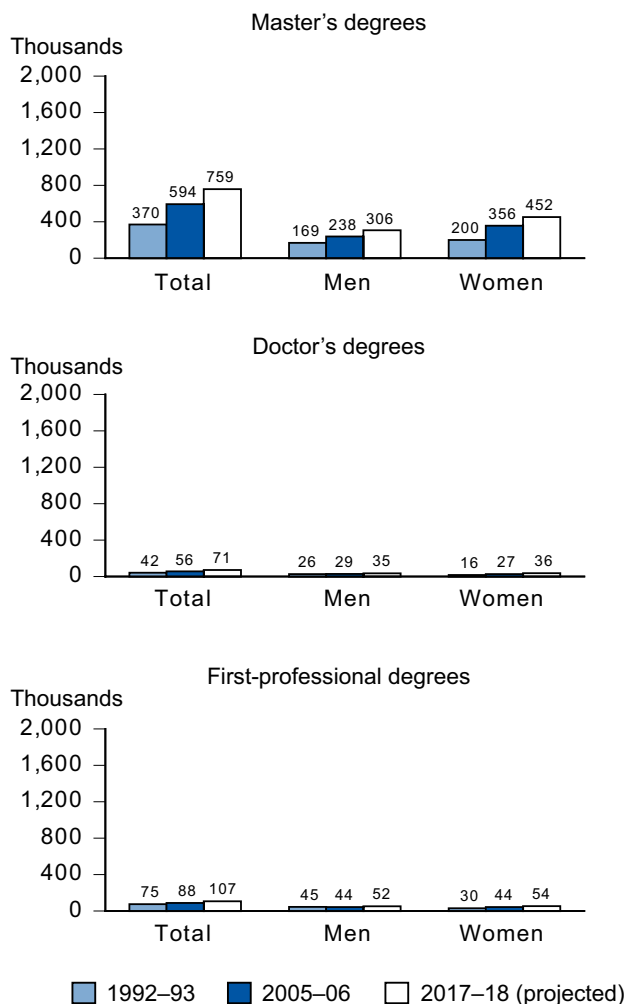
First-professional degrees

Between 2005–06 and 2017–18, in the middle alternative projections, the number of first-professional degrees is projected to

- increase 22 percent overall;
- increase 19 percent for men; and
- increase 25 percent for women.

Beginning in 2015–16, 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, 1992–93 to 2017–18—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 27 through 31.)

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 11 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for associate's degree projections were 2.1 percent for 1 year out, 2.9 percent for 2 years out, 5.7 percent for 5 years out, and 14.3 percent for 10 years out. The MAPEs for bachelor's degree projections were 1.0, 1.9, 5.6, and 12.1 percent, respectively, for lead times of 1, 2, 5, and 10 years out. The MAPEs for master's degrees were 1.9, 3.7, 12.1, and 22.9 percent, respectively. For doctor's degrees, the MAPEs were 3.0, 4.4, 5.4, and 7.6 percent, respectively. For first-professional degrees, the MAPEs were 1.4, 1.5, 5.1, and 13.7 percent, respectively. For more information on the MAPEs of different NCES projection series, see table A-2 in appendix A.

Section 5. Elementary and Secondary Teachers

Introduction

Between 2005, the last year of actual data, and 2017, 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. The pupil/teacher ratios are projected to decrease in both public and private schools. The number of new teacher hires are projected to increase in both public and private schools.

Factors affecting the projections

The projected increase in the number of elementary and secondary teachers is related to projected levels of enrollments and 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 of the number of public school teachers, the alternative projections make varying economic assumptions about the growth of assistance by state governments to local governments.

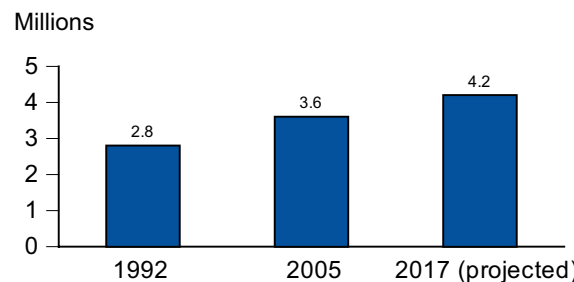
Teachers in Elementary and Secondary Schools

Total elementary and secondary teachers

The total number of elementary and secondary teachers (figure H; reference figure 29 and table 32)

- increased 27 percent between 1992 and 2005, a period of 13 years; and
- is projected to increase an additional 18 percent between 2005 and 2017, a period of 12 years, in the middle alternative projections.

Figure H. Actual and middle alternative projected numbers for elementary and secondary teachers: Selected years, 1992–2017



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.)

Public school teachers

The number of teachers in public elementary and secondary schools (figure I; reference figure 29 and table 32)

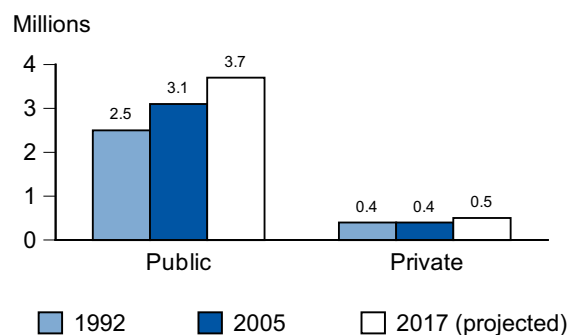
- increased 28 percent between 1992 and 2005; and
- is projected to increase an additional 18 percent between 2005 and 2017 in the middle alternative projections.

Private school teachers

The number of teachers in private elementary and secondary schools

- increased 22 percent between 1992 and 2005; and
- is projected to increase an additional 20 percent between 2005 and 2017 in the middle alternative projections.

Figure I. Actual and middle alternative projected numbers for elementary and secondary teachers, by control of school: Selected years, 1992–2017



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.)

Pupil/Teacher Ratios

Total elementary and secondary teachers

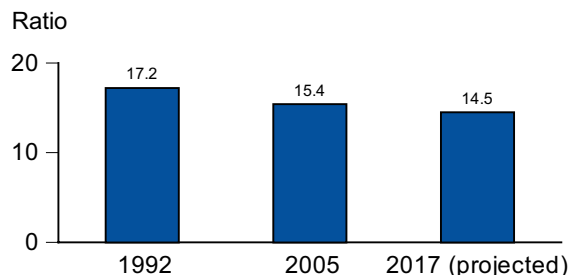
The pupil/teacher ratio in elementary and secondary schools (figure J; table 33)

- decreased from 17.2 to 15.4 between 1992 and 2005; and
- is projected to decrease further to 14.5 in 2017 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, 1992–2017



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 33.)

Public school teachers

The pupil/teacher ratio in public elementary and secondary schools (figure K; reference figure 30 and table 33)

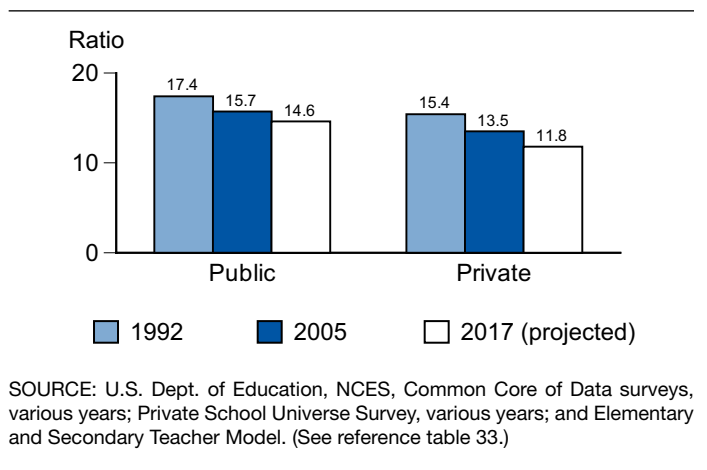
- decreased from 17.4 to 15.7 between 1992 and 2005; and
- is projected to decrease further to 14.6 in 2017 in the middle alternative projections.

Private school teachers

The pupil/teacher ratio in private elementary and secondary schools (figure K; reference figure 30 and table 33)

- decreased from 15.4 to 13.5 between 1992 and 2005; and
- is projected to decrease further to 11.8 in 2017 in the middle alternative projections.

Figure K. Actual and middle alternative projected numbers for the pupil/teacher ratio in elementary and secondary schools, by control of school: Selected years, 1992–2017



New Teacher Hires

Between 2005 and 2007, increases are expected in the numbers of new public school teacher hires and new private school teacher hires.

New teacher hires in public schools

The number of new teacher hires in public schools (reference table 32)

- was estimated at 285,000 in 2005; and
- is projected to increase 28 percent to 364,000 in 2017.

New teacher hires in private schools

The number of new teacher hires in private schools

- was estimated at 79,000 in 2005; and
- is projected to increase 26 percent to 100,000 in 2017.

About new teacher hires

A teacher is considered to be a new teacher hire for a sector for a given year if the teacher teaches in that sector that year but had not taught in that sector in the previous year. A teacher who moves from teaching in one sector to the other sector is considered a new teacher hire but a teacher who moves from one school to another school in the same sector is not considered a new teacher hire. It is important to note that these projections measure the number of newly hired teachers. Hence, the new teacher hire projections should not be interpreted as predicting teacher shortages.

Accuracy of Projections

An analysis of projection errors from the past 17 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 6.1 percent for 10 years out. For more information on the MAPEs of different NCES projection series, see table A-2 in appendix A.

Section 6. Expenditures of Public Elementary and Secondary Schools

Introduction

Current expenditures of public elementary and secondary schools are projected to increase in constant dollars between school years 2004–05, the last year of actual data, and 2017–18.

Three alternative sets of projections

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

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 2004–05 and 2017–18, increases are expected in the current expenditures and current expenditures per pupil of public elementary and secondary schools (figures L and M; reference figures 31 and 32 and table 34).

Current expenditures

Current expenditures in constant 2005–06 dollars increased 43 percent from 1992–93 to 2004–05, a period of 12 years.

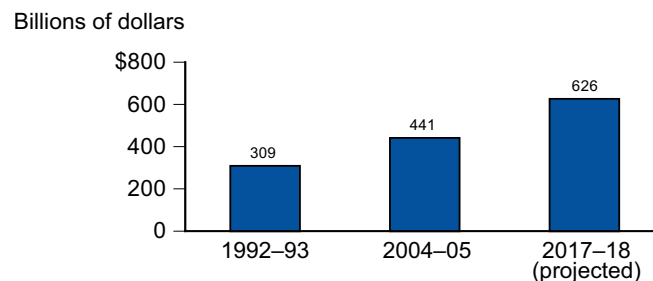
From 2004–05 to 2017–18, a period of 13 years, current expenditures in constant 2005–06 dollars are projected to increase

- 42 percent, to \$626 billion, in the middle alternative projections;
- 32 percent, to \$582 billion, in the low alternative projections; and
- 50 percent, to \$661 billion, 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 L. Actual and middle alternative projected numbers for current expenditures in public elementary and secondary schools in 2005–06 dollars: Selected years, 1992–93 through 2017–18



NOTE: Data were placed in constant 2005–06 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 34.)

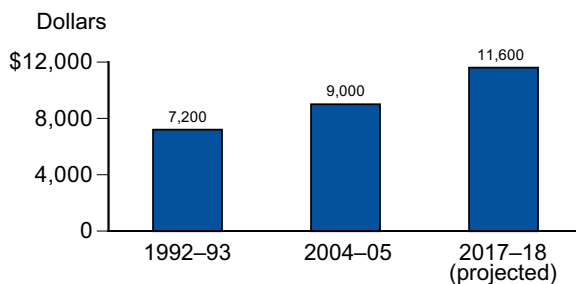
Current expenditures per pupil

Current expenditures per pupil in fall enrollment in constant 2005–06 dollars increased 25 percent from 1992–93 to 2004–05.

From 2004–05 to 2017–18, current expenditures in constant 2005–06 dollars per pupil in fall enrollment are projected to increase

- 28 percent, to \$11,600, in the middle alternative projections;
- 19 percent, to \$10,800, in the low alternative projections; and
- 35 percent, to \$12,200, in the high alternative projections.

Figure M. Actual and middle alternative projected numbers for current expenditures per pupil in fall enrollment in public elementary and secondary schools in 2005–06 dollars: Selected years, 1992–93 through 2017–18



NOTE: Data were placed in constant 2005–06 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 34.)

Constant versus current dollars

Throughout this section, projections of current expenditures are presented in constant 2005–06 dollars. The reference tables, later in this report, present these data both in constant 2005–06 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 B-6 in appendix B). Three alternative sets of projections for the CPI were used, one with each set of projections (low, middle, and high).

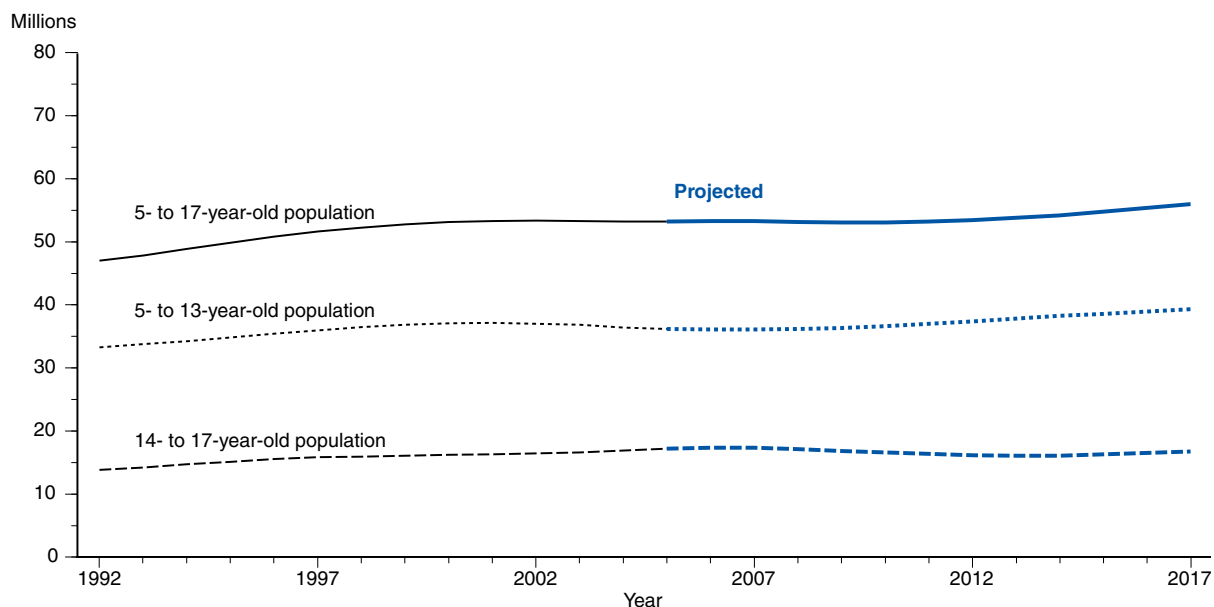
Accuracy of Projections

An analysis of projection errors from similar models used in the past 17 editions of *Projections of Education Statistics* that contained expenditure projections indicates that mean absolute percentage errors (MAPEs) for total current expenditures in constant dollars were 1.3 percent for 1 year out, 2.2 percent for 2 years out, 2.9 percent for 5 years out, and 3.8 percent for 10 years out. MAPEs for current expenditure per pupil in fall enrollment in current dollars were 1.3 percent for 1 year out, 2.1 percent for 2 years out, 3.3 percent for 5 years out, and 5.4 percent for 10 years out. See appendix A for further discussion of the accuracy of recent projections of current expenditures, and see table A-2 in appendix A for the mean absolute percentage errors (MAPEs) of these projections.

Reference Figures

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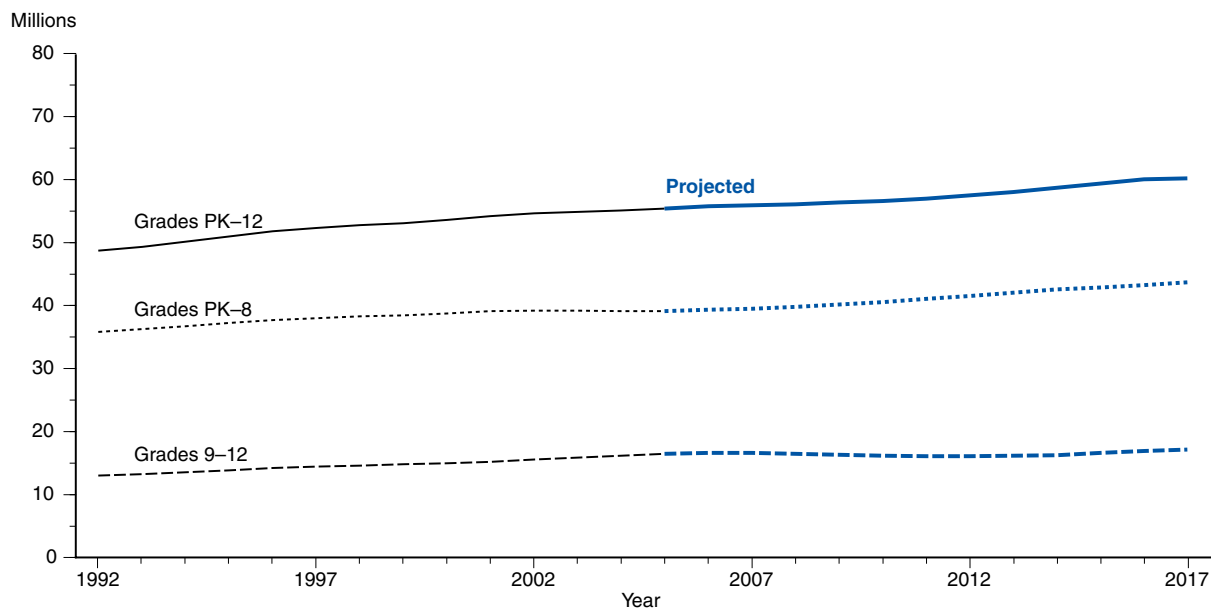
Figure 1. Actual and projected numbers for school-age populations, by age range: 1992 through 2017



NOTE: Some data have been revised from previously published figures. Projections are from the U.S. Census Bureau's middle series.

SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved September 7, 2007, from http://www.census.gov/popest/national/asrh/2006_nat_af.html; and Population Projections, retrieved September 7, 2007, from <http://www.census.gov/ipc/www/usinterimproj/>. (This figure was prepared December 2007.)

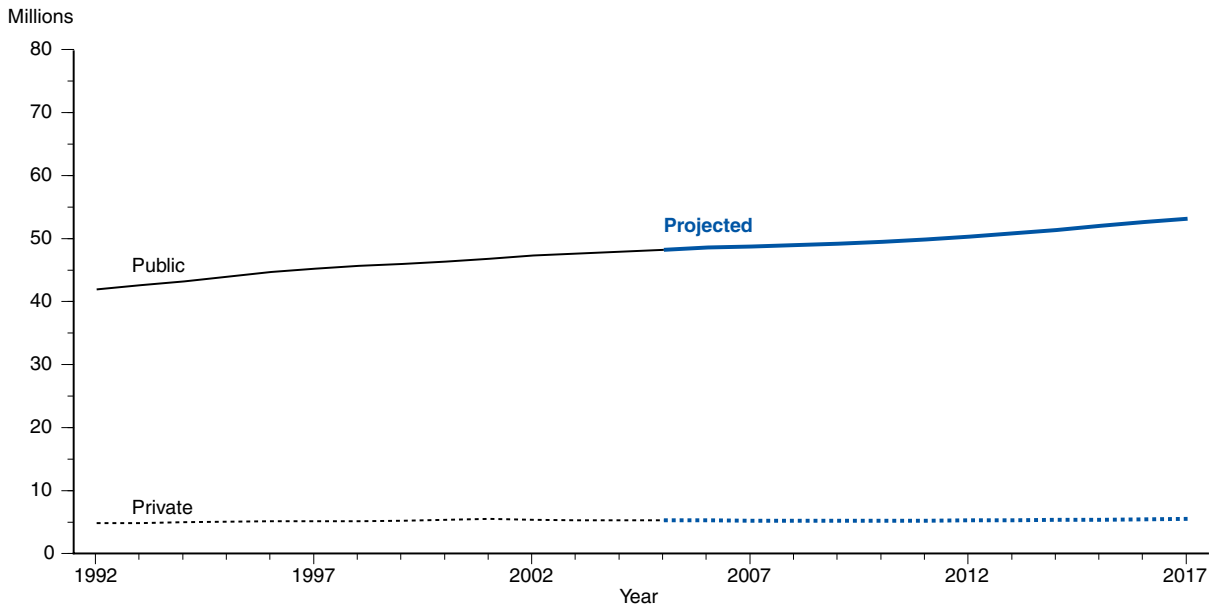
Figure 2. Actual and projected numbers for enrollment in elementary and secondary schools, by grade level: Fall 1992 through fall 2017



NOTE: Enrollment numbers for prekindergarten through 12th grade and prekindergarten through 8th grade include private nursery and prekindergarten enrollment in schools that offer kindergarten or higher grades. Enrollment numbers for some years include private school numbers that are estimated based on data from the Private School Universe Survey. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, 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," 1992-93 through 2005-06; Private School Universe Survey (PSS), selected years 1993-94 through 2005-06; and National Elementary and Secondary Enrollment Model, 1972-2005. (This figure was prepared December 2007.)

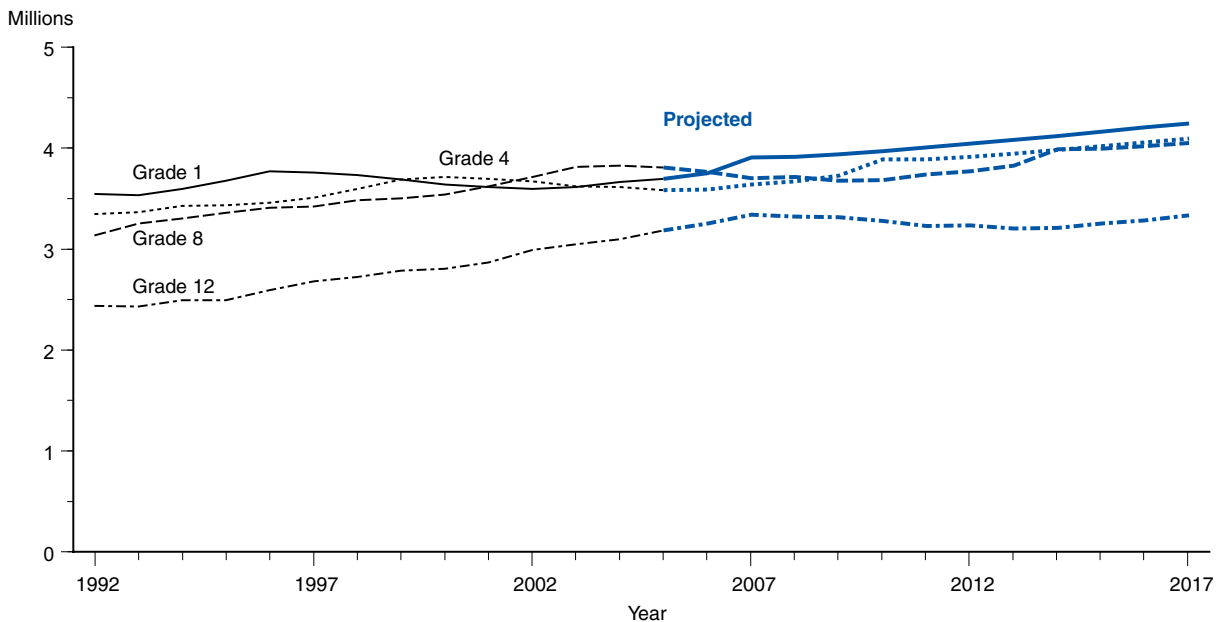
Figure 3. Actual and projected numbers for enrollment in elementary and secondary schools, by control of school: Fall 1992 through fall 2017



NOTE: Private school numbers include private nursery and prekindergarten enrollment in schools that offer kindergarten or higher grades. Private school numbers for some years are estimated based on data from the Private School Universe Survey. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, 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," 1992-93 through 2005-06; Private School Universe Survey (PSS), selected years 1993-94 through 2005-06; and National Elementary and Secondary Enrollment Model, 1972-2005. (This figure was prepared December 2007.)

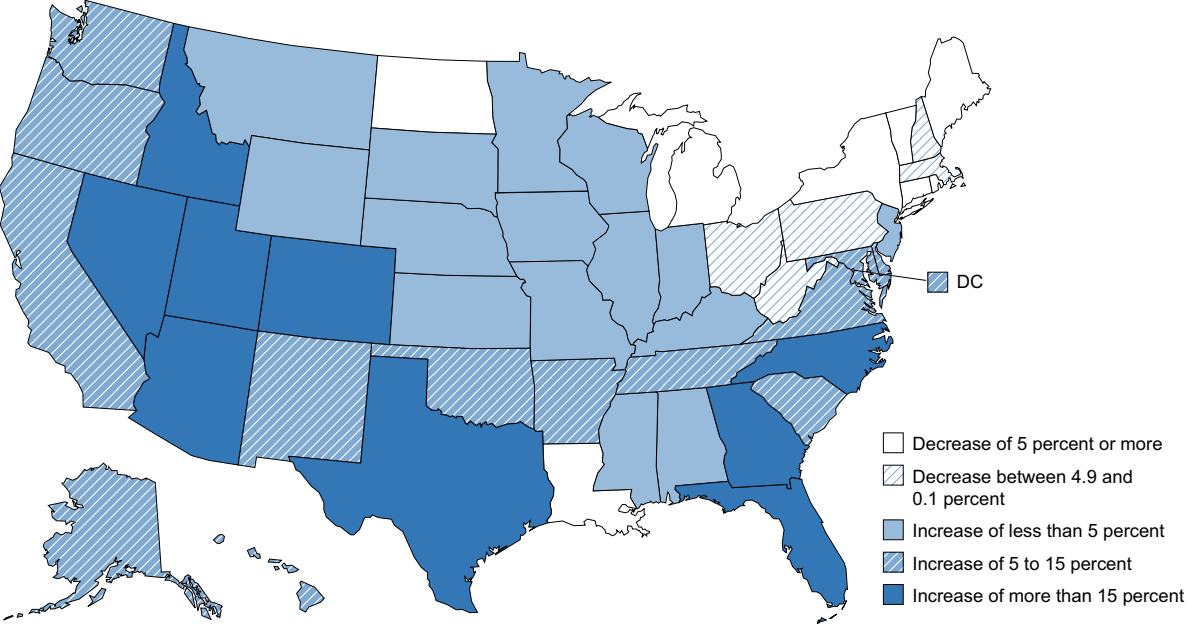
Figure 4. Actual and projected numbers for enrollment in elementary and secondary schools, by selected grades: Fall 1992 through fall 2017



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

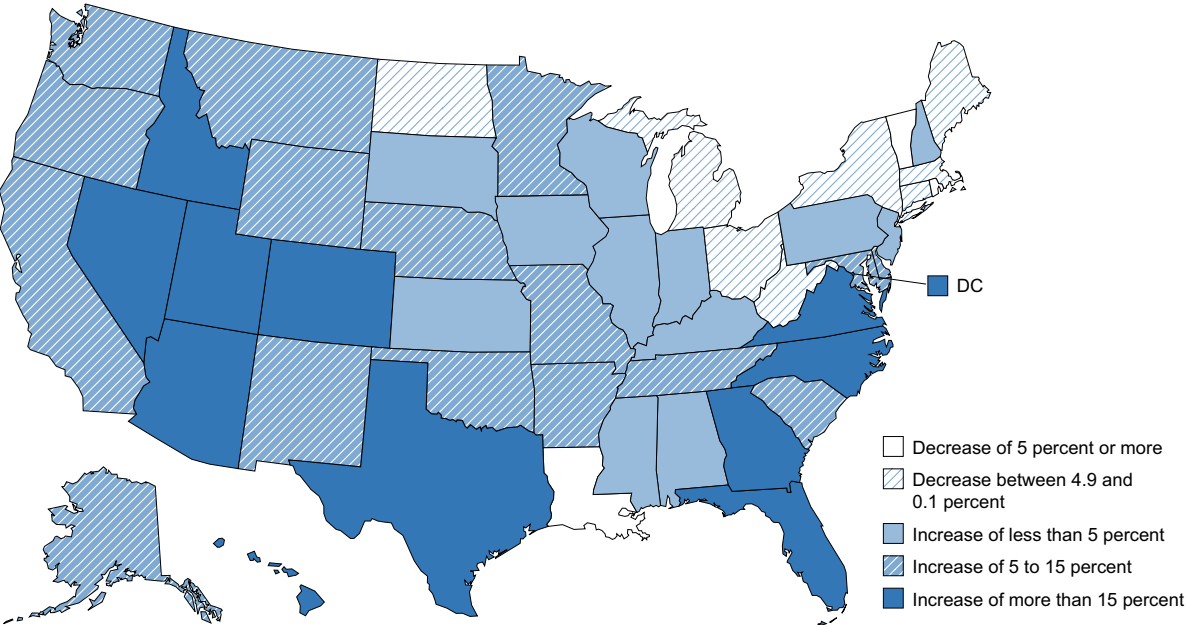
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1992-93 through 2005-06; and National Elementary and Secondary Enrollment Model, 1972-2005. (This figure was prepared December 2007.)

Figure 5. Projected percentage change in grades PK–12 enrollment in public schools, by state: Fall 2005 through fall 2017



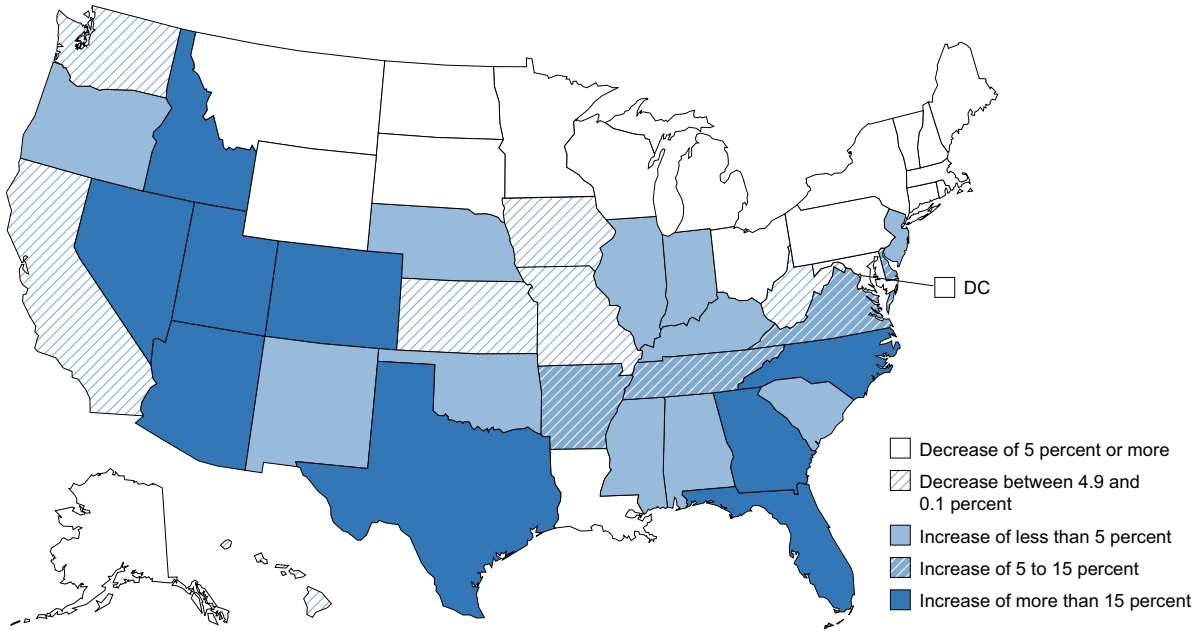
NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), “State Nonfiscal Survey of Public Elementary/Secondary Education,” 2005–06; and State Public Elementary and Secondary Enrollment Model, 1980–2005. (This figure was prepared December 2007.)

Figure 6. Projected percentage change in grades PK–8 enrollment in public schools, by state: Fall 2005 through fall 2017



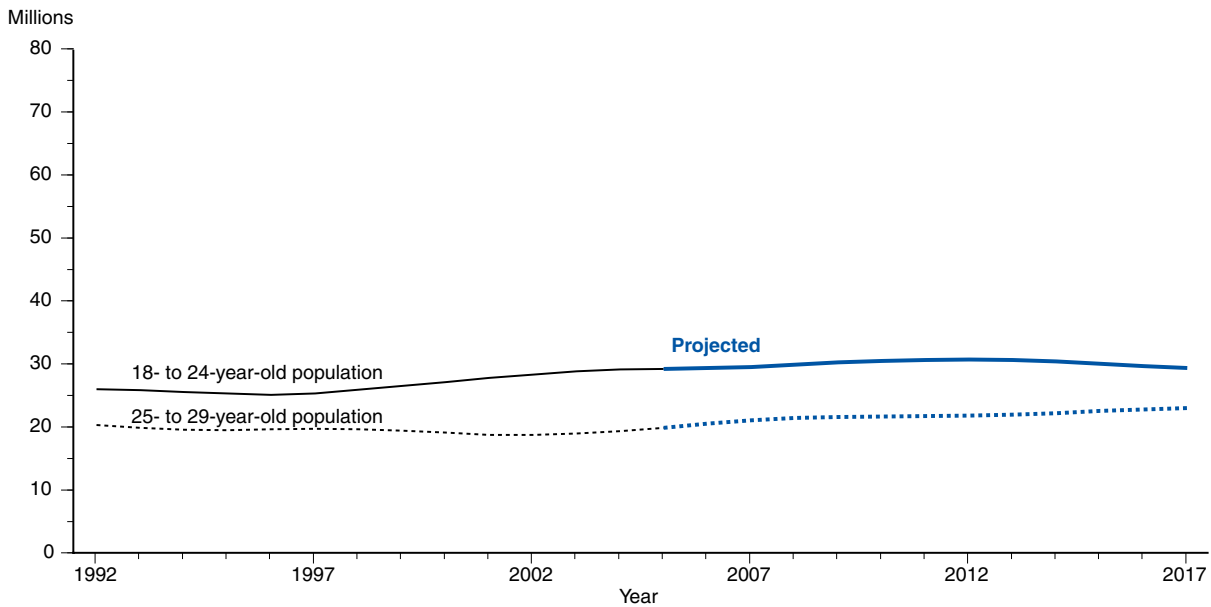
NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), “State Nonfiscal Survey of Public Elementary/Secondary Education,” 2005–06; and State Public Elementary and Secondary Enrollment Model, 1980–2005. (This figure was prepared December 2007.)

Figure 7. Projected percentage change in grades 9–12 enrollment in public schools, by state: Fall 2005 through fall 2017



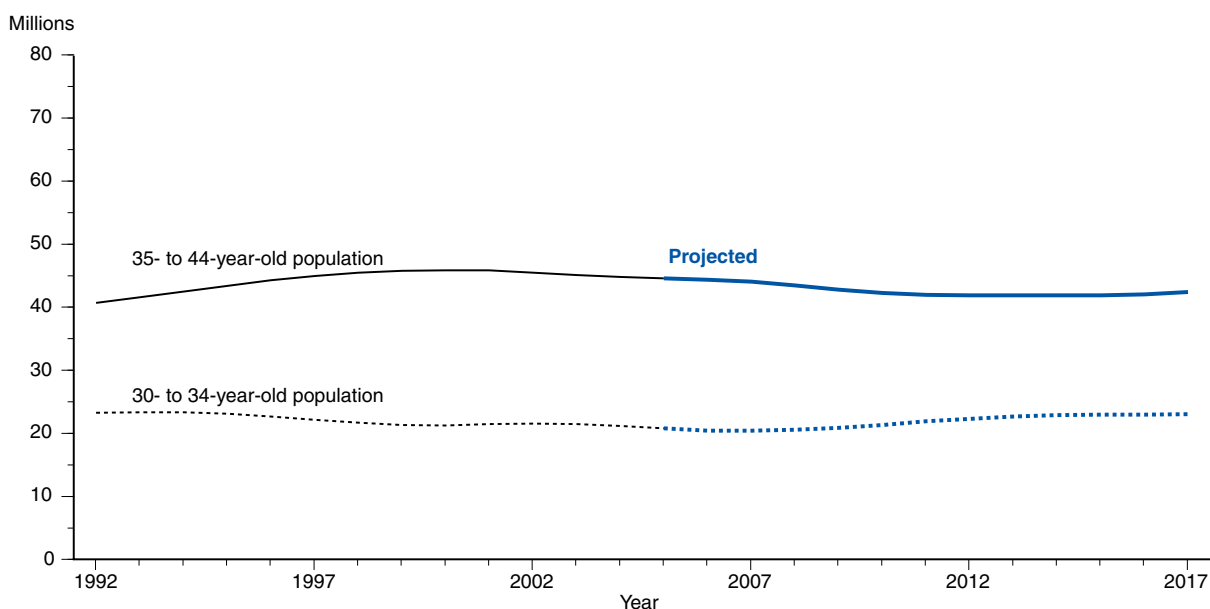
NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), “State Nonfiscal Survey of Public Elementary/Secondary Education,” 2005–06; and State Public Elementary and Secondary Enrollment Model, 1980–2005. (This figure was prepared December 2007.)

Figure 8. Actual and projected numbers for 18–24 year olds and 25–29 year olds: 1992 through 2017



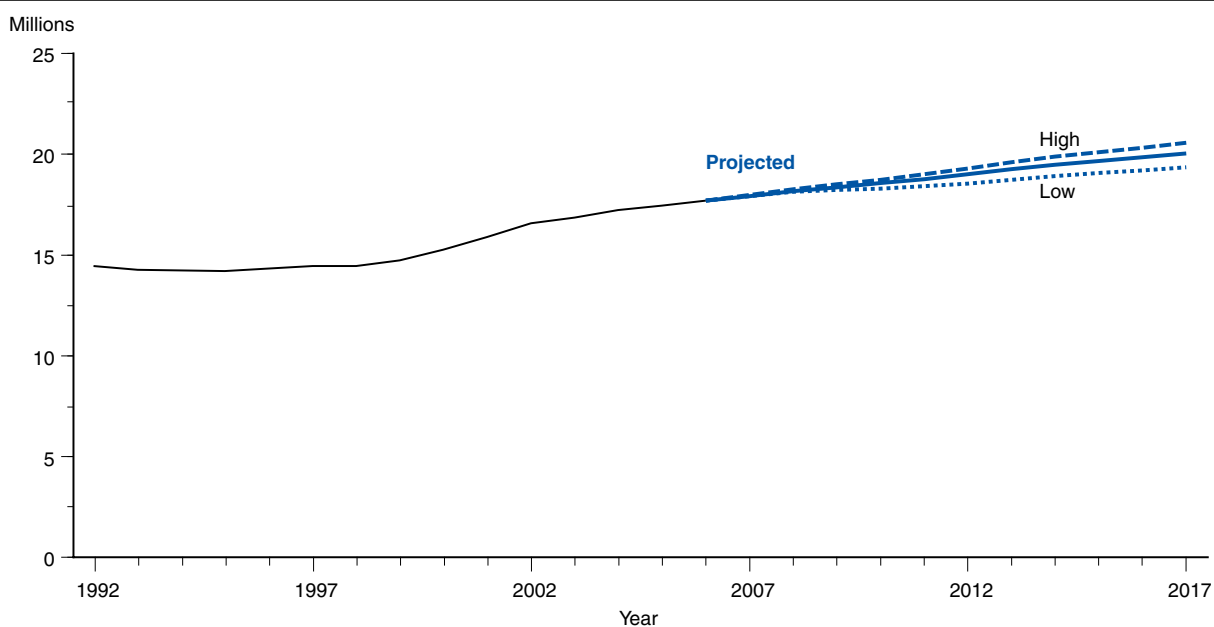
NOTE: Some data have been revised from previously published figures. Projections are from the U.S. Census Bureau’s middle series. SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved September 7, 2007, from http://www.census.gov/popest/national/asrh/2006_nat_af.html; and Population Projections, retrieved September 7, 2007, from <http://www.census.gov/ipc/www/usinterimproj/>. (This figure was prepared December 2007.)

Figure 9. Actual and projected numbers for 30–34 year olds and 35–44 year olds: 1992 through 2017



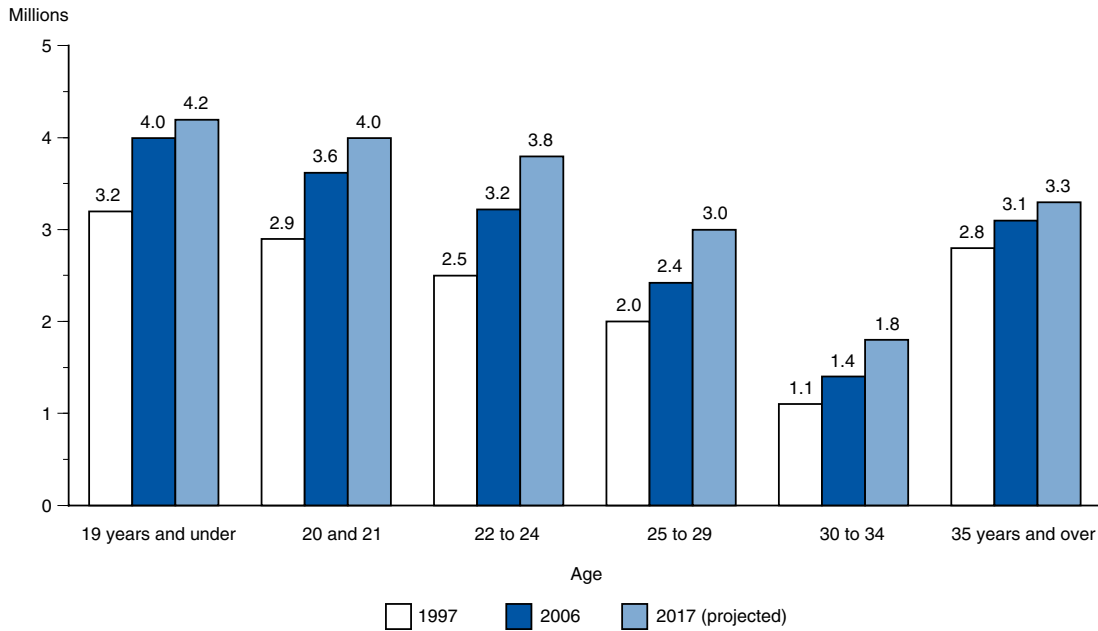
NOTE: Some data have been revised from previously published figures. Projections are from the U.S. Census Bureau's middle series.
 SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved September 7, 2007, from http://www.census.gov/popest/national/asrh/2006_nat_af.html; and Population Projections, retrieved September 7, 2007, from <http://www.census.gov/ipc/www/usinterimproj/>. (This figure was prepared December 2007.)

Figure 10. Actual and alternative projected numbers for enrollment in degree-granting postsecondary institutions: Fall 1992 through fall 2017



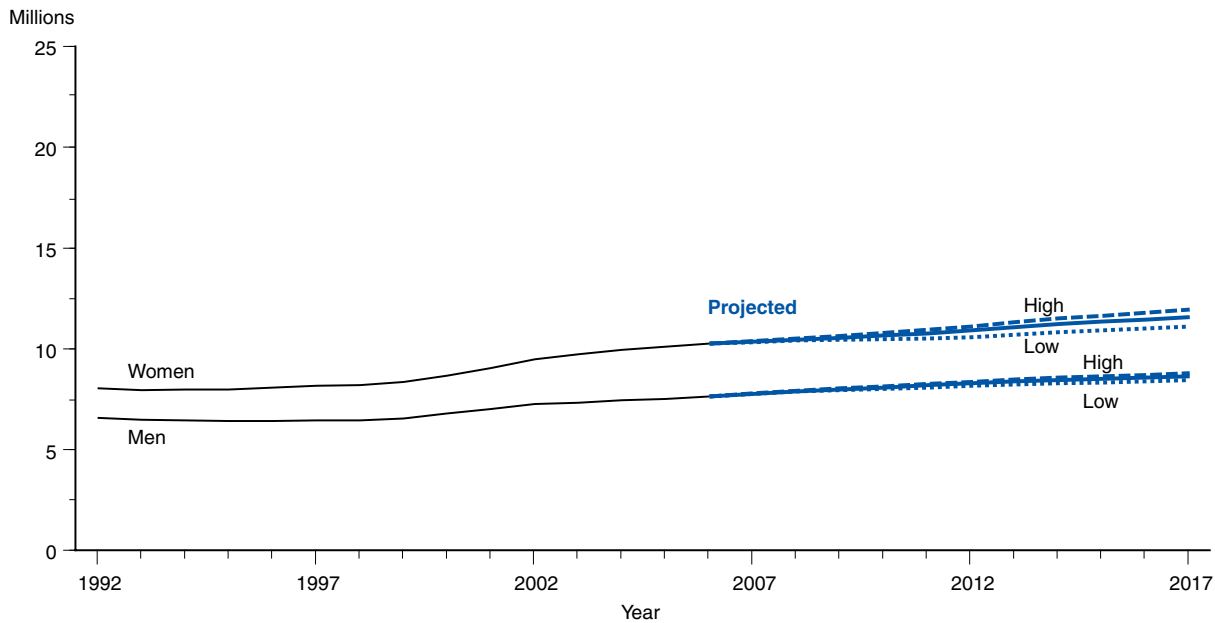
NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011*.) Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.
 SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:92-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This figure was prepared December 2007.)

Figure 11. Actual and middle alternative projected numbers for enrollment in degree-granting postsecondary institutions, by age group: Fall 1997, 2006, and 2017



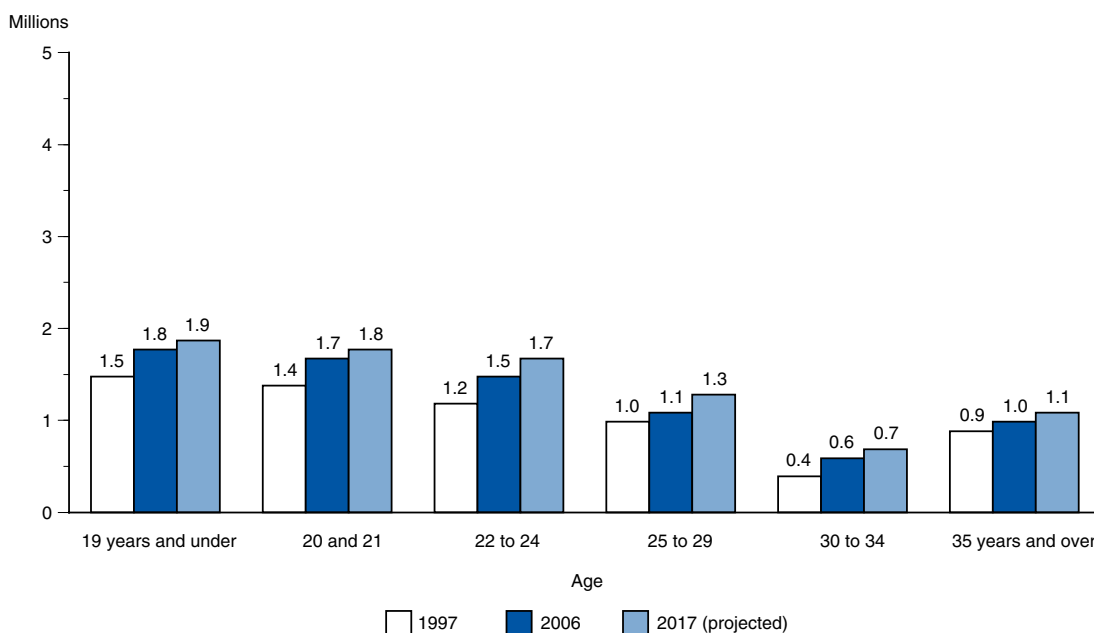
NOTE: Some data have been revised from previously published figures. Data by age are based on the distribution by age from the Census Bureau. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.
 SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:97), and Spring 2006: Enrollment in Degree-Granting Institutions Model, 1980–2006; and U.S. Department of Commerce, Census Bureau, *Current Population Reports*, "Social and Economic Characteristics of Students," various years. (This figure was prepared December 2007.)

Figure 12. Actual and middle alternative projected numbers for enrollment in degree-granting postsecondary institutions, by sex: Fall 1992 through fall 2017



NOTE: 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 A-2, appendix A.
 SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:92–99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980–2006. (This figure was prepared December 2007.)

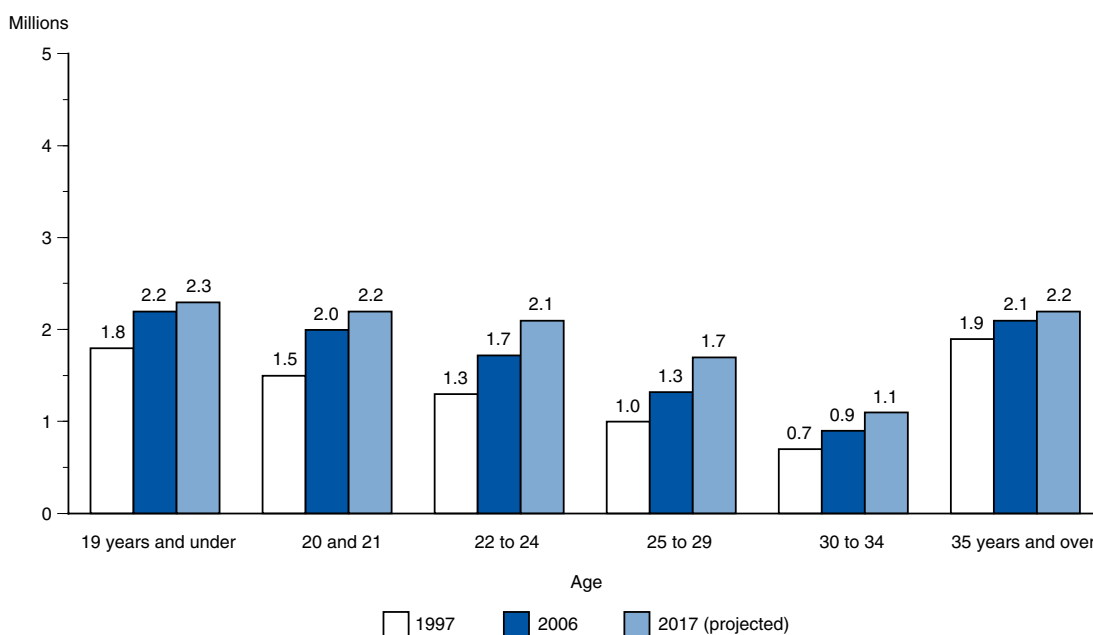
Figure 13. Actual and middle alternative projected numbers for enrollment of men in degree-granting postsecondary institutions, by age group: Fall 1997, 2006, and 2017



NOTE: Some data have been revised from previously published figures. Data by age are based on the distribution by age from the Census Bureau. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:97), and Spring 2006: Enrollment in Degree-Granting Institutions Model, 1980–2006; and U.S. Department of Commerce, Census Bureau, *Current Population Reports*, "Social and Economic Characteristics of Students," various years. (This figure was prepared December 2007.)

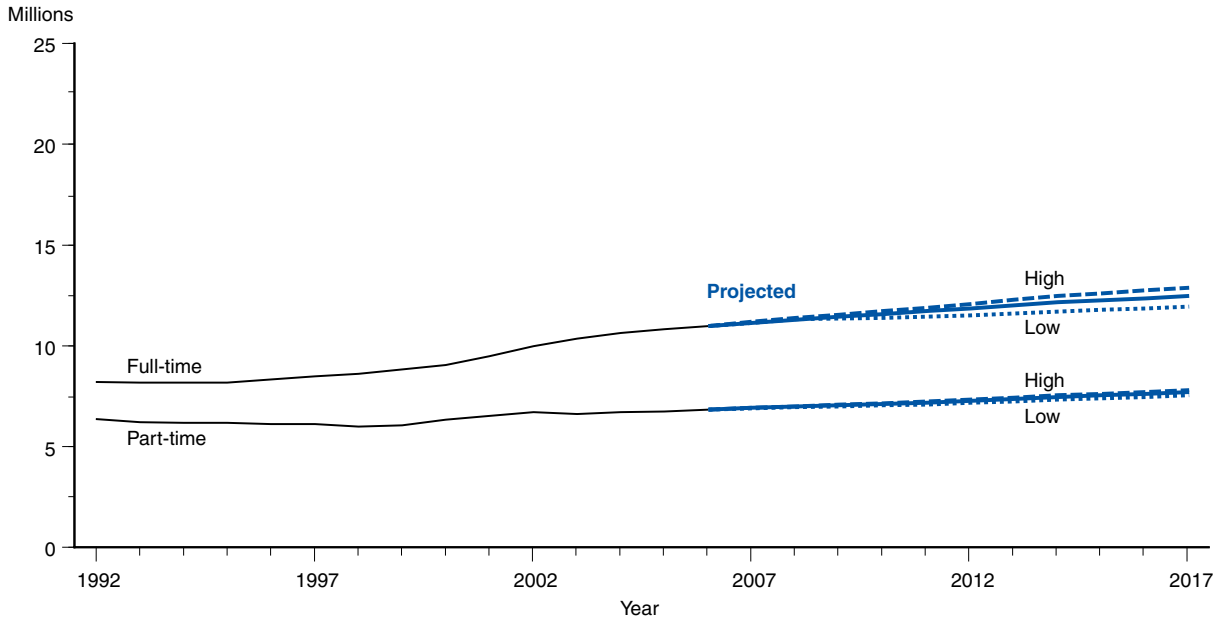
Figure 14. Actual and middle alternative projected numbers for enrollment of women in degree-granting postsecondary institutions, by age group: Fall 1997, 2006, and 2017



NOTE: Some data have been revised from previously published figures. Data by age are based on the distribution by age from the Census Bureau. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.

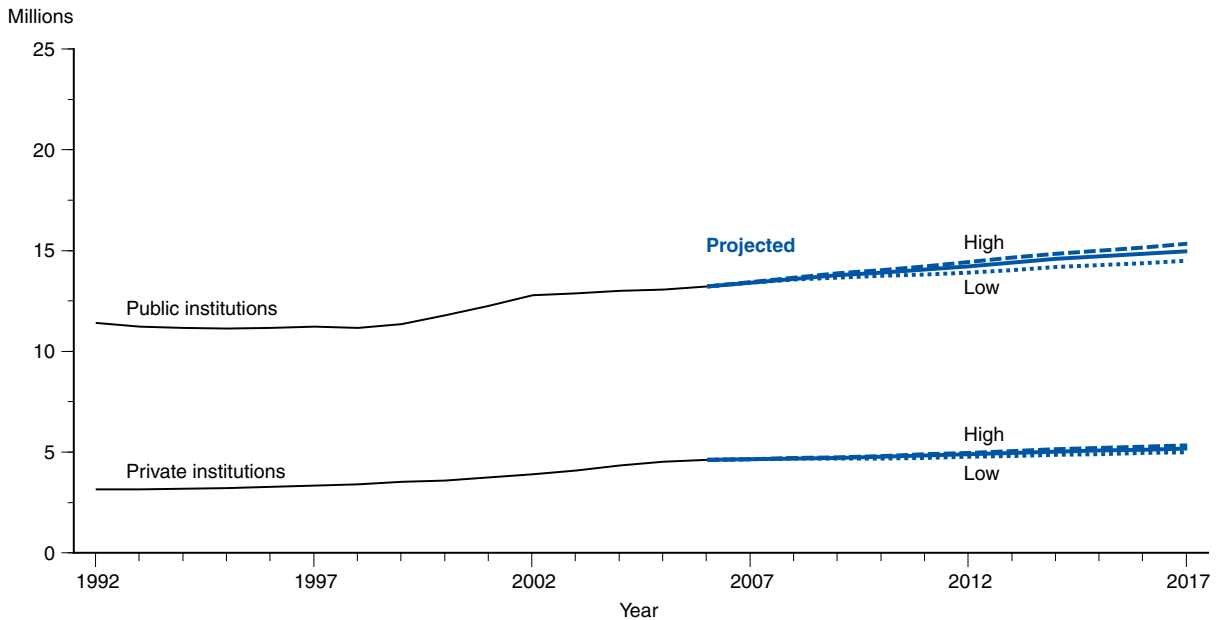
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:97), and Spring 2006: Enrollment in Degree-Granting Institutions Model, 1980–2006; and U.S. Department of Commerce, Census Bureau, *Current Population Reports*, "Social and Economic Characteristics of Students," various years. (This figure was prepared December 2007.)

Figure 15. Actual and middle alternative projected numbers for enrollment in degree-granting postsecondary institutions, by attendance status: Fall 1992 through fall 2017



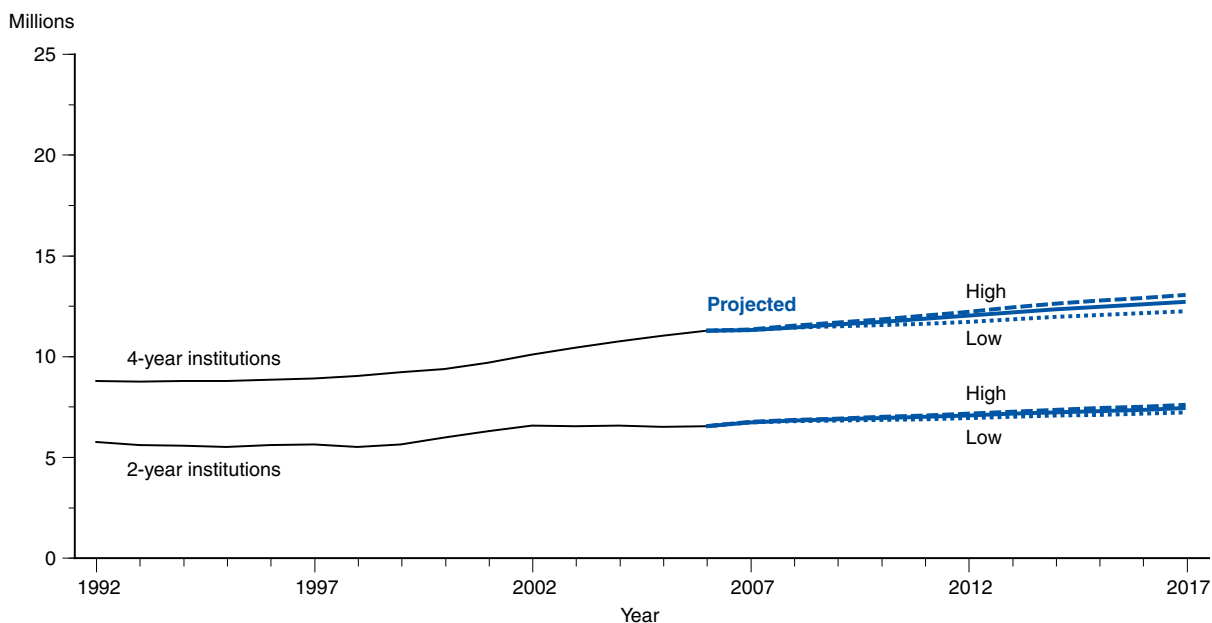
NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011*.) Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, “Fall Enrollment Survey” (IPEDS-EF:92-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This figure was prepared December 2007.)

Figure 16. Actual and alternative projected numbers for enrollment in degree-granting postsecondary institutions, by control of institution: Fall 1992 through fall 2017



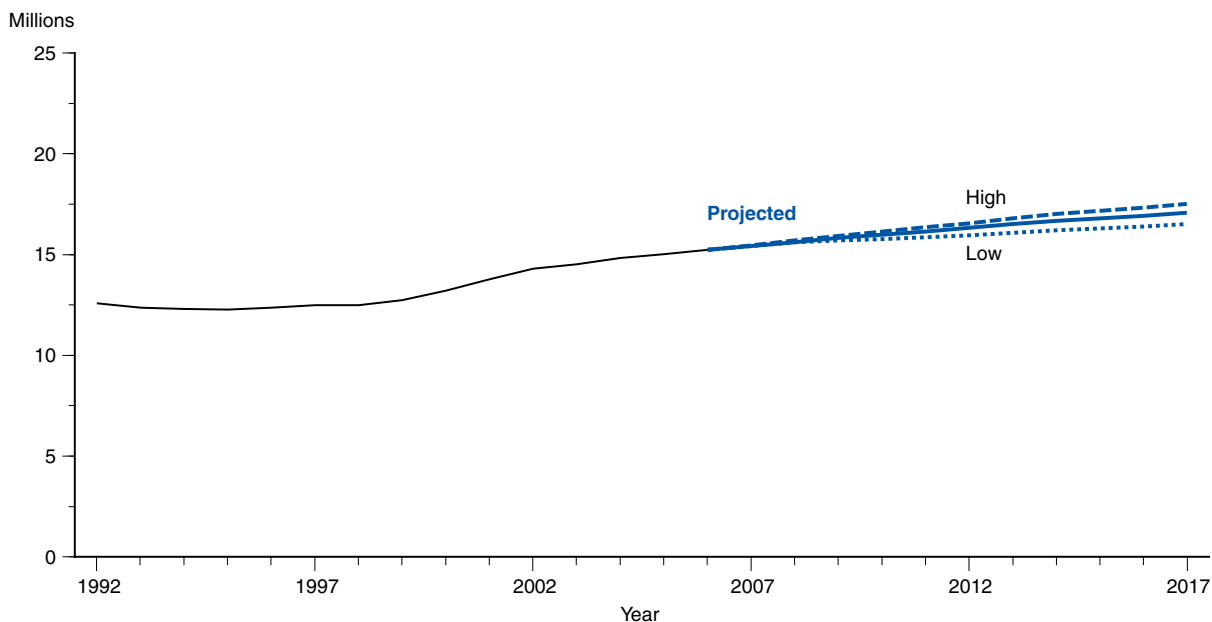
NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011*.) Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, “Fall Enrollment Survey” (IPEDS-EF:92-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This figure was prepared December 2007.)

Figure 17. Actual and alternative projected numbers for enrollment in degree-granting postsecondary institutions, by type of institution: Fall 1992 through fall 2017



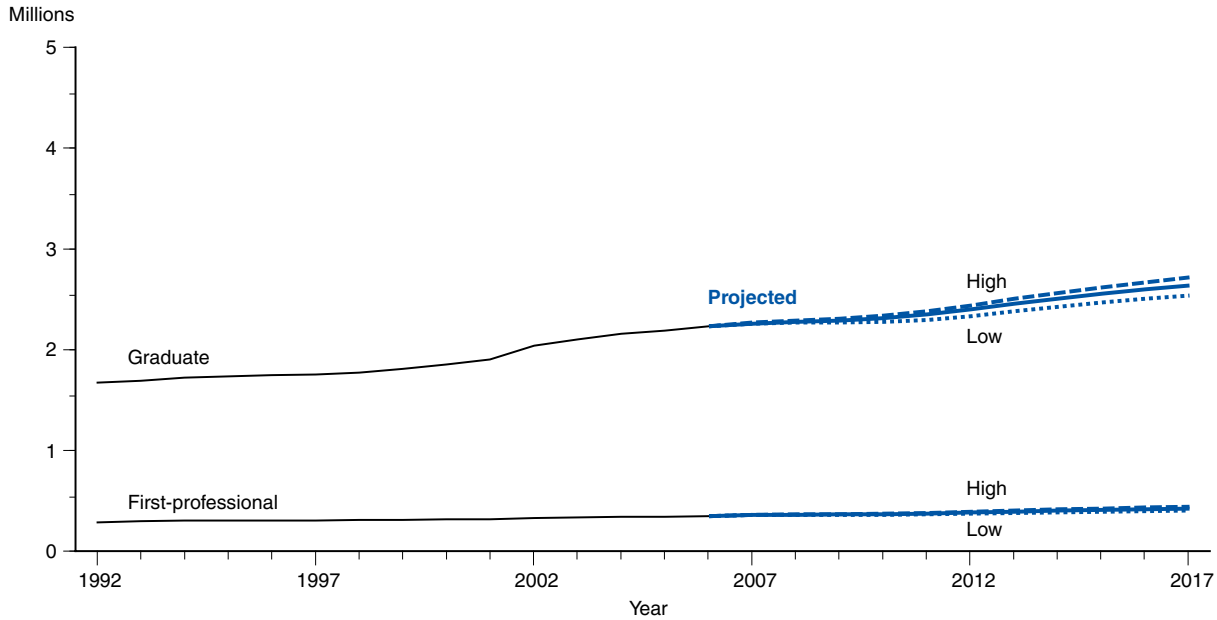
NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011*.) Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, “Fall Enrollment Survey” (IPEDS-EF:92–99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980–2006. (This figure was prepared December 2007.)

Figure 18. Actual and alternative projected numbers for undergraduate enrollment in degree-granting postsecondary institutions: Fall 1992 through fall 2017



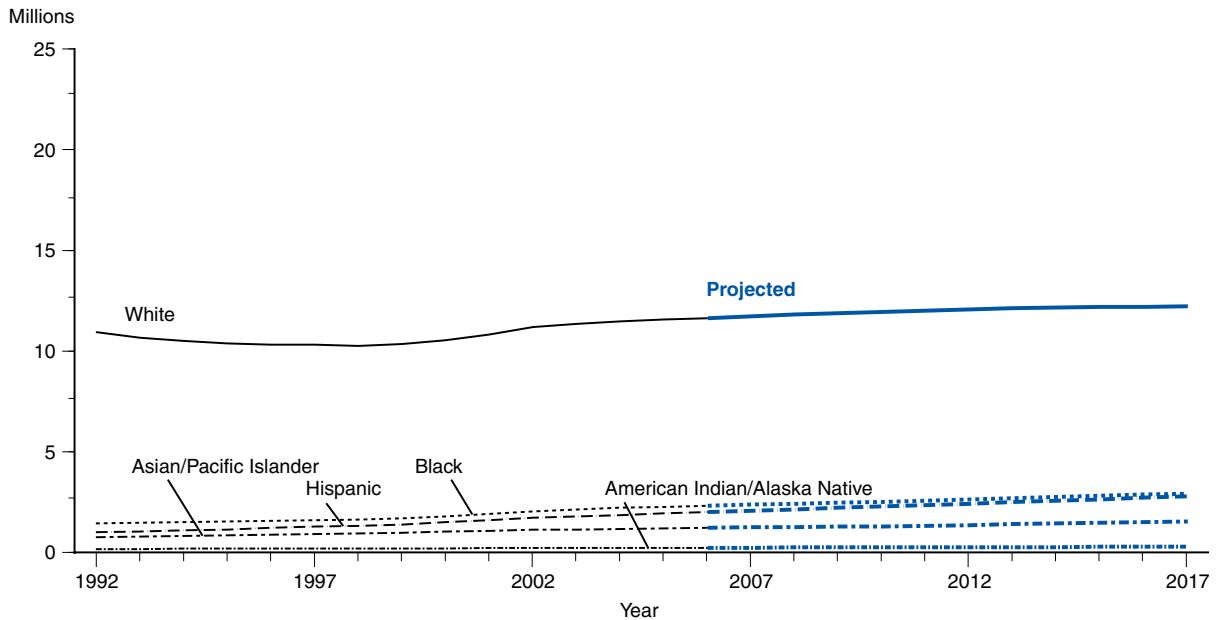
NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011*.) Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, “Fall Enrollment Survey” (IPEDS-EF:92–99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980–2006. (This figure was prepared December 2007.)

Figure 19. Actual and alternative projected numbers for postbaccalaureate enrollment in degree-granting postsecondary institutions: Fall 1992 through fall 2017



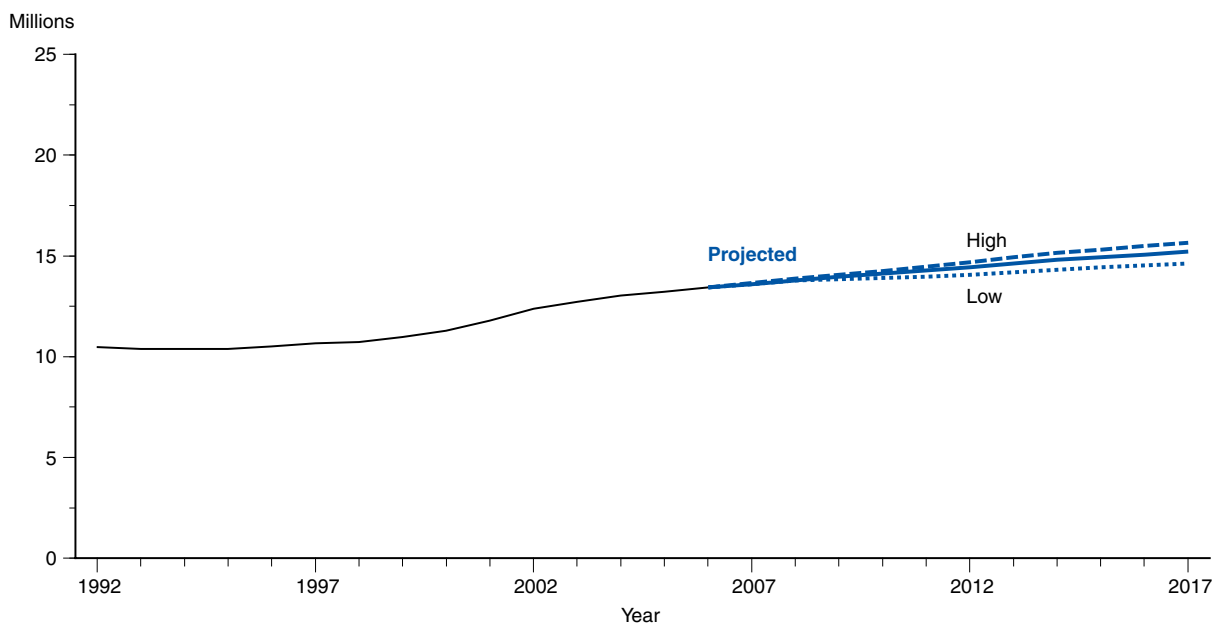
NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011*.) Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, “Fall Enrollment Survey” (IPEDS-EF:92–99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980–2006. (This figure was prepared December 2007.)

Figure 20. Actual and projected numbers for enrollment in degree-granting postsecondary institutions, by race/ethnicity: Fall 1992 through fall 2017



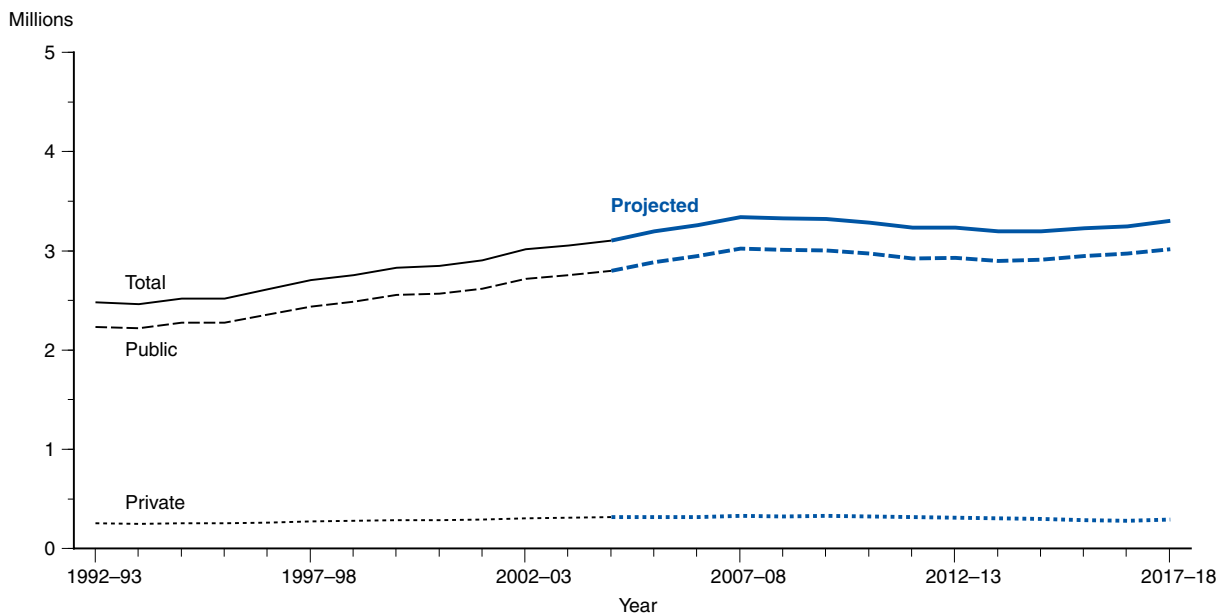
NOTE: Race categories exclude persons of Hispanic origin. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011*.) Enrollment data in the “racial/ethnicity unknown” category of the IPEDS “Fall Enrollment Survey” have been prorated to the other racial/ethnicity categories at the institutional level. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, “Fall Enrollment Survey” (IPEDS-EF:92–99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions by Race/Ethnicity Model, 1980–2006. (This figure was prepared December 2007.)

Figure 21. Actual and alternative projected numbers for full-time-equivalent enrollment in degree-granting postsecondary institutions: Fall 1992 through fall 2017



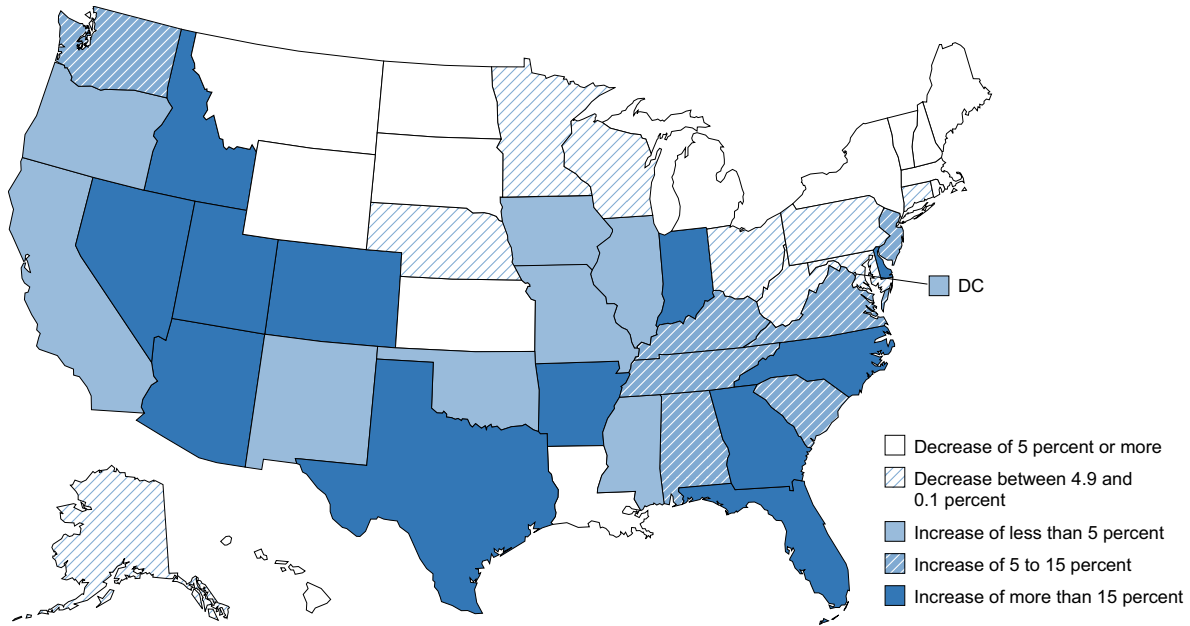
NOTE: Some data have been revised from previously published figures. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011*.) Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:92-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This figure was prepared December 2007.)

Figure 22. Actual and projected numbers for high school graduates, by control of school: 1992-93 through 2017-18



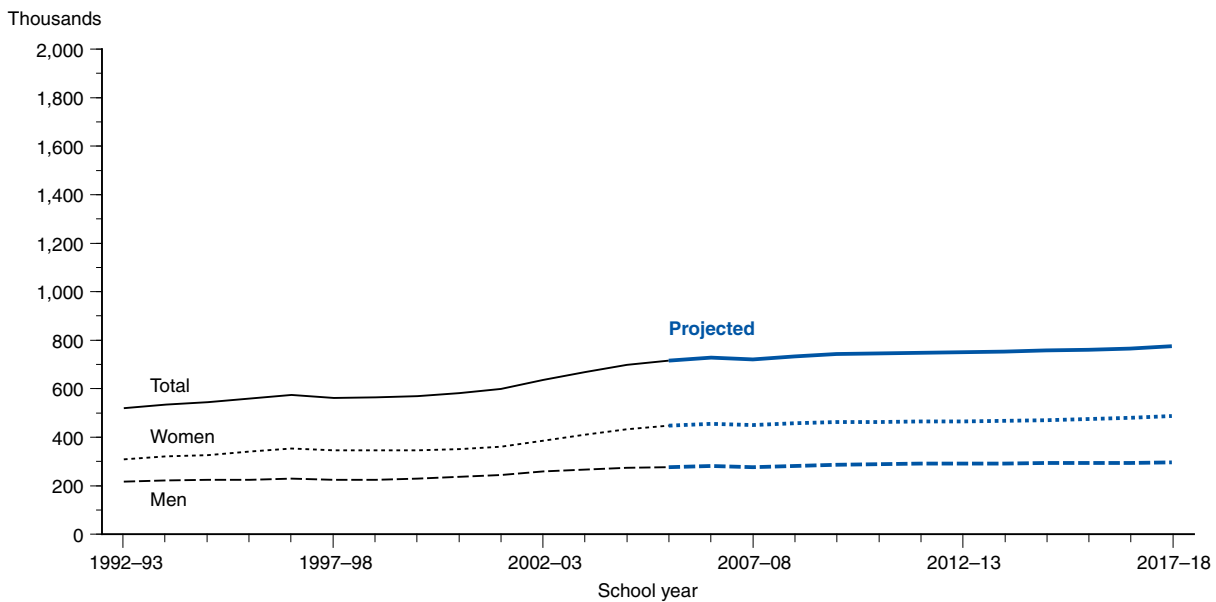
NOTE: Private school numbers for some years are estimated based on data from the Private School Universe Survey. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1993-94 through 2005-06; Private School Universe Survey (PSS), selected years, 1993-94 through 2005-06; and National Elementary and Secondary High School Graduates Model, 1972-73 through 2004-05. (This figure was prepared December 2007.)

Figure 23. Projected percentage change in the number of public high school graduates, by state: 2004–05 through 2017–18



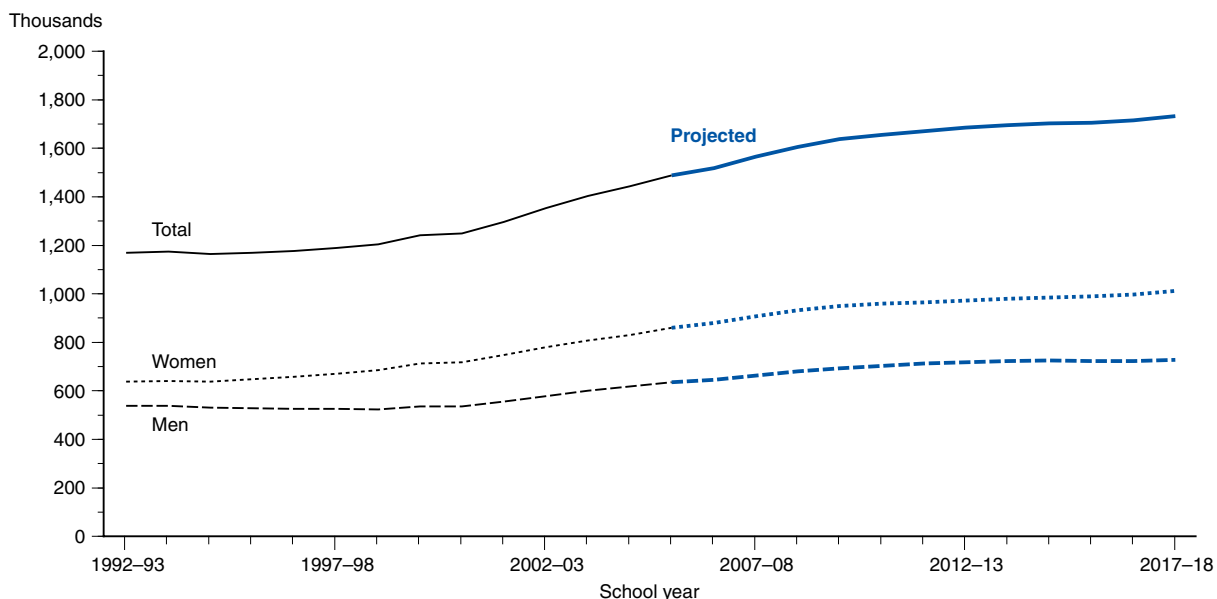
NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2005–06; and State Public High School Graduates Model, 1980–81 through 2004–05. (This figure was prepared December 2007.)

Figure 24. Actual and middle alternative projected numbers for associate's degrees, by sex of recipient: 1992–93 through 2017–18



NOTE: Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C:93–99), and Fall 2000 through Fall 2006; and Degrees Conferred Model, 1975–76 through 2005–06. (This figure was prepared December 2007.)

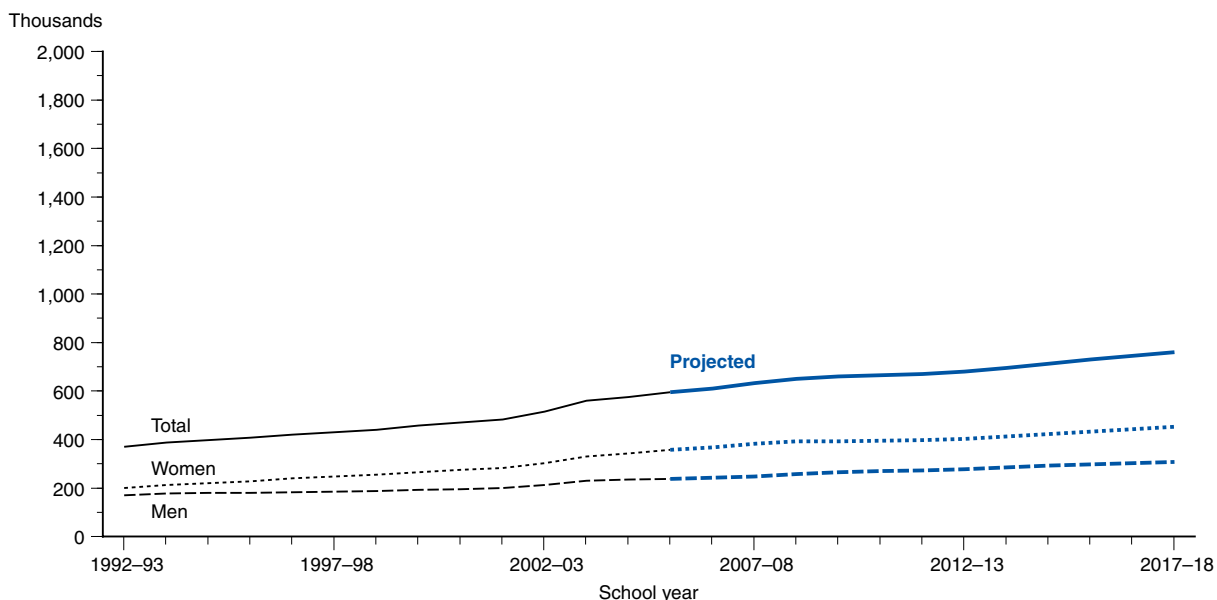
Figure 25. Actual and middle alternative projected numbers for bachelor's degrees, by sex of recipient: 1992-93 through 2017-18



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

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C:93-99), and Fall 2000 through Fall 2006; and Degrees Conferred Model, 1975-76 through 2005-06. (This figure was prepared December 2007.)

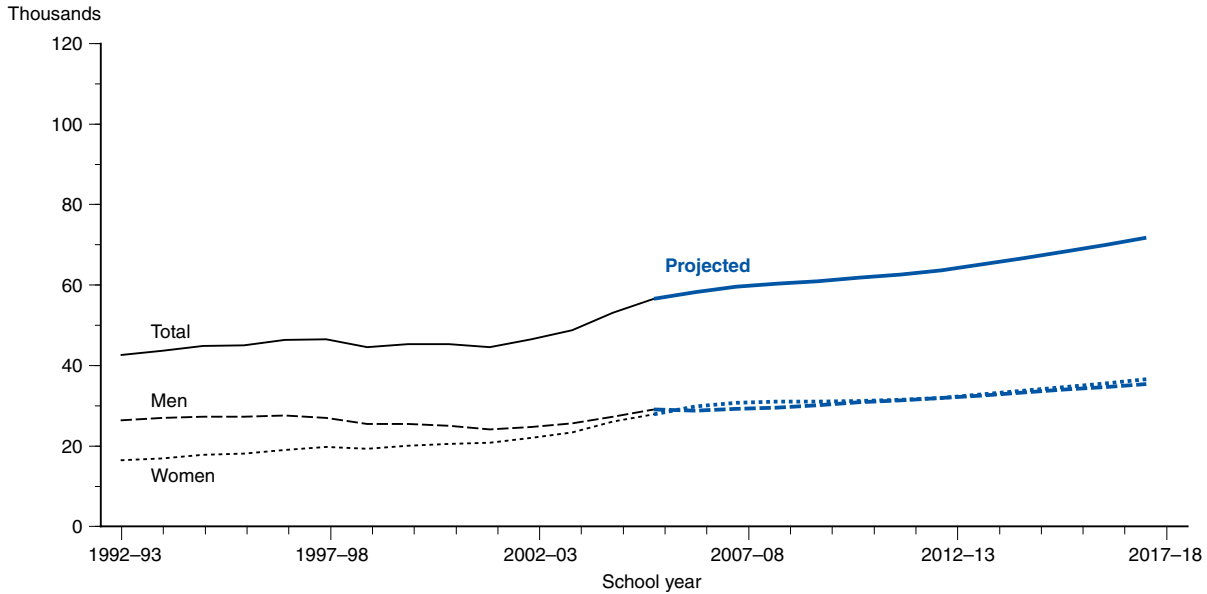
Figure 26. Actual and middle alternative projected numbers for master's degrees, by sex of recipient: 1992-93 through 2017-18



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

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C:93-99), and Fall 2000 through Fall 2006; and Degrees Conferred Model, 1975-76 through 2005-06. (This figure was prepared December 2007.)

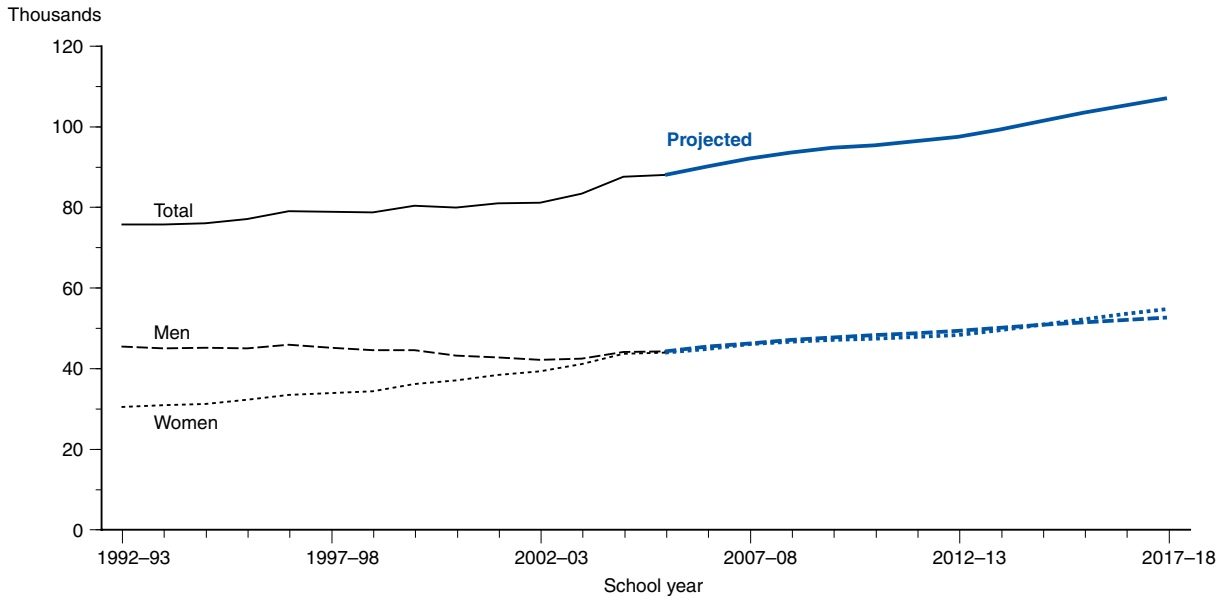
Figure 27. Actual and middle alternative projected numbers for doctor's degrees, by sex of recipient: 1992-93 through 2017-18



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

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C:93-99), and Fall 2000 through Fall 2006; and Degrees Conferred Model, 1975-76 through 2005-06. (This figure was prepared December 2007.)

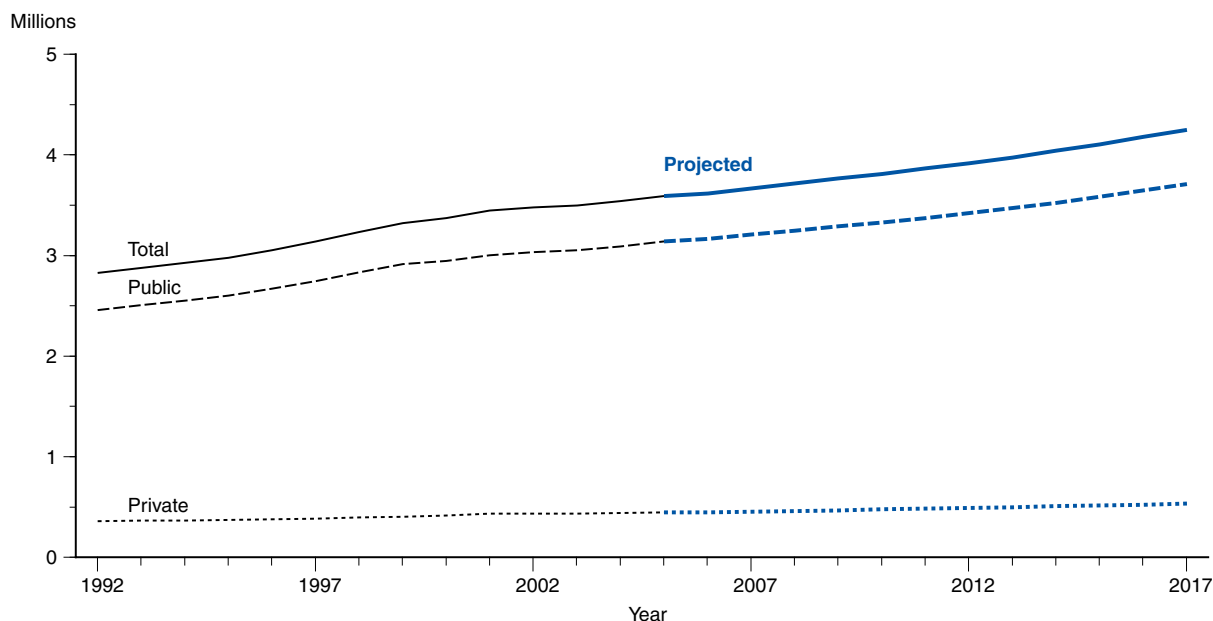
Figure 28. Actual and middle alternative projected numbers for first-professional degrees, by sex of recipient: 1992-93 through 2017-18



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

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C:93-99), and Fall 2000 through Fall 2006; and Degrees Conferred Model, 1975-76 through 2005-06. (This figure was prepared December 2007.)

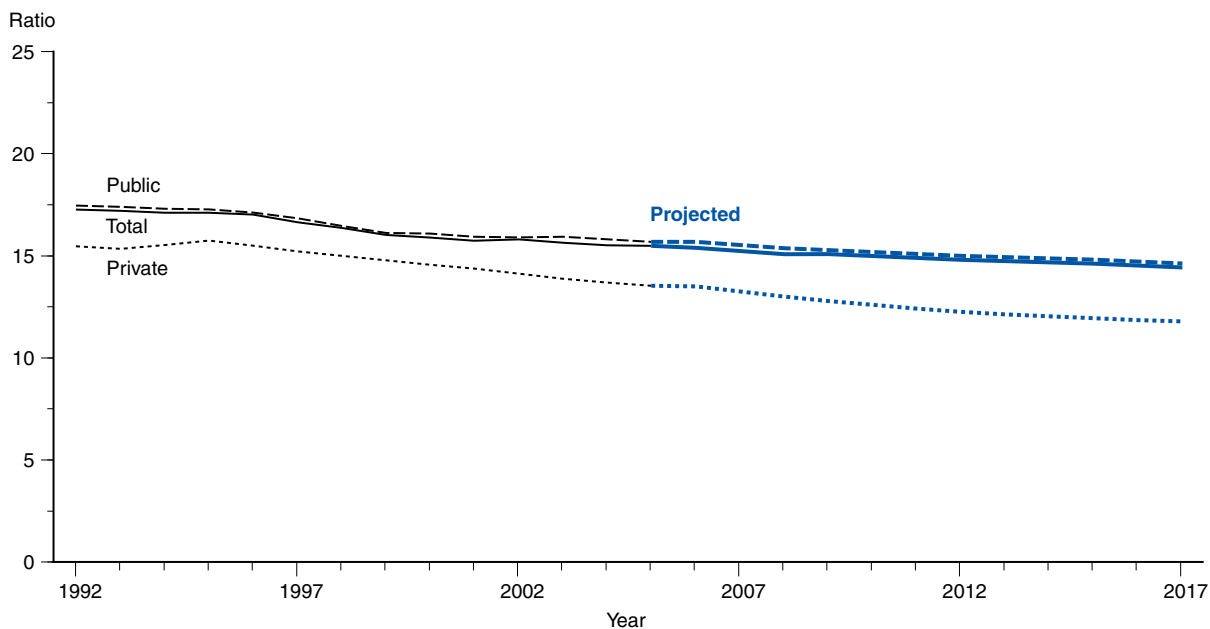
Figure 29. Actual and middle alternative projected numbers for elementary and secondary teachers, by control of school: Fall 1992 through fall 2017



NOTE: Private school teacher numbers and public and private school new teacher hires numbers for some years are estimated. Teachers reported in full-time equivalents. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, 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," 1992-93 through 2005-06; Private School Universe Survey (PSS), selected years, 1993-94 through 2005-06; Elementary and Secondary Teacher Model, 1973-2004. (This figure was prepared December 2007.)

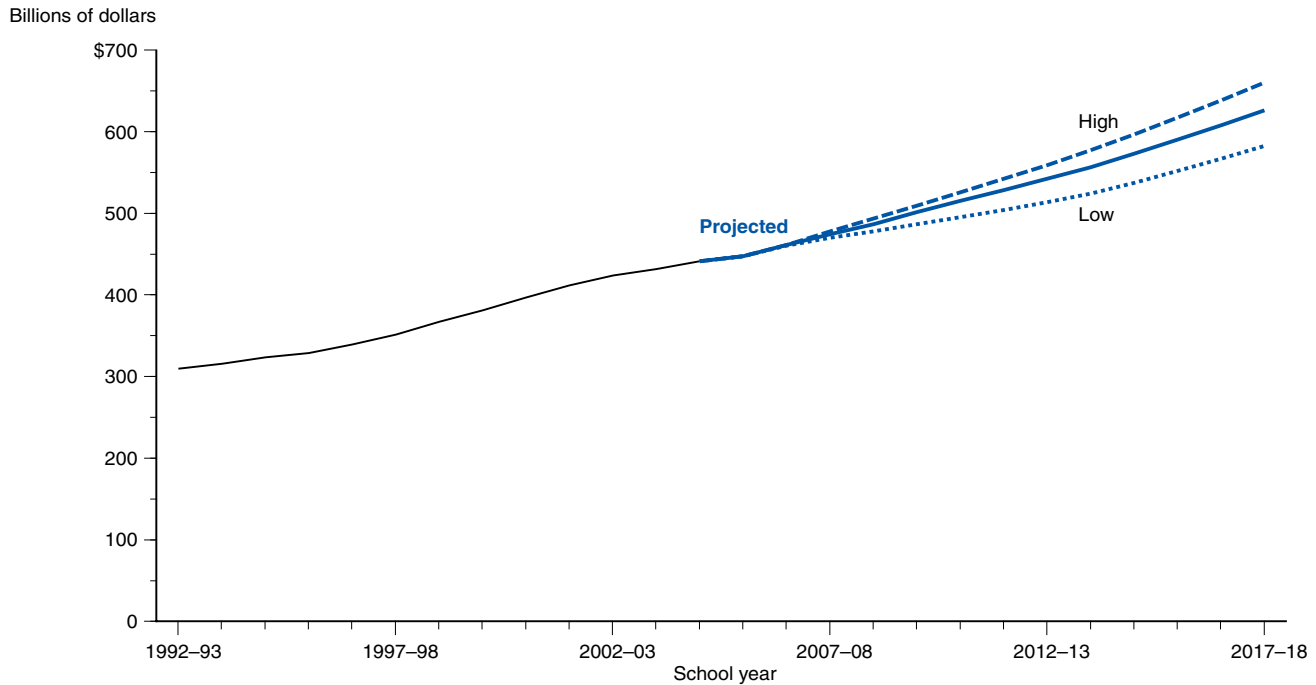
Figure 30. Actual and middle alternative projected numbers for the pupil/teacher ratios in elementary and secondary schools, by control of school: Fall 1992 through fall 2017



NOTE: Private school numbers for some years are estimated based on data from the Private School Universe Survey. The pupil/teacher ratios were derived from tables 1 and 32. Teachers reported in full-time equivalents. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, 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," 1992-93 through 2005-06; Private School Universe Survey (PSS), selected years, 1993-94 through 2005-06; National Elementary and Secondary Enrollment Model, 1972-2005; and Elementary and Secondary Teacher Model, 1973-2004. (This figure was prepared December 2007.)

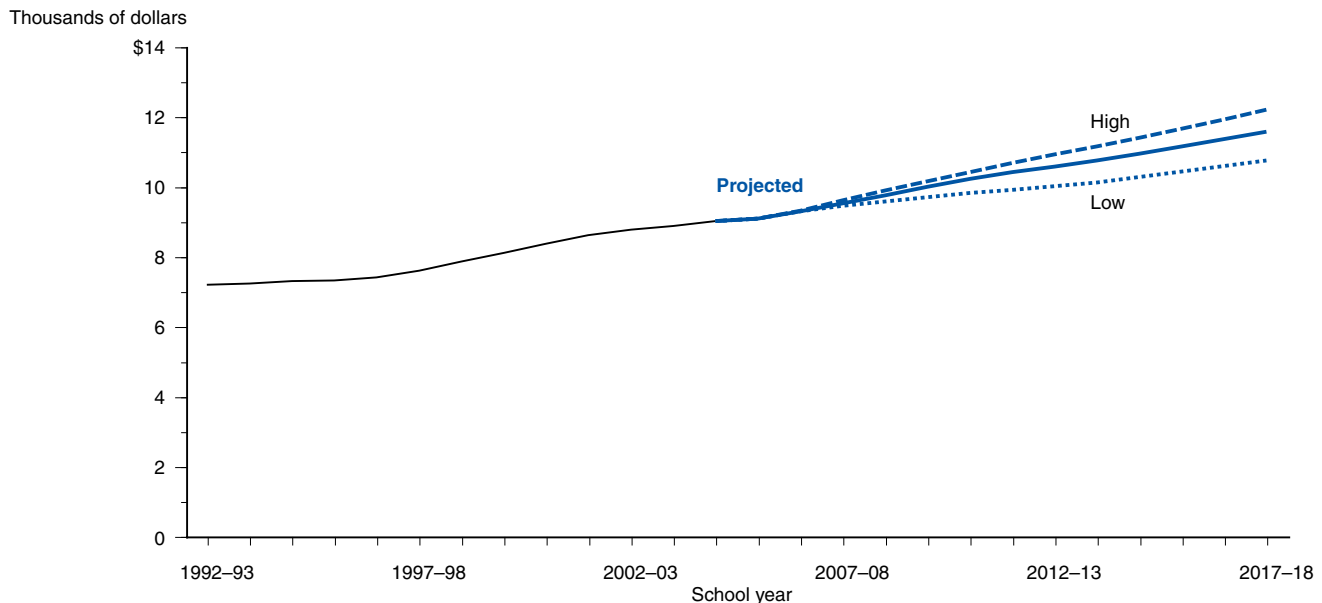
Figure 31. Actual and alternative projected numbers for current expenditures for public elementary and secondary schools (in constant 2005–06 dollars): 1992–93 through 2017–18



NOTE: Numbers were placed in constant dollars using the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), “National Public Education Financial Survey,” 1992–93 through 2004–05; Elementary and Secondary School Current Expenditures Model, 1969–70 through 2004–05. (This figure was prepared December 2007.)

Figure 32. Actual and alternative projected numbers for current expenditures per pupil in fall enrollment in public elementary and secondary schools (in constant 2005–06 dollars): 1992–93 through 2017–18



NOTE: Numbers were placed in constant dollars using the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, 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,” 1992–93 through 2005–06; “National Public Education Financial Survey,” 1992–93 through 2004–05; National Elementary and Secondary Enrollment Model, 1972–2005; and Elementary and Secondary School Current Expenditures Model, 1969–70 through 2004–05. (This figure was prepared December 2007.)

Reference Tables

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Table 1. Actual and projected numbers for enrollment in grades PK–12, PK–8, and 9–12 in elementary and secondary schools, by control of school: Fall 1992 through fall 2017

[In thousands]

Year	Total			Public			Private		
	PK–12 ¹	PK–8 ¹	9–12	PK–12	PK–8	9–12	PK–12 ¹	PK–8 ¹	9–12
Actual									
1992 ²	48,500	35,617	12,883	42,823	31,088	11,735	5,677	4,528	1,148
1993	49,133	36,040	13,093	43,465	31,504	11,961	5,668	4,536	1,132
1994 ²	49,898	36,522	13,376	44,111	31,898	12,213	5,787	4,624	1,162
1995	50,759	37,062	13,697	44,840	32,341	12,500	5,918	4,721	1,197
1996 ²	51,544	37,484	14,060	45,611	32,764	12,847	5,933	4,720	1,213
1997	52,071	37,799	14,272	46,127	33,073	13,054	5,944	4,726	1,218
1998 ²	52,526	38,093	14,433	46,539	33,346	13,193	5,988	4,748	1,240
1999	52,875	38,253	14,622	46,857	33,488	13,369	6,018	4,765	1,254
2000 ²	53,373	38,566	14,807	47,204	33,688	13,515	6,169	4,878	1,292
2001	53,992	38,931	15,061	47,672	33,938	13,734	6,320	4,993	1,326
2002 ²	54,403	39,002	15,402	48,183	34,116	14,067	6,220	4,886	1,334
2003	54,639	38,964	15,676	48,540	34,202	14,338	6,099	4,761	1,338
2004 ²	54,882	38,909	15,972	48,795	34,178	14,617	6,087	4,731	1,356
2005	55,187	38,904	16,282	49,113	34,205	14,909	6,073	4,699	1,374
Projected									
2006	55,559	39,133	16,426	49,464	34,422	15,041	6,095	4,711	1,384
2007	55,710	39,271	16,439	49,644	34,589	15,055	6,066	4,681	1,385
2008	55,879	39,585	16,294	49,825	34,903	14,922	6,054	4,681	1,372
2009	56,116	39,935	16,181	50,067	35,240	14,826	6,049	4,695	1,355
2010	56,400	40,374	16,026	50,353	35,653	14,700	6,047	4,721	1,326
2011	56,781	40,855	15,926	50,722	36,096	14,626	6,059	4,760	1,300
2012	57,275	41,341	15,934	51,194	36,527	14,667	6,081	4,813	1,267
2013	57,817	41,851	15,966	51,701	36,972	14,729	6,116	4,879	1,237
2014	58,446	42,336	16,110	52,284	37,403	14,881	6,162	4,933	1,228
2015	59,127	42,687	16,439	52,910	37,711	15,199	6,217	4,976	1,241
2016	59,786	43,073	16,713	53,503	38,052	15,451	6,283	5,021	1,262
2017	60,443	43,465	16,978	54,087	38,399	15,689	6,356	5,066	1,290

¹ Includes private nursery and prekindergarten enrollment in schools that offer kindergarten or higher grades.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 A-2, 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," 1992–93 through 2005–06; Private School Universe Survey (PSS), selected years 1993–94 through 2005–06; and National Elementary and Secondary Enrollment Model, 1972–2005. (This table was prepared November 2007.)

Table 2. Actual and projected numbers for enrollment in elementary and secondary schools, by organizational level and control of school: Fall 1992 through fall 2017

[In thousands]

Year	Total			Public			Private		
	PK-12 ¹	Elementary ¹	Secondary	PK-12	Elementary	Secondary	PK-12 ¹	Elementary ¹	Secondary
Actual									
1992 ²	48,500	32,478	16,022	42,823	27,950	14,874	5,677	4,528	1,148
1993.....	49,133	32,805	16,328	43,465	28,269	15,196	5,668	4,536	1,132
1994 ²	49,898	32,909	16,989	44,111	28,285	15,827	5,787	4,624	1,162
1995.....	50,759	33,336	17,423	44,840	28,614	16,226	5,918	4,721	1,197
1996 ²	51,544	33,461	18,083	45,611	28,741	16,870	5,933	4,720	1,213
1997.....	52,071	33,835	18,237	46,127	29,109	17,018	5,944	4,726	1,218
1998 ²	52,526	34,005	18,521	46,539	29,257	17,281	5,988	4,748	1,240
1999.....	52,875	34,183	18,692	46,857	29,419	17,439	6,018	4,765	1,254
2000 ²	53,373	34,382	18,991	47,204	29,504	17,700	6,169	4,878	1,292
2001.....	53,992	34,736	19,255	47,672	29,743	17,929	6,320	4,993	1,326
2002 ²	54,403	34,710	19,694	48,183	29,824	18,359	6,220	4,886	1,334
2003.....	54,639	34,632	20,008	48,540	29,871	18,670	6,099	4,761	1,338
2004 ²	54,882	34,603	20,279	48,795	29,872	18,923	6,087	4,731	1,356
2005.....	55,187	34,640	20,547	49,113	29,941	19,173	6,073	4,699	1,374
Projected									
2006.....	55,559	34,904	20,655	49,464	30,193	19,270	6,095	4,711	1,384
2007.....	55,710	35,070	20,639	49,644	30,389	19,255	6,066	4,681	1,385
2008.....	55,879	35,401	20,478	49,825	30,719	19,106	6,054	4,681	1,372
2009.....	56,116	35,767	20,349	50,067	31,073	18,994	6,049	4,695	1,355
2010.....	56,400	36,171	20,229	50,353	31,450	18,903	6,047	4,721	1,326
2011.....	56,781	36,605	20,176	50,722	31,845	18,876	6,059	4,760	1,300
2012.....	57,275	37,040	20,234	51,194	32,227	18,967	6,081	4,813	1,267
2013.....	57,817	37,426	20,392	51,701	32,547	19,155	6,116	4,879	1,237
2014.....	58,446	37,815	20,631	52,284	32,882	19,402	6,162	4,933	1,228
2015.....	59,127	38,149	20,978	52,910	33,172	19,737	6,217	4,976	1,241
2016.....	59,786	38,503	21,283	53,503	33,481	20,022	6,283	5,021	1,262
2017.....	60,443	38,857	21,586	54,087	33,791	20,297	6,356	5,066	1,290

¹ Includes private nursery and prekindergarten enrollment in schools that offer kindergarten or higher grades.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 A-2, 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," 1992-93 through 2005-06; Private School Universe Survey (PSS), selected years 1993-94 through 2005-06; and National Elementary and Secondary Enrollment Model, 1972-2005. (This table was prepared November 2007.)

Table 3. Actual and projected numbers for enrollment in public elementary and secondary schools, by grade: Fall 1992 through fall 2017

[In thousands]

Year	Grade															El- emen- tary un- graded	Sec- ondary un- graded
	Total	PK	K	1	2	3	4	5	6	7	8	9	10	11	12		
Actual																	
1992...	42,823	505	3,313	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	545	3,377	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	603	3,444	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	637	3,536	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	670	3,532	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	695	3,503	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	729	3,443	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	751	3,397	3,684	3,656	3,691	3,686	3,604	3,564	3,541	3,497	3,935	3,415	3,034	2,782	417	203
2000...	47,204	776	3,382	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...	47,672	865	3,379	3,614	3,593	3,653	3,695	3,727	3,769	3,720	3,616	4,012	3,528	3,174	2,863	306	157
2002...	48,183	915	3,434	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	160
2003...	48,540	950	3,503	3,613	3,544	3,611	3,619	3,685	3,772	3,841	3,809	4,190	3,675	3,277	3,046	256	149
2004...	48,795	990	3,544	3,663	3,560	3,580	3,612	3,635	3,735	3,818	3,825	4,281	3,750	3,369	3,094	216	121
2005...	49,113	1,036	3,619	3,691	3,606	3,586	3,578	3,633	3,670	3,777	3,802	4,287	3,866	3,455	3,180	206	120
Projected																	
2006...	49,464	1,081	3,775	3,747	3,636	3,637	3,587	3,595	3,680	3,716	3,761	4,279	3,848	3,543	3,251	206	121
2007...	49,644	1,070	3,736	3,908	3,691	3,667	3,638	3,605	3,642	3,726	3,701	4,234	3,840	3,525	3,334	206	122
2008...	49,825	1,077	3,761	3,913	3,850	3,723	3,668	3,656	3,651	3,687	3,710	4,166	3,799	3,519	3,318	206	121
2009...	50,067	1,085	3,790	3,938	3,854	3,883	3,724	3,686	3,703	3,697	3,672	4,176	3,738	3,481	3,311	207	120
2010...	50,353	1,095	3,823	3,968	3,880	3,887	3,884	3,743	3,734	3,750	3,682	4,133	3,748	3,425	3,276	209	118
2011...	50,722	1,105	3,858	4,003	3,909	3,913	3,888	3,903	3,791	3,781	3,734	4,144	3,709	3,434	3,223	211	116
2012...	51,194	1,115	3,895	4,040	3,943	3,942	3,914	3,908	3,953	3,838	3,765	4,203	3,719	3,398	3,231	213	115
2013...	51,701	1,127	3,935	4,078	3,980	3,977	3,943	3,933	3,958	4,003	3,822	4,238	3,772	3,408	3,198	216	114
2014...	52,284	1,139	3,976	4,120	4,018	4,014	3,978	3,963	3,984	4,008	3,986	4,302	3,803	3,456	3,207	218	113
2015...	52,910	1,150	4,016	4,163	4,059	4,052	4,015	3,998	4,014	4,034	3,991	4,487	3,861	3,485	3,252	220	114
2016...	53,503	1,160	4,052	4,205	4,101	4,093	4,053	4,035	4,049	4,065	4,017	4,492	4,026	3,538	3,279	222	116
2017...	54,087	1,169	4,083	4,242	4,142	4,136	4,095	4,073	4,086	4,100	4,048	4,522	4,031	3,689	3,329	224	117

NOTE: Elementary ungraded includes students in grades prekindergarten through 8 who are in classes or programs to which students are assigned without standard grade designations. Secondary ungraded includes students in grades 9 through 12 who are in classes or programs to which students are assigned without standard grade designations. 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 A-2, 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," 1992–93 through 2005–06; and National Elementary and Secondary Enrollment Model, 1972–2005. (This table was prepared November 2007.)

Table 4. Actual and projected numbers for enrollment in grades PK–12 in public elementary and secondary schools, by region and state: Fall 1999 through fall 2017

[In thousands]

Region and state	Actual							Projected		
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
United States	46,857	47,204	47,672	48,183	48,540	48,795	49,113	49,464	49,644	49,825
Northeast	8,196	8,222	8,250	8,297	8,292	8,271	8,240	8,183	8,123	8,057
Connecticut	554	562	570	570	577	577	575	572	566	561
Maine	209	207	206	204	202	199	195	193	189	186
Massachusetts	971	975	973	983	980	976	972	967	960	952
New Hampshire	207	208	207	208	207	207	206	203	200	198
New Jersey	1,289	1,313	1,342	1,367	1,381	1,393	1,396	1,392	1,393	1,393
New York	2,888	2,882	2,872	2,888	2,865	2,836	2,816	2,790	2,765	2,737
Pennsylvania	1,817	1,814	1,822	1,817	1,821	1,828	1,831	1,821	1,810	1,797
Rhode Island	156	157	158	159	159	156	153	151	148	145
Vermont	105	102	101	100	99	98	97	95	92	90
Midwest	10,726	10,730	10,745	10,819	10,809	10,775	10,818	10,809	10,769	10,718
Illinois	2,028	2,049	2,071	2,084	2,101	2,098	2,112	2,126	2,127	2,126
Indiana	989	989	996	1,004	1,011	1,021	1,035	1,041	1,043	1,044
Iowa	497	495	486	482	481	478	483	485	484	482
Kansas	472	471	470	471	470	469	467	464	462	461
Michigan	1,726	1,721	1,731	1,785	1,758	1,751	1,742	1,728	1,711	1,686
Minnesota	854	854	851	847	843	839	839	837	833	829
Missouri	914	913	910	906	906	905	918	918	917	917
Nebraska	288	286	285	285	286	286	287	287	288	288
North Dakota	113	109	106	104	102	101	98	97	95	94
Ohio	1,837	1,835	1,831	1,838	1,845	1,840	1,840	1,833	1,823	1,812
South Dakota	131	129	128	130	126	123	122	122	121	120
Wisconsin	878	879	879	881	880	865	875	870	865	860
South	16,842	17,007	17,237	17,471	17,673	17,892	18,104	18,384	18,581	18,802
Alabama	741	740	737	739	731	730	742	748	749	750
Arkansas	451	450	450	451	455	463	474	476	480	485
Delaware	113	115	116	116	118	119	121	122	124	125
District of Columbia	77	69	75	76	78	77	77	76	76	75
Florida	2,381	2,435	2,500	2,540	2,588	2,639	2,675	2,731	2,771	2,812
Georgia	1,423	1,445	1,471	1,496	1,523	1,553	1,598	1,643	1,679	1,712
Kentucky	648	666	654	661	663	675	680	683	683	686
Louisiana	757	743	731	730	728	724	655	633	614	602
Maryland	847	853	861	867	869	866	860	859	854	850
Mississippi	501	498	494	493	494	495	495	495	495	495
North Carolina	1,276	1,294	1,315	1,336	1,360	1,386	1,416	1,449	1,472	1,496
Oklahoma	627	623	622	625	626	629	635	637	639	643
South Carolina	667	677	676	694	699	704	702	706	704	706
Tennessee	916	909	925	928	937	941	954	964	968	974
Texas	3,992	4,060	4,163	4,260	4,332	4,405	4,525	4,653	4,759	4,872
Virginia	1,134	1,145	1,163	1,177	1,192	1,205	1,214	1,227	1,234	1,242
West Virginia	292	286	283	282	281	280	281	280	279	278
West	11,093	11,244	11,440	11,596	11,766	11,857	11,959	12,088	12,172	12,248
Alaska	134	133	134	134	134	133	141	135	134	132
Arizona	853	878	922	938	1,012	1,043	1,094	1,141	1,177	1,212
California	6,039	6,141	6,248	6,354	6,414	6,442	6,437	6,464	6,471	6,475
Colorado	708	725	742	752	758	766	780	793	803	812
Hawaii	186	184	185	184	184	183	183	182	183	184
Idaho	245	245	247	249	252	256	262	267	272	276
Montana	158	155	152	150	148	147	145	144	143	142
Nevada	326	341	357	369	385	400	412	429	444	457
New Mexico	324	320	320	320	323	326	327	328	329	330
Oregon	545	546	551	554	551	552	552	556	557	558
Utah	480	481	485	489	496	504	508	530	542	554
Washington	1,004	1,005	1,009	1,015	1,021	1,020	1,032	1,035	1,033	1,032
Wyoming	92	90	88	88	87	85	84	84	84	84

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 1999 through fall 2017—Continued

[In thousands]

Region and state	Projected—Continued								
	2009	2010	2011	2012	2013	2014	2015	2016	2017
United States	50,067	50,353	50,722	51,194	51,701	52,284	52,910	53,503	54,087
Northeast.....	8,000	7,948	7,910	7,888	7,879	7,885	7,906	7,927	7,953
Connecticut.....	555	551	546	543	541	539	539	538	539
Maine.....	183	181	179	179	178	178	179	179	180
Massachusetts.....	946	940	936	933	931	930	931	931	933
New Hampshire.....	196	194	193	193	193	194	195	196	198
New Jersey.....	1,393	1,393	1,394	1,397	1,399	1,404	1,409	1,414	1,419
New York.....	2,712	2,687	2,668	2,656	2,649	2,648	2,655	2,661	2,669
Pennsylvania.....	1,785	1,776	1,769	1,767	1,768	1,773	1,781	1,788	1,794
Rhode Island.....	142	140	138	136	135	134	134	134	136
Vermont.....	88	86	85	85	84	84	85	85	85
Midwest.....	10,674	10,646	10,635	10,647	10,671	10,711	10,759	10,799	10,839
Illinois.....	2,125	2,125	2,127	2,130	2,134	2,144	2,156	2,167	2,179
Indiana.....	1,044	1,046	1,047	1,050	1,053	1,056	1,060	1,063	1,066
Iowa.....	481	481	481	482	483	484	485	485	485
Kansas.....	460	460	461	463	465	468	471	472	474
Michigan.....	1,666	1,650	1,638	1,631	1,628	1,628	1,630	1,632	1,634
Minnesota.....	826	826	827	832	838	846	855	865	874
Missouri.....	916	915	917	922	928	934	941	945	950
Nebraska.....	288	288	290	291	293	295	297	298	300
North Dakota.....	93	92	91	91	91	91	91	91	91
Ohio.....	1,799	1,789	1,782	1,778	1,777	1,778	1,781	1,780	1,781
South Dakota.....	120	119	119	120	120	121	121	122	122
Wisconsin.....	856	854	854	856	861	866	872	878	883
South.....	19,055	19,312	19,599	19,930	20,252	20,598	20,941	21,255	21,553
Alabama.....	750	751	752	754	757	759	761	761	761
Arkansas.....	489	493	499	504	509	513	516	519	521
Delaware.....	126	127	128	129	131	133	134	136	137
District of Columbia.....	78	79	79	80	82	83	85	86	88
Florida.....	2,875	2,934	2,997	3,077	3,147	3,222	3,301	3,375	3,448
Georgia.....	1,744	1,779	1,814	1,853	1,892	1,931	1,969	2,002	2,032
Kentucky.....	687	688	690	693	695	697	698	699	699
Louisiana.....	592	584	578	575	573	572	573	573	573
Maryland.....	846	844	846	849	855	865	877	889	905
Mississippi.....	495	495	495	495	496	497	498	498	497
North Carolina.....	1,519	1,543	1,570	1,598	1,628	1,659	1,690	1,717	1,744
Oklahoma.....	646	649	654	659	665	670	675	678	681
South Carolina.....	709	712	716	722	729	737	745	751	756
Tennessee.....	979	986	994	1,003	1,013	1,024	1,035	1,045	1,054
Texas.....	4,993	5,114	5,241	5,378	5,508	5,643	5,774	5,898	6,014
Virginia.....	1,249	1,258	1,269	1,283	1,299	1,317	1,336	1,354	1,372
West Virginia.....	278	277	276	276	275	274	274	273	271
West.....	12,337	12,447	12,579	12,730	12,900	13,091	13,304	13,522	13,742
Alaska.....	132	133	134	135	138	140	143	147	150
Arizona.....	1,245	1,283	1,324	1,366	1,409	1,451	1,496	1,541	1,585
California.....	6,487	6,510	6,541	6,580	6,633	6,703	6,792	6,891	6,996
Colorado.....	823	834	846	860	874	888	903	915	927
Hawaii.....	185	188	190	192	195	197	201	204	207
Idaho.....	280	285	291	296	302	308	313	318	322
Montana.....	141	140	140	141	142	143	144	145	146
Nevada.....	470	483	497	511	526	542	558	574	590
New Mexico.....	332	335	338	342	347	352	356	360	363
Oregon.....	560	564	569	575	582	589	598	606	614
Utah.....	565	576	588	601	612	623	633	641	648
Washington.....	1,032	1,033	1,037	1,045	1,055	1,067	1,080	1,094	1,108
Wyoming.....	83	84	84	84	85	85	86	86	86

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 A-2, 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," 1999–2000 through 2005–06; and State Public Elementary and Secondary Enrollment Model, 1980–2005. (This table was prepared December 2007.)

Table 5. Actual and projected percentage changes in PK–12 enrollment in public schools, by region and state: Selected years, fall 1999 through fall 2017

Region and state	Actual 1999–2005	Projected		
		2005–2011	2011–2017	2005–2017
United States	4.8	3.3	6.6	10.1
Northeast.....	0.5	-4.0	0.6	-3.5
Connecticut.....	3.8	-5.0	-1.4	-6.3
Maine.....	-6.6	-8.2	0.2	-8.0
Massachusetts.....	0.0	-3.7	-0.3	-4.0
New Hampshire.....	-0.5	-6.1	2.4	-3.8
New Jersey.....	8.2	-0.1	1.8	1.7
New York.....	-2.5	-5.2	#	-5.2
Pennsylvania.....	0.8	-3.4	1.4	-2.0
Rhode Island.....	-1.9	-10.3	-1.3	-11.4
Vermont.....	-7.6	-11.6	-0.1	-11.7
Midwest.....	0.9	-1.7	1.9	0.2
Illinois.....	4.1	0.7	2.4	3.2
Indiana.....	4.7	1.2	1.8	3.0
Iowa.....	-2.8	-0.6	0.8	0.2
Kansas.....	-1.0	-1.3	2.8	1.5
Michigan.....	0.9	-6.0	-0.2	-6.2
Minnesota.....	-1.7	-1.4	5.6	4.2
Missouri.....	0.4	-0.1	3.6	3.5
Nebraska.....	-0.6	1.0	3.5	4.6
North Dakota.....	-12.8	-7.3	-0.3	-7.6
Ohio.....	0.2	-3.2	-0.1	-3.2
South Dakota.....	-6.9	-2.2	2.6	0.4
Wisconsin.....	-0.3	-2.4	3.3	0.9
South.....	7.5	8.3	10.0	19.1
Alabama.....	0.1	1.4	1.2	2.6
Arkansas.....	5.1	5.2	4.6	9.9
Delaware.....	7.2	5.9	6.8	13.1
District of Columbia.....	-0.4	3.3	10.7	14.3
Florida.....	12.3	12.1	15.0	28.9
Georgia.....	12.3	13.5	12.0	27.1
Kentucky.....	4.9	1.5	1.2	2.7
Louisiana.....	-13.5	-11.7	-0.8	-12.4
Maryland.....	1.6	-1.7	7.0	5.3
Mississippi.....	-1.2	-0.1	0.5	0.4
North Carolina.....	11.0	10.8	11.1	23.1
Oklahoma.....	1.2	3.0	4.2	7.4
South Carolina.....	5.2	2.1	5.6	7.8
Tennessee.....	4.1	4.2	6.0	10.4
Texas.....	13.4	15.8	14.7	32.9
Virginia.....	7.1	4.5	8.1	13.0
West Virginia.....	-3.8	-1.7	-1.8	-3.5
West.....	7.8	5.2	9.2	14.9
Alaska.....	5.0	-5.2	11.9	6.1
Arizona.....	28.4	21.0	19.7	44.8
California.....	6.6	1.6	7.0	8.7
Colorado.....	10.1	8.5	9.5	18.9
Hawaii.....	-1.6	3.8	8.9	13.0
Idaho.....	6.9	10.9	10.9	22.9
Montana.....	-7.7	-3.5	4.0	0.4
Nevada.....	26.7	20.4	18.9	43.2
New Mexico.....	0.7	3.5	7.3	11.1
Oregon.....	1.3	3.0	8.0	11.2
Utah.....	5.9	15.6	10.3	27.5
Washington.....	2.8	0.5	6.8	7.4
Wyoming.....	-8.4	-0.7	2.5	1.8

Rounds to zero.

NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A-2, 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, 1999–2000 through 2005–06; and State Public Elementary and Secondary Enrollment Model, 1980–2005. (This table was prepared December 2007.)

Table 6. Actual and projected numbers for enrollment in grades PK–8 in public elementary and secondary schools, by region and state: Fall 1999 through fall 2017

[In thousands]

Region and state	Actual							Projected		
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
United States	33,488	33,688	33,938	34,116	34,202	34,178	34,205	34,422	34,589	34,903
Northeast	5,841	5,841	5,824	5,810	5,752	5,690	5,623	5,564	5,522	5,497
Connecticut	404	406	410	406	408	404	400	395	391	388
Maine	149	146	144	142	139	136	133	131	130	128
Massachusetts	706	703	699	701	692	682	675	671	667	666
New Hampshire	147	147	144	144	142	140	139	136	134	133
New Jersey	954	968	972	979	979	976	971	963	962	966
New York	2,034	2,029	2,017	2,017	1,979	1,943	1,909	1,888	1,869	1,857
Pennsylvania	1,262	1,258	1,255	1,242	1,236	1,235	1,228	1,216	1,208	1,202
Rhode Island	114	114	113	113	111	107	104	101	99	97
Vermont	72	70	69	68	67	66	65	63	62	60
Midwest	7,551	7,523	7,517	7,535	7,502	7,439	7,425	7,399	7,368	7,362
Illinois	1,462	1,474	1,484	1,488	1,493	1,484	1,480	1,485	1,485	1,485
Indiana	699	703	711	714	717	720	724	727	727	729
Iowa	336	334	330	326	327	324	326	326	325	326
Kansas	326	323	322	322	323	321	320	318	318	319
Michigan	1,245	1,222	1,223	1,254	1,229	1,211	1,191	1,176	1,162	1,150
Minnesota	580	578	573	568	564	558	558	557	556	556
Missouri	649	645	643	635	632	629	635	632	630	634
Nebraska	197	195	195	195	195	195	195	195	196	198
North Dakota	75	72	70	69	68	67	66	65	63	63
Ohio	1,296	1,294	1,287	1,284	1,278	1,267	1,261	1,255	1,245	1,241
South Dakota	90	88	87	89	86	84	84	84	83	83
Wisconsin	596	595	592	592	590	578	584	579	578	577
South	12,191	12,314	12,454	12,573	12,675	12,780	12,882	13,095	13,272	13,536
Alabama	539	539	536	533	525	522	529	533	534	536
Arkansas	318	318	318	319	322	328	336	336	340	345
Delaware	80	81	81	82	83	84	85	85	86	87
District of Columbia	60	54	58	59	59	57	56	55	54	54
Florida	1,725	1,760	1,797	1,809	1,832	1,858	1,873	1,919	1,958	2,020
Georgia	1,044	1,060	1,075	1,089	1,103	1,118	1,145	1,181	1,208	1,241
Kentucky	459	471	473	477	478	486	487	488	489	492
Louisiana	548	547	537	537	536	534	482	467	456	454
Maryland	607	609	611	610	606	597	589	585	582	582
Mississippi	365	364	362	360	361	361	358	357	356	358
North Carolina	935	945	956	964	974	986	1,003	1,028	1,048	1,069
Oklahoma	447	445	446	449	450	453	457	458	460	466
South Carolina	484	493	487	500	501	504	498	501	503	508
Tennessee	664	668	675	673	675	671	677	683	688	696
Texas	2,896	2,943	3,016	3,080	3,133	3,184	3,268	3,375	3,460	3,570
Virginia	817	816	826	832	837	840	841	848	854	863
West Virginia	203	201	200	200	199	198	197	196	195	196
West	7,904	8,010	8,143	8,198	8,273	8,270	8,282	8,365	8,427	8,508
Alaska	96	94	95	94	94	92	99	93	93	93
Arizona	624	641	672	660	704	722	740	769	795	823
California	4,337	4,408	4,479	4,526	4,540	4,508	4,466	4,479	4,478	4,486
Colorado	507	517	529	534	536	541	550	561	570	581
Hawaii	133	132	132	131	130	129	127	127	128	130
Idaho	169	170	171	173	175	178	183	187	191	194
Montana	107	105	103	101	100	99	98	97	97	96
Nevada	240	251	262	271	281	289	296	306	315	326
New Mexico	229	225	225	224	226	228	230	230	232	234
Oregon	378	379	382	382	378	377	380	383	385	388
Utah	329	333	338	343	349	355	358	375	385	396
Washington	695	694	696	697	699	695	699	701	700	702
Wyoming	62	60	59	60	60	57	57	57	57	58

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 1999 through fall 2017—Continued

[In thousands]

Region and state	Projected—Continued								
	2009	2010	2011	2012	2013	2014	2015	2016	2017
United States	35,240	35,653	36,096	36,527	36,972	37,403	37,711	38,052	38,399
Northeast	5,480	5,476	5,483	5,489	5,504	5,523	5,529	5,541	5,559
Connecticut	385	382	380	378	377	377	377	379	380
Maine	127	127	126	126	127	127	128	128	129
Massachusetts	664	664	664	663	664	665	663	662	662
New Hampshire	133	132	133	133	134	135	137	139	140
New Jersey	968	972	976	979	983	987	990	991	993
New York	1,848	1,845	1,847	1,850	1,857	1,862	1,860	1,860	1,863
Pennsylvania	1,200	1,201	1,204	1,207	1,211	1,215	1,219	1,225	1,232
Rhode Island	96	94	94	93	94	95	96	96	97
Vermont	59	59	59	59	59	59	59	60	61
Midwest	7,367	7,388	7,417	7,442	7,471	7,501	7,518	7,547	7,580
Illinois	1,487	1,493	1,502	1,511	1,522	1,531	1,534	1,538	1,542
Indiana	731	733	735	737	739	740	740	742	744
Iowa	327	328	329	329	329	329	329	329	329
Kansas	320	322	325	326	327	329	330	331	332
Michigan	1,142	1,138	1,136	1,135	1,135	1,137	1,138	1,143	1,150
Minnesota	559	563	567	572	577	584	590	598	607
Missouri	638	643	649	652	656	660	663	666	669
Nebraska	199	201	203	205	206	207	208	208	208
North Dakota	63	63	63	63	63	63	64	64	64
Ohio	1,239	1,240	1,241	1,241	1,241	1,241	1,239	1,239	1,240
South Dakota	84	84	84	85	86	86	86	87	87
Wisconsin	578	580	584	587	590	594	598	603	608
South	13,786	14,063	14,332	14,585	14,832	15,055	15,206	15,366	15,514
Alabama	539	542	545	546	546	546	542	542	541
Arkansas	350	355	358	361	363	365	366	367	367
Delaware	88	89	90	92	93	94	94	95	96
District of Columbia	57	59	61	63	65	67	68	68	69
Florida	2,070	2,126	2,183	2,238	2,293	2,350	2,392	2,435	2,476
Georgia	1,271	1,303	1,333	1,361	1,387	1,409	1,420	1,433	1,447
Kentucky	495	498	500	502	502	502	501	500	498
Louisiana	450	450	451	453	455	457	457	456	454
Maryland	584	588	593	601	613	623	631	640	651
Mississippi	359	362	364	366	367	367	364	362	359
North Carolina	1,092	1,116	1,139	1,160	1,180	1,196	1,207	1,222	1,238
Oklahoma	472	478	483	486	490	493	495	496	496
South Carolina	513	520	527	533	538	541	542	544	547
Tennessee	704	713	722	729	735	741	745	750	755
Texas	3,670	3,779	3,882	3,984	4,081	4,171	4,239	4,303	4,362
Virginia	874	886	900	913	926	939	948	958	969
West Virginia	197	197	198	198	198	197	195	194	191
West	8,607	8,726	8,864	9,011	9,165	9,325	9,458	9,598	9,745
Alaska	94	95	97	99	101	103	106	109	112
Arizona	852	880	910	940	969	997	1,021	1,046	1,070
California	4,507	4,545	4,598	4,664	4,739	4,821	4,887	4,955	5,026
Colorado	592	604	615	625	634	642	647	652	658
Hawaii	133	136	139	142	145	148	150	151	151
Idaho	199	202	206	210	213	216	219	222	225
Montana	97	97	98	99	100	101	102	103	103
Nevada	335	345	356	367	377	388	398	408	418
New Mexico	237	241	245	248	251	254	257	259	261
Oregon	391	395	400	405	410	415	421	427	435
Utah	406	415	424	430	435	439	442	445	448
Washington	705	711	716	723	730	739	749	761	776
Wyoming	58	59	59	60	60	60	61	61	60

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 A-2, 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," 1999–2000 through 2005–06; and State Public Elementary and Secondary Enrollment Model, 1980–2005. (This table was prepared December 2007.)

Table 7. Actual and projected percentage changes in PK–8 enrollment in public schools, by region and state: Selected years, fall 1999 through fall 2017

Region and state	Actual 1999–2005	Projected		
		2005–2011	2011–2017	2005–2017
United States	2.1	5.5	6.4	12.3
Northeast	-3.7	-2.5	1.4	-1.1
Connecticut	-1.0	-4.8	#	-4.8
Maine	-10.3	-5.4	2.5	-3.0
Massachusetts	-4.4	-1.7	-0.3	-2.0
New Hampshire	-5.6	-4.4	6.0	1.3
New Jersey	1.8	0.6	1.7	2.3
New York	-6.1	-3.3	0.9	-2.4
Pennsylvania	-2.7	-1.9	2.4	0.4
Rhode Island	-8.5	-9.9	3.9	-6.3
Vermont	-10.5	-9.3	4.4	-5.3
Midwest	-1.7	-0.1	2.2	2.1
Illinois	1.2	1.5	2.7	4.2
Indiana	3.6	1.5	1.2	2.7
Iowa	-2.9	0.9	0.1	1.0
Kansas	-1.7	1.3	2.4	3.7
Michigan	-4.3	-4.6	1.2	-3.5
Minnesota	-3.9	1.7	7.0	8.8
Missouri	-2.1	2.1	3.2	5.3
Nebraska	-1.0	4.0	2.5	6.7
North Dakota	-12.4	-4.5	2.0	-2.5
Ohio	-2.7	-1.6	-0.1	-1.7
South Dakota	-6.8	1.1	3.1	4.2
Wisconsin	-2.1	-0.1	4.2	4.1
South	5.7	11.3	8.3	20.4
Alabama	-1.7	2.9	-0.7	2.2
Arkansas	5.7	6.6	2.5	9.3
Delaware	5.4	6.9	5.8	13.0
District of Columbia	-7.1	9.8	13.1	24.2
Florida	8.6	16.5	13.4	32.2
Georgia	9.7	16.4	8.5	26.3
Kentucky	6.2	2.6	-0.4	2.2
Louisiana	-12.0	-6.4	0.6	-5.8
Maryland	-3.1	0.8	9.6	10.5
Mississippi	-2.0	1.7	-1.3	0.4
North Carolina	7.3	13.6	8.6	23.4
Oklahoma	2.3	5.7	2.7	8.5
South Carolina	3.0	5.8	3.7	9.7
Tennessee	1.8	6.7	4.6	11.6
Texas	12.9	18.8	12.4	33.5
Virginia	3.0	7.0	7.6	15.1
West Virginia	-3.1	0.4	-3.5	-3.1
West	4.8	7.0	9.9	17.7
Alaska	3.5	-2.2	15.5	12.9
Arizona	18.6	23.1	17.6	44.7
California	3.0	3.0	9.3	12.5
Colorado	8.5	11.8	7.0	19.6
Hawaii	-4.3	8.9	9.0	18.6
Idaho	8.3	12.9	9.0	23.1
Montana	-9.0	0.5	5.3	5.8
Nevada	23.5	20.3	17.5	41.4
New Mexico	0.4	6.6	6.7	13.7
Oregon	0.3	5.3	8.8	14.6
Utah	8.6	18.5	5.8	25.3
Washington	0.7	2.4	8.4	11.0
Wyoming	-7.2	4.0	1.6	5.6

Rounds to zero.

NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A-2, 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, 1999–2000 through 2005–06; and State Public Elementary and Secondary Enrollment Model, 1980–2005. (This table was prepared December 2007.)

Table 8. Actual and projected numbers for enrollment in grades 9–12 in public elementary and secondary schools, by region and state: Fall 1999 through fall 2017

[In thousands]

Region and state	Actual							Projected		
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
United States	13,369	13,515	13,734	14,067	14,338	14,617	14,909	15,041	15,055	14,922
Northeast	2,355	2,381	2,427	2,486	2,540	2,582	2,617	2,619	2,600	2,560
Connecticut	150	156	160	164	169	173	175	176	175	173
Maine	60	61	62	63	63	63	62	61	59	58
Massachusetts	265	273	274	282	288	293	297	296	292	286
New Hampshire	60	61	62	64	65	67	67	67	66	64
New Jersey	335	346	370	389	402	417	425	429	430	427
New York	854	853	855	871	886	893	906	903	895	879
Pennsylvania	555	556	567	575	586	593	603	605	603	595
Rhode Island	43	44	45	47	48	49	50	49	49	48
Vermont	32	32	32	32	32	32	32	31	31	30
Midwest	3,175	3,207	3,228	3,284	3,307	3,337	3,393	3,410	3,400	3,356
Illinois	565	575	587	597	608	614	631	640	642	641
Indiana	289	286	285	290	294	301	311	315	316	315
Iowa	161	161	156	156	154	154	157	159	158	156
Kansas	146	147	148	149	148	148	147	146	144	142
Michigan	481	498	508	531	528	539	551	553	549	536
Minnesota	274	277	278	279	279	280	281	280	277	272
Missouri	265	268	267	272	274	277	283	287	287	283
Nebraska	91	91	90	90	90	91	92	92	92	90
North Dakota	38	37	36	35	34	33	33	32	32	31
Ohio	540	541	544	554	567	573	578	578	578	571
South Dakota	41	41	41	41	40	39	38	38	38	37
Wisconsin	281	285	288	290	290	287	291	291	288	283
South	4,650	4,693	4,783	4,898	4,997	5,112	5,222	5,289	5,309	5,266
Alabama	202	201	202	206	206	208	212	215	215	214
Arkansas	133	132	132	132	133	135	138	140	140	140
Delaware	33	34	34	34	35	35	36	37	37	38
District of Columbia	17	15	17	17	19	20	21	22	22	22
Florida	656	675	703	731	755	782	802	812	813	792
Georgia	379	385	395	407	419	435	453	463	471	471
Kentucky	189	194	181	184	185	189	192	195	195	194
Louisiana	209	197	194	194	191	191	172	165	157	149
Maryland	239	244	250	256	263	268	271	274	272	268
Mississippi	135	134	132	132	133	134	137	138	139	138
North Carolina	341	348	359	372	386	400	413	422	425	427
Oklahoma	180	178	176	176	176	177	178	179	178	176
South Carolina	183	184	189	194	198	199	204	205	201	198
Tennessee	252	241	250	254	261	270	277	281	280	278
Texas	1,096	1,117	1,147	1,180	1,199	1,221	1,257	1,278	1,299	1,302
Virginia	317	329	337	346	355	365	373	379	381	379
West Virginia	88	85	83	82	82	83	84	84	84	83
West	3,189	3,234	3,297	3,398	3,493	3,587	3,677	3,724	3,745	3,740
Alaska	39	39	39	40	40	41	42	42	41	39
Arizona	229	237	251	277	308	321	355	372	382	389
California	1,702	1,733	1,769	1,828	1,874	1,934	1,971	1,985	1,993	1,989
Colorado	202	208	213	217	221	225	230	232	233	231
Hawaii	53	52	53	53	54	54	55	55	55	54
Idaho	76	75	75	75	77	78	79	80	81	82
Montana	50	50	49	49	48	48	48	47	46	45
Nevada	86	90	94	99	105	111	116	123	129	132
New Mexico	96	95	95	96	97	98	97	98	98	97
Oregon	167	167	170	172	173	176	173	173	172	170
Utah	151	148	147	147	147	148	151	155	157	157
Washington	309	310	313	318	322	325	333	335	333	329
Wyoming	30	30	29	28	28	27	27	27	27	26

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 1999 through fall 2017—Continued

[In thousands]

Region and state	Projected—Continued								
	2009	2010	2011	2012	2013	2014	2015	2016	2017
United States	14,826	14,700	14,626	14,667	14,729	14,881	15,199	15,451	15,689
Northeast	2,520	2,472	2,427	2,399	2,375	2,363	2,377	2,386	2,394
Connecticut	170	169	166	165	164	162	161	160	158
Maine	56	54	53	52	52	51	51	51	50
Massachusetts	282	276	272	270	267	265	267	269	271
New Hampshire	63	62	61	60	59	58	58	57	58
New Jersey	425	421	418	417	417	417	419	423	426
New York	864	842	821	806	792	786	795	801	806
Pennsylvania	585	575	565	560	558	558	562	563	562
Rhode Island	46	45	44	43	41	40	39	38	39
Vermont	28	27	27	26	26	25	25	25	24
Midwest	3,307	3,258	3,218	3,205	3,200	3,210	3,241	3,252	3,259
Illinois	638	632	625	619	613	613	622	629	637
Indiana	313	313	312	313	314	316	320	322	322
Iowa	154	152	152	152	154	155	156	156	155
Kansas	140	138	137	137	138	139	141	141	142
Michigan	524	512	502	497	492	490	492	489	485
Minnesota	268	263	261	260	260	262	265	267	267
Missouri	278	272	269	270	272	275	278	279	281
Nebraska	88	87	87	87	87	88	89	91	92
North Dakota	30	29	28	28	28	27	27	27	27
Ohio	560	550	540	537	536	537	542	541	541
South Dakota	36	35	35	35	35	35	35	35	35
Wisconsin	278	274	271	269	271	272	274	275	275
South	5,270	5,249	5,267	5,344	5,420	5,542	5,735	5,889	6,039
Alabama	211	208	207	209	210	214	219	220	220
Arkansas	139	139	141	143	146	148	151	152	154
Delaware	38	38	38	38	38	39	40	41	41
District of Columbia	21	20	18	17	17	16	17	18	19
Florida	805	807	814	838	853	872	909	940	972
Georgia	473	476	481	492	505	522	548	569	585
Kentucky	192	190	190	191	193	195	197	199	200
Louisiana	142	134	127	122	118	116	116	117	119
Maryland	262	257	252	248	243	242	246	249	255
Mississippi	136	133	131	129	129	130	134	136	138
North Carolina	427	427	430	438	448	463	483	496	507
Oklahoma	174	171	171	173	175	178	180	182	185
South Carolina	196	191	189	189	191	196	203	207	210
Tennessee	276	273	272	275	278	283	291	295	299
Texas	1,323	1,335	1,358	1,394	1,427	1,473	1,535	1,595	1,652
Virginia	376	372	369	370	373	378	388	396	404
West Virginia	81	79	78	78	77	78	79	79	80
West	3,730	3,721	3,714	3,719	3,734	3,766	3,845	3,924	3,997
Alaska	39	37	37	37	37	37	37	38	38
Arizona	393	403	414	425	439	454	475	495	515
California	1,980	1,966	1,942	1,916	1,894	1,882	1,906	1,936	1,970
Colorado	231	231	231	235	240	246	255	263	269
Hawaii	53	52	51	50	50	49	51	53	55
Idaho	82	83	84	86	89	91	94	96	97
Montana	44	43	42	42	42	42	42	42	43
Nevada	135	138	141	145	149	154	160	167	172
New Mexico	95	94	94	94	96	98	99	101	102
Oregon	169	168	169	171	172	174	177	178	179
Utah	159	160	164	171	177	184	191	197	200
Washington	326	322	321	323	325	329	331	333	332
Wyoming	25	25	24	24	25	25	25	25	26

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 A-2, 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," 1999–2000 through 2005–06; and State Public Elementary and Secondary Enrollment Model, 1980–2005. (This table was prepared December 2007.)

Table 9. Actual and projected percentage changes in 9–12 enrollment in public schools, by region and state: Selected years, fall 1999 through fall 2017

Region and state	Actual 1999–2005	Projected		
		2005–2011	2011–2017	2005–2017
United States	11.5	-1.9	7.3	5.2
Northeast	11.1	-7.3	-1.4	-8.5
Connecticut	16.8	-5.3	-4.7	-9.7
Maine	2.5	-14.2	-5.4	-18.8
Massachusetts	11.8	-8.3	-0.4	-8.6
New Hampshire	12.1	-9.6	-5.2	-14.3
New Jersey	26.6	-1.7	2.1	0.3
New York	6.1	-9.4	-1.9	-11.1
Pennsylvania	8.8	-6.3	-0.6	-6.8
Rhode Island	15.4	-11.1	-12.4	-22.1
Vermont	-1.0	-16.2	-10.1	-24.7
Midwest	6.9	-5.2	1.3	-4.0
Illinois	11.7	-1.0	1.9	0.9
Indiana	7.3	0.5	3.2	3.7
Iowa	-2.5	-3.7	2.4	-1.4
Kansas	0.3	-6.8	3.6	-3.5
Michigan	14.5	-8.8	-3.5	-12.0
Minnesota	2.9	-7.5	2.7	-5.0
Missouri	6.5	-5.0	4.6	-0.5
Nebraska	0.4	-5.4	5.8	0.1
North Dakota	-13.6	-13.1	-5.3	-17.7
Ohio	7.1	-6.5	0.1	-6.4
South Dakota	-7.2	-9.3	1.3	-8.1
Wisconsin	3.5	-7.0	1.5	-5.6
South	12.3	0.9	14.7	15.6
Alabama	5.1	-2.4	6.3	3.7
Arkansas	3.9	1.6	9.7	11.5
Delaware	11.5	3.7	9.1	13.2
District of Columbia	22.9	-14.0	2.5	-11.8
Florida	22.2	1.6	19.3	21.2
Georgia	19.6	6.3	21.6	29.2
Kentucky	1.6	-1.3	5.5	4.1
Louisiana	-17.3	-26.4	-6.1	-30.9
Maryland	13.4	-7.1	1.0	-6.2
Mississippi	1.1	-4.7	5.4	0.5
North Carolina	21.1	4.1	17.8	22.6
Oklahoma	-1.4	-3.7	8.3	4.3
South Carolina	11.2	-7.2	11.0	2.9
Tennessee	10.1	-1.9	9.7	7.6
Texas	14.7	8.1	21.6	31.4
Virginia	17.7	-1.1	9.4	8.2
West Virginia	-5.3	-6.7	2.4	-4.4
West	15.3	1.0	7.6	8.7
Alaska	8.4	-12.2	2.6	-9.9
Arizona	55.0	16.6	24.3	45.0
California	15.8	-1.5	1.4	-0.1
Colorado	14.1	0.7	16.2	17.0
Hawaii	5.2	-7.9	8.5	-0.1
Idaho	3.7	6.2	15.4	22.6
Montana	-4.8	-11.6	1.0	-10.8
Nevada	35.4	20.7	22.4	47.7
New Mexico	1.4	-3.7	9.0	4.9
Oregon	3.6	-2.2	6.1	3.7
Utah	-0.2	8.9	21.9	32.7
Washington	7.6	-3.5	3.4	-0.2
Wyoming	-10.6	-10.4	4.7	-6.2

NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A-2, 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, 1999–2000 through 2005–06; and State Public Elementary and Secondary Enrollment Model, 1980–2005. (This table was prepared December 2007.)

Table 10. Actual and alternative projected numbers for total enrollment in all degree-granting postsecondary institutions, by sex, attendance status, and control of institution: Fall 1992 through fall 2017

[In thousands]

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
Actual							
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
2003.....	16,911	7,260	9,651	10,326	6,585	12,859	4,053
2004.....	17,272	7,387	9,885	10,610	6,662	12,980	4,292
2005.....	17,487	7,456	10,032	10,797	6,690	13,022	4,466
2006.....	17,759	7,575	10,184	10,957	6,802	13,180	4,579
Middle alternative projections							
2007.....	17,976	7,704	10,271	11,104	6,872	13,373	4,603
2008.....	18,200	7,822	10,378	11,263	6,937	13,562	4,638
2009.....	18,416	7,929	10,487	11,413	7,003	13,748	4,668
2010.....	18,613	8,022	10,590	11,546	7,067	13,890	4,722
2011.....	18,822	8,118	10,704	11,678	7,144	14,041	4,781
2012.....	19,048	8,213	10,835	11,817	7,231	14,201	4,847
2013.....	19,299	8,306	10,993	11,973	7,326	14,380	4,919
2014.....	19,533	8,387	11,146	12,114	7,419	14,547	4,986
2015.....	19,716	8,443	11,273	12,223	7,493	14,677	5,039
2016.....	19,893	8,500	11,393	12,326	7,567	14,804	5,089
2017.....	20,080	8,568	11,512	12,430	7,650	14,942	5,138
Low alternative projections							
2007.....	17,974	7,709	10,265	11,113	6,860	13,370	4,604
2008.....	18,182	7,829	10,353	11,277	6,905	13,545	4,637
2009.....	18,271	7,898	10,372	11,320	6,951	13,641	4,630
2010.....	18,354	7,957	10,397	11,359	6,995	13,704	4,650
2011.....	18,452	8,018	10,433	11,398	7,054	13,776	4,676
2012.....	18,597	8,088	10,509	11,469	7,128	13,880	4,717
2013.....	18,784	8,161	10,623	11,572	7,212	14,013	4,771
2014.....	18,969	8,227	10,742	11,674	7,295	14,147	4,822
2015.....	19,111	8,271	10,840	11,750	7,361	14,248	4,863
2016.....	19,252	8,318	10,934	11,825	7,427	14,349	4,903
2017.....	19,404	8,376	11,028	11,901	7,503	14,462	4,941
High alternative projections							
2007.....	18,033	7,719	10,314	11,148	6,885	13,414	4,619
2008.....	18,304	7,850	10,454	11,344	6,960	13,636	4,668
2009.....	18,544	7,965	10,580	11,513	7,031	13,839	4,705
2010.....	18,785	8,071	10,714	11,681	7,104	14,013	4,772
2011.....	19,049	8,183	10,866	11,857	7,192	14,202	4,847
2012.....	19,337	8,296	11,041	12,046	7,291	14,406	4,931
2013.....	19,650	8,407	11,243	12,252	7,398	14,628	5,022
2014.....	19,924	8,499	11,426	12,426	7,498	14,824	5,100
2015.....	20,145	8,564	11,580	12,565	7,580	14,980	5,164
2016.....	20,368	8,634	11,734	12,705	7,663	15,140	5,228
2017.....	20,606	8,717	11,889	12,850	7,756	15,314	5,293

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 A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:92-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This table was prepared November 2007.)

Table 11. Actual and middle alternative projected numbers for total enrollment in all degree-granting postsecondary institutions, by sex, age, and attendance status: Fall 1992 through fall 2017

[In thousands]

Sex, age, and attendance status	Actual												
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total enrollment	14,486	14,305	14,279	14,262	14,368	14,502	14,507	14,791	15,312	15,928	16,612	16,911	17,272
14 to 17 years old	186	127	138	148	231	171	119	143	145	133	202	151	200
18 and 19 years old	2,784	2,840	2,787	2,894	3,038	3,061	3,382	3,414	3,531	3,595	3,571	3,479	3,578
20 and 21 years old	2,883	2,674	2,724	2,705	2,659	2,875	2,811	2,989	3,045	3,408	3,366	3,473	3,651
22 to 24 years old	2,527	2,570	2,482	2,411	2,324	2,475	2,377	2,435	2,617	2,760	2,932	3,482	3,036
25 to 29 years old	1,985	2,002	1,985	2,120	2,128	1,999	1,991	1,870	1,960	2,014	2,102	2,106	2,386
30 to 34 years old	1,456	1,345	1,414	1,236	1,196	1,109	1,195	1,145	1,265	1,290	1,300	1,368	1,329
35 years old and over	2,665	2,747	2,750	2,747	2,791	2,814	2,632	2,796	2,749	2,727	3,139	2,852	3,092
Men	6,524	6,427	6,372	6,343	6,353	6,396	6,369	6,491	6,722	6,961	7,202	7,260	7,387
14 to 17 years old	89	54	62	61	92	56	45	72	63	54	82	60	78
18 and 19 years old	1,305	1,288	1,302	1,338	1,354	1,414	1,535	1,541	1,583	1,629	1,616	1,558	1,551
20 and 21 years old	1,342	1,284	1,264	1,282	1,228	1,374	1,374	1,392	1,382	1,591	1,562	1,492	1,743
22 to 24 years old	1,272	1,344	1,238	1,153	1,177	1,200	1,127	1,090	1,293	1,312	1,342	1,605	1,380
25 to 29 years old	955	903	936	962	991	972	908	874	862	905	890	930	1,045
30 to 34 years old	627	584	601	561	477	443	463	517	527	510	547	592	518
35 years old and over	933	970	969	986	1,033	938	917	1,005	1,012	961	1,164	1,025	1,073
Women	7,963	7,877	7,907	7,919	8,015	8,106	8,138	8,301	8,591	8,967	9,410	9,651	9,885
14 to 17 years old	97	73	75	87	139	115	74	72	82	79	121	91	122
18 and 19 years old	1,479	1,552	1,485	1,557	1,684	1,647	1,847	1,874	1,948	1,966	1,955	1,922	2,027
20 and 21 years old	1,541	1,391	1,461	1,424	1,430	1,501	1,437	1,597	1,663	1,817	1,804	1,981	1,908
22 to 24 years old	1,255	1,226	1,243	1,258	1,147	1,275	1,250	1,344	1,324	1,448	1,590	1,877	1,657
25 to 29 years old	1,030	1,098	1,049	1,159	1,137	1,027	1,083	995	1,099	1,110	1,212	1,177	1,341
30 to 34 years old	828	761	812	675	719	666	732	627	738	780	753	776	812
35 years old and over	1,732	1,777	1,781	1,760	1,758	1,877	1,715	1,791	1,736	1,767	1,976	1,827	2,018
Full-time, total	8,161	8,128	8,138	8,129	8,303	8,438	8,563	8,786	9,010	9,448	9,946	10,326	10,610
14 to 17 years old	179	92	118	123	166	123	93	129	125	122	161	121	165
18 and 19 years old	2,382	2,370	2,321	2,387	2,553	2,534	2,794	2,848	2,932	2,929	2,942	2,953	3,028
20 and 21 years old	2,267	2,148	2,178	2,109	2,117	2,275	2,271	2,362	2,401	2,662	2,759	2,767	2,911
22 to 24 years old	1,594	1,612	1,551	1,517	1,598	1,606	1,564	1,662	1,653	1,757	1,922	2,144	2,074
25 to 29 years old	731	839	869	908	911	897	890	854	878	883	1,013	1,072	1,131
30 to 34 years old	409	424	440	430	383	377	367	338	422	494	465	512	490
35 years old and over	598	643	660	653	575	626	584	593	599	602	684	758	812
Men	3,926	3,891	3,855	3,807	3,851	3,890	3,934	4,026	4,111	4,300	4,501	4,638	4,739
14 to 17 years old	86	37	51	54	72	48	39	63	51	43	65	50	63
18 and 19 years old	1,130	1,079	1,081	1,091	1,126	1,154	1,240	1,271	1,250	1,329	1,327	1,307	1,313
20 and 21 years old	1,084	1,003	1,029	999	969	1,074	1,129	1,125	1,106	1,249	1,275	1,218	1,385
22 to 24 years old	854	896	811	789	858	770	777	788	839	854	936	1,041	960
25 to 29 years old	378	443	457	454	444	475	424	416	415	397	467	503	509
30 to 34 years old	174	180	193	183	143	160	141	149	195	216	183	242	201
35 years old and over	220	253	232	238	240	210	184	213	256	212	247	277	310
Women	4,235	4,237	4,283	4,321	4,452	4,548	4,630	4,761	4,899	5,148	5,445	5,688	5,871
14 to 17 years old	93	55	67	69	95	75	54	66	74	78	96	71	103
18 and 19 years old	1,253	1,291	1,240	1,296	1,426	1,380	1,555	1,577	1,682	1,600	1,615	1,646	1,716
20 and 21 years old	1,183	1,145	1,149	1,111	1,148	1,201	1,142	1,237	1,296	1,413	1,484	1,549	1,526
22 to 24 years old	739	716	740	729	740	836	787	875	814	903	985	1,103	1,113
25 to 29 years old	353	396	412	455	467	422	466	437	463	486	546	569	622
30 to 34 years old	235	244	247	247	240	217	226	190	227	277	282	270	289
35 years old and over	377	390	428	415	336	416	400	380	343	390	437	481	502
Part-time, total	6,325	6,177	6,141	6,133	6,065	6,064	5,944	6,005	6,303	6,480	6,665	6,585	6,662
14 to 17 years old	7	35	19	25	65	48	26	14	20	11	41	30	35
18 and 19 years old	402	470	466	507	485	526	588	566	599	666	628	526	549
20 and 21 years old	616	526	546	596	542	600	540	627	644	746	607	706	741
22 to 24 years old	933	958	930	894	727	869	813	772	964	1,003	1,010	1,338	963
25 to 29 years old	1,254	1,163	1,116	1,212	1,217	1,101	1,101	1,016	1,083	1,132	1,088	1,034	1,255
30 to 34 years old	1,046	921	973	805	813	732	828	806	843	796	835	856	839
35 years old and over	2,068	2,104	2,091	2,093	2,216	2,188	2,048	2,203	2,150	2,126	2,456	2,094	2,280
Men	2,597	2,537	2,517	2,535	2,502	2,506	2,436	2,465	2,611	2,661	2,701	2,622	2,648
14 to 17 years old	4	17	11	7	20	9	5	8	11	11	17	10	15
18 and 19 years old	176	210	220	246	228	260	296	269	333	300	288	250	239
20 and 21 years old	258	281	235	283	260	300	245	267	276	342	287	274	358
22 to 24 years old	417	448	427	365	319	430	350	302	454	458	405	564	419
25 to 29 years old	577	460	479	508	547	497	485	458	447	508	423	427	536
30 to 34 years old	453	404	408	378	334	283	322	369	332	294	364	350	317
35 years old and over	713	717	737	748	793	728	733	791	757	749	917	748	764
Women	3,728	3,640	3,624	3,598	3,563	3,559	3,508	3,540	3,692	3,820	3,964	3,963	4,014
14 to 17 years old	3	18	8	18	45	39	21	6	9	1	24	20	19
18 and 19 years old	226	261	245	261	257	267	292	297	266	366	340	276	311
20 and 21 years old	358	245	311	313	282	300	295	360	368	404	320	433	382
22 to 24 years old	516	510	504	529	407	439	463	470	510	545	605	774	543
25 to 29 years old	677	702	637	704	670	605	617	558	636	624	666	608	720
30 to 34 years old	593	517	565	427	479	449	506	438	511	502	471	507	523
35 years old and over	1,355	1,386	1,354	1,345	1,423	1,460	1,315	1,411	1,393	1,377	1,539	1,346	1,516

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 1992 through fall 2017—Continued

[In thousands]

Sex, age, and attendance status	Actual		Projected (middle alternative)										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total enrollment	17,487	17,759	17,976	18,200	18,416	18,613	18,822	19,048	19,299	19,533	19,716	19,893	20,080
14 to 17 years old	199	231	190	191	190	189	188	190	192	193	197	204	211
18 and 19 years old	3,610	3,769	3,851	3,953	4,023	4,004	3,968	3,940	3,929	3,935	3,927	3,923	3,960
20 and 21 years old	3,778	3,648	3,676	3,723	3,803	3,915	3,992	3,993	3,986	3,975	3,970	3,976	3,958
22 to 24 years old	3,072	3,193	3,251	3,289	3,325	3,380	3,459	3,584	3,686	3,744	3,760	3,756	3,753
25 to 29 years old	2,384	2,401	2,481	2,531	2,564	2,587	2,615	2,658	2,722	2,801	2,890	2,970	3,035
30 to 34 years old	1,354	1,409	1,418	1,434	1,465	1,507	1,562	1,616	1,670	1,715	1,751	1,782	1,813
35 years old and over	3,090	3,107	3,108	3,080	3,047	3,030	3,037	3,066	3,115	3,168	3,221	3,282	3,350
Men	7,456	7,575	7,704	7,822	7,929	8,022	8,118	8,213	8,306	8,387	8,443	8,500	8,568
14 to 17 years old	78	82	82	82	81	80	79	79	80	79	80	82	85
18 and 19 years old	1,592	1,705	1,748	1,799	1,831	1,821	1,806	1,793	1,785	1,784	1,775	1,770	1,787
20 and 21 years old	1,778	1,673	1,683	1,705	1,743	1,795	1,830	1,827	1,819	1,810	1,803	1,802	1,790
22 to 24 years old	1,355	1,470	1,496	1,512	1,526	1,551	1,586	1,641	1,682	1,702	1,704	1,697	1,692
25 to 29 years old	978	1,051	1,091	1,117	1,135	1,148	1,163	1,183	1,209	1,242	1,280	1,314	1,342
30 to 34 years old	545	557	563	572	586	604	626	649	672	690	704	717	729
35 years old and over	1,130	1,037	1,042	1,035	1,026	1,023	1,028	1,040	1,059	1,079	1,097	1,119	1,144
Women	10,032	10,184	10,271	10,378	10,487	10,590	10,704	10,835	10,993	11,146	11,273	11,393	11,512
14 to 17 years old	121	149	109	109	109	109	109	110	112	114	117	122	127
18 and 19 years old	2,018	2,064	2,103	2,154	2,192	2,183	2,163	2,148	2,144	2,151	2,152	2,152	2,174
20 and 21 years old	2,000	1,975	1,994	2,018	2,060	2,120	2,162	2,167	2,167	2,165	2,167	2,174	2,169
22 to 24 years old	1,717	1,724	1,755	1,777	1,798	1,829	1,873	1,943	2,004	2,042	2,056	2,059	2,061
25 to 29 years old	1,406	1,350	1,390	1,413	1,429	1,439	1,451	1,475	1,513	1,559	1,610	1,656	1,692
30 to 34 years old	809	852	855	862	879	903	935	967	998	1,026	1,047	1,066	1,084
35 years old and over	1,960	2,070	2,066	2,044	2,020	2,008	2,010	2,026	2,056	2,090	2,124	2,163	2,206
Full-time, total	10,797	10,957	11,104	11,263	11,413	11,546	11,678	11,817	11,973	12,114	12,223	12,326	12,430
14 to 17 years old	131	166	131	131	131	130	130	132	134	136	139	145	150
18 and 19 years old	3,037	3,155	3,221	3,304	3,361	3,345	3,316	3,297	3,293	3,305	3,302	3,304	3,339
20 and 21 years old	3,030	2,944	2,969	3,006	3,070	3,162	3,225	3,231	3,233	3,231	3,234	3,244	3,234
22 to 24 years old	2,097	2,093	2,138	2,162	2,182	2,221	2,278	2,369	2,443	2,487	2,505	2,511	2,515
25 to 29 years old	1,136	1,217	1,259	1,280	1,292	1,302	1,316	1,340	1,378	1,424	1,473	1,518	1,554
30 to 34 years old	549	605	609	613	623	639	663	687	714	737	755	772	786
35 years old and over	818	778	778	767	754	747	749	759	777	795	813	832	852
Men	4,803	4,879	4,968	5,055	5,133	5,197	5,254	5,305	5,350	5,385	5,405	5,426	5,457
14 to 17 years old	36	66	64	64	63	63	62	62	62	62	63	65	66
18 and 19 years old	1,357	1,409	1,444	1,486	1,513	1,505	1,492	1,482	1,475	1,475	1,468	1,464	1,478
20 and 21 years old	1,460	1,331	1,340	1,358	1,388	1,430	1,457	1,454	1,449	1,442	1,437	1,435	1,426
22 to 24 years old	951	1,003	1,023	1,034	1,043	1,060	1,085	1,125	1,152	1,162	1,163	1,158	1,155
25 to 29 years old	439	562	585	599	609	616	624	635	649	667	688	706	722
30 to 34 years old	238	232	235	239	245	252	262	271	281	289	295	300	305
35 years old and over	321	275	277	275	272	271	273	276	282	287	292	298	305
Women	5,994	6,078	6,136	6,208	6,280	6,349	6,423	6,511	6,623	6,729	6,818	6,899	6,973
14 to 17 years old	94	100	67	67	67	68	68	70	71	73	76	80	84
18 and 19 years old	1,680	1,746	1,776	1,818	1,848	1,840	1,825	1,816	1,818	1,830	1,835	1,840	1,861
20 and 21 years old	1,569	1,612	1,630	1,649	1,682	1,732	1,769	1,777	1,784	1,789	1,797	1,809	1,808
22 to 24 years old	1,146	1,090	1,115	1,128	1,139	1,160	1,192	1,244	1,292	1,324	1,342	1,353	1,360
25 to 29 years old	697	654	674	681	684	686	692	706	729	756	786	812	832
30 to 34 years old	311	372	373	374	379	387	401	416	433	448	461	471	481
35 years old and over	497	503	502	492	482	476	476	483	495	508	521	534	547
Part-time, total	6,690	6,802	6,872	6,937	7,003	7,067	7,144	7,231	7,326	7,419	7,493	7,567	7,650
14 to 17 years old	68	65	60	60	59	58	58	58	58	57	58	59	61
18 and 19 years old	573	614	630	648	662	659	652	643	635	631	624	619	621
20 and 21 years old	748	704	707	716	733	754	767	762	753	744	736	731	724
22 to 24 years old	976	1,100	1,113	1,127	1,142	1,159	1,181	1,215	1,243	1,257	1,255	1,245	1,238
25 to 29 years old	1,248	1,184	1,222	1,251	1,272	1,285	1,299	1,317	1,344	1,377	1,416	1,452	1,481
30 to 34 years old	805	805	810	821	842	867	899	928	956	978	995	1,011	1,027
35 years old and over	2,272	2,329	2,330	2,313	2,293	2,283	2,288	2,307	2,338	2,373	2,408	2,449	2,498
Men	2,653	2,696	2,737	2,767	2,796	2,825	2,863	2,907	2,956	3,002	3,038	3,074	3,111
14 to 17 years old	41	16	18	18	17	17	17	17	17	17	17	18	18
18 and 19 years old	235	297	304	313	318	317	314	311	309	309	307	306	309
20 and 21 years old	318	341	343	347	355	365	373	372	370	368	367	366	364
22 to 24 years old	405	466	473	478	483	490	500	517	531	540	541	539	537
25 to 29 years old	539	488	506	518	527	533	539	548	560	575	592	608	621
30 to 34 years old	306	325	328	333	341	352	365	378	391	401	409	416	423
35 years old and over	809	762	766	761	754	752	755	764	777	792	805	821	839
Women	4,038	4,106	4,135	4,170	4,207	4,242	4,281	4,324	4,371	4,417	4,455	4,493	4,539
14 to 17 years old	27	48	42	42	42	41	41	41	41	41	41	42	43
18 and 19 years old	338	318	326	336	344	343	338	332	326	322	317	312	312
20 and 21 years old	430	363	364	369	378	388	394	390	383	376	370	365	360
22 to 24 years old	571	634	640	649	659	669	681	699	712	718	714	707	701
25 to 29 years old	709	696	717	733	745	753	760	769	784	803	824	844	861
30 to 34 years old	499	480	482	488	501	516	534	551	565	577	586	594	604
35 years old and over	1,464	1,567	1,564	1,552	1,539	1,532	1,533	1,543	1,561	1,582	1,603	1,629	1,659

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 Census Bureau. Mean absolute percentage errors of selected education statistics can be found in table A-2, 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:92-99), and Spring 2001 through Spring 2007; Enrollment in Degree-Granting Institutions Model, 1980-2006; and U.S. Department of Commerce, Census Bureau, Current Population Reports, "Social and Economic Characteristics of Students," various years. (This table was prepared November 2007.)

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 1997 through fall 2017

[In thousands]

Sex, age, and attendance status	Actual			Projected (low alternative)	
	1997	2002	2006	2012	2017
Total enrollment	14,502	16,612	17,759	18,597	19,404
14 to 17 years old	171	202	231	184	202
18 and 19 years old	3,061	3,571	3,769	3,862	3,851
20 and 21 years old	2,875	3,366	3,648	3,911	3,845
22 to 24 years old	2,475	2,932	3,193	3,496	3,621
25 to 29 years old	1,999	2,102	2,401	2,585	2,915
30 to 34 years old	1,109	1,300	1,409	1,569	1,738
35 years old and over	2,814	3,139	3,107	2,989	3,230
Men	6,396	7,202	7,575	8,088	8,376
14 to 17 years old	56	82	82	78	82
18 and 19 years old	1,414	1,616	1,705	1,771	1,756
20 and 21 years old	1,374	1,562	1,673	1,804	1,758
22 to 24 years old	1,200	1,342	1,470	1,616	1,654
25 to 29 years old	972	890	1,051	1,162	1,306
30 to 34 years old	443	547	557	636	708
35 years old and over	938	1,164	1,037	1,020	1,111
Women	8,106	9,410	10,184	10,509	11,028
14 to 17 years old	115	121	149	106	120
18 and 19 years old	1,647	1,955	2,064	2,091	2,095
20 and 21 years old	1,501	1,804	1,975	2,107	2,088
22 to 24 years old	1,275	1,590	1,724	1,880	1,967
25 to 29 years old	1,027	1,212	1,350	1,423	1,608
30 to 34 years old	666	753	852	933	1,030
35 years old and over	1,877	1,976	2,070	1,969	2,119
Full-time, total	8,438	9,946	10,957	11,469	11,901
14 to 17 years old	123	161	166	128	143
18 and 19 years old	2,534	2,942	3,155	3,220	3,230
20 and 21 years old	2,275	2,759	2,944	3,152	3,123
22 to 24 years old	1,606	1,922	2,093	2,295	2,401
25 to 29 years old	897	1,013	1,217	1,290	1,468
30 to 34 years old	377	465	605	659	738
35 years old and over	626	684	778	726	798
Men	3,890	4,501	4,879	5,231	5,342
14 to 17 years old	48	65	66	61	65
18 and 19 years old	1,154	1,327	1,409	1,464	1,452
20 and 21 years old	1,074	1,275	1,331	1,437	1,400
22 to 24 years old	770	936	1,003	1,108	1,130
25 to 29 years old	475	467	562	624	703
30 to 34 years old	160	183	232	266	297
35 years old and over	210	247	275	271	296
Women	4,548	5,445	6,078	6,239	6,559
14 to 17 years old	75	96	100	66	78
18 and 19 years old	1,380	1,615	1,746	1,756	1,778
20 and 21 years old	1,201	1,484	1,612	1,715	1,723
22 to 24 years old	836	985	1,090	1,187	1,271
25 to 29 years old	422	546	654	667	766
30 to 34 years old	217	282	372	392	441
35 years old and over	416	437	503	455	501
Part-time, total	6,064	6,665	6,802	7,128	7,503
14 to 17 years old	48	41	65	57	59
18 and 19 years old	526	628	614	642	621
20 and 21 years old	600	607	704	759	722
22 to 24 years old	869	1,010	1,100	1,201	1,220
25 to 29 years old	1,101	1,088	1,184	1,295	1,446
30 to 34 years old	732	835	805	911	1,000
35 years old and over	2,188	2,456	2,329	2,263	2,433
Men	2,506	2,701	2,696	2,857	3,034
14 to 17 years old	9	17	16	17	18
18 and 19 years old	260	288	297	307	304
20 and 21 years old	300	287	341	368	357
22 to 24 years old	430	405	466	508	525
25 to 29 years old	497	423	488	538	604
30 to 34 years old	283	364	325	370	411
35 years old and over	728	917	762	749	815
Women	3,559	3,964	4,106	4,271	4,469
14 to 17 years old	39	24	48	40	42
18 and 19 years old	267	340	318	335	318
20 and 21 years old	300	320	363	392	365
22 to 24 years old	439	605	634	693	696
25 to 29 years old	605	666	696	757	843
30 to 34 years old	449	471	480	540	589
35 years old and over	1,460	1,539	1,567	1,514	1,617

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 Census Bureau. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:97), Spring 2003 and Spring 2007; Enrollment in Degree-Granting Institutions Model, 1980–2006; and U.S. Department of Commerce, Census Bureau, Current Population Reports, "Social and Economic Characteristics of Students," various years. (This table was prepared November 2007.)

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 1997 through fall 2017

[In thousands]

Sex, age, and attendance status	Actual			Projected (high alternative)	
	1997	2002	2006	2012	2017
Total enrollment	14,502	16,612	17,759	19,337	20,606
14 to 17 years old.....	171	202	231	193	218
18 and 19 years old.....	3,061	3,571	3,769	3,990	4,043
20 and 21 years old.....	2,875	3,366	3,648	4,046	4,045
22 to 24 years old.....	2,475	2,932	3,193	3,641	3,856
25 to 29 years old.....	1,999	2,102	2,401	2,705	3,130
30 to 34 years old.....	1,109	1,300	1,409	1,646	1,872
35 years old and over.....	2,814	3,139	3,107	3,115	3,442
Men	6,396	7,202	7,575	8,296	8,717
14 to 17 years old.....	56	82	82	80	86
18 and 19 years old.....	1,414	1,616	1,705	1,807	1,811
20 and 21 years old.....	1,374	1,562	1,673	1,842	1,814
22 to 24 years old.....	1,200	1,342	1,470	1,658	1,722
25 to 29 years old.....	972	890	1,051	1,197	1,371
30 to 34 years old.....	443	547	557	657	745
35 years old and over.....	938	1,164	1,037	1,054	1,169
Women	8,106	9,410	10,184	11,041	11,889
14 to 17 years old.....	115	121	149	113	132
18 and 19 years old.....	1,647	1,955	2,064	2,183	2,233
20 and 21 years old.....	1,501	1,804	1,975	2,204	2,230
22 to 24 years old.....	1,275	1,590	1,724	1,983	2,134
25 to 29 years old.....	1,027	1,212	1,350	1,508	1,759
30 to 34 years old.....	666	753	852	988	1,128
35 years old and over.....	1,877	1,976	2,070	2,061	2,273
Full-time, total	8,438	9,946	10,957	12,046	12,850
14 to 17 years old.....	123	161	166	135	156
18 and 19 years old.....	2,534	2,942	3,155	3,347	3,423
20 and 21 years old.....	2,275	2,759	2,944	3,283	3,320
22 to 24 years old.....	1,606	1,922	2,093	2,418	2,606
25 to 29 years old.....	897	1,013	1,217	1,374	1,623
30 to 34 years old.....	377	465	605	707	826
35 years old and over.....	626	684	778	781	896
Men	3,890	4,501	4,879	5,357	5,546
14 to 17 years old.....	48	65	66	63	68
18 and 19 years old.....	1,154	1,327	1,409	1,493	1,497
20 and 21 years old.....	1,074	1,275	1,331	1,466	1,445
22 to 24 years old.....	770	936	1,003	1,136	1,175
25 to 29 years old.....	475	467	562	643	737
30 to 34 years old.....	160	183	232	275	312
35 years old and over.....	210	247	275	280	312
Women	4,548	5,445	6,078	6,689	7,303
14 to 17 years old.....	75	96	100	72	89
18 and 19 years old.....	1,380	1,615	1,746	1,854	1,926
20 and 21 years old.....	1,201	1,484	1,612	1,817	1,875
22 to 24 years old.....	836	985	1,090	1,282	1,431
25 to 29 years old.....	422	546	654	732	886
30 to 34 years old.....	217	282	372	432	514
35 years old and over.....	416	437	503	501	584
Part-time, total	6,064	6,665	6,802	7,291	7,756
14 to 17 years old.....	48	41	65	58	62
18 and 19 years old.....	526	628	614	643	620
20 and 21 years old.....	600	607	704	763	725
22 to 24 years old.....	869	1,010	1,100	1,223	1,250
25 to 29 years old.....	1,101	1,088	1,184	1,331	1,507
30 to 34 years old.....	732	835	805	939	1,047
35 years old and over.....	2,188	2,456	2,329	2,334	2,546
Men	2,506	2,701	2,696	2,940	3,171
14 to 17 years old.....	9	17	16	17	18
18 and 19 years old.....	260	288	297	314	313
20 and 21 years old.....	300	287	341	375	369
22 to 24 years old.....	430	405	466	522	547
25 to 29 years old.....	497	423	488	555	634
30 to 34 years old.....	283	364	325	382	433
35 years old and over.....	728	917	762	774	858
Women	3,559	3,964	4,106	4,351	4,585
14 to 17 years old.....	39	24	48	41	43
18 and 19 years old.....	267	340	318	330	307
20 and 21 years old.....	300	320	363	388	356
22 to 24 years old.....	439	605	634	701	703
25 to 29 years old.....	605	666	696	776	873
30 to 34 years old.....	449	471	480	556	614
35 years old and over.....	1,460	1,539	1,567	1,560	1,689

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 Census Bureau. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:97), Spring 2003 and Spring 2007; Enrollment in Degree-Granting Institutions Model, 1980–2006; and U.S. Department of Commerce, Census Bureau, Current Population Reports, "Social and Economic Characteristics of Students," various years. (This table was prepared November 2007.)

Table 14. Actual and alternative projected numbers for enrollment in all degree-granting postsecondary institutions, by sex and attendance status: Fall 1992 through fall 2017

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
Actual					
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
2003.....	16,911	4,638	2,622	5,688	3,963
2004.....	17,272	4,739	2,648	5,871	4,014
2005.....	17,487	4,803	2,653	5,994	4,038
2006.....	17,759	4,879	2,696	6,078	4,106
Middle alternative projections					
2007.....	17,976	4,968	2,737	6,136	4,135
2008.....	18,200	5,055	2,767	6,208	4,170
2009.....	18,416	5,133	2,796	6,280	4,207
2010.....	18,613	5,197	2,825	6,349	4,242
2011.....	18,822	5,254	2,863	6,423	4,281
2012.....	19,048	5,305	2,907	6,511	4,324
2013.....	19,299	5,350	2,956	6,623	4,371
2014.....	19,533	5,385	3,002	6,729	4,417
2015.....	19,716	5,405	3,038	6,818	4,455
2016.....	19,893	5,426	3,074	6,899	4,493
2017.....	20,080	5,457	3,111	6,973	4,539
Low alternative projections					
2007.....	17,974	4,972	2,736	6,141	4,124
2008.....	18,182	5,065	2,765	6,212	4,141
2009.....	18,271	5,118	2,780	6,201	4,171
2010.....	18,354	5,160	2,797	6,199	4,198
2011.....	18,452	5,196	2,822	6,202	4,231
2012.....	18,597	5,231	2,857	6,239	4,271
2013.....	18,784	5,263	2,898	6,309	4,314
2014.....	18,969	5,289	2,938	6,385	4,357
2015.....	19,111	5,302	2,969	6,448	4,392
2016.....	19,252	5,317	3,000	6,508	4,427
2017.....	19,404	5,342	3,034	6,559	4,469
High alternative projections					
2007.....	18,033	4,976	2,743	6,171	4,143
2008.....	18,304	5,072	2,778	6,272	4,182
2009.....	18,544	5,155	2,810	6,359	4,221
2010.....	18,785	5,227	2,845	6,454	4,260
2011.....	19,049	5,295	2,889	6,562	4,304
2012.....	19,337	5,357	2,940	6,689	4,351
2013.....	19,650	5,412	2,995	6,840	4,403
2014.....	19,924	5,453	3,046	6,974	4,452
2015.....	20,145	5,478	3,086	7,087	4,494
2016.....	20,368	5,507	3,127	7,198	4,535
2017.....	20,606	5,546	3,171	7,303	4,585

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 A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:92-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This table was prepared November 2007.)

Table 15. Actual and alternative projected numbers for enrollment in public 4-year degree-granting postsecondary institutions, by sex and attendance status: Fall 1992 through fall 2017

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
Actual					
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
2003.....	6,649	2,225	713	2,639	1,072
2004.....	6,737	2,260	717	2,684	1,076
2005.....	6,838	2,295	724	2,726	1,091
2006.....	6,955	2,339	740	2,765	1,111
Middle alternative projections					
2007.....	6,981	2,376	738	2,768	1,098
2008.....	7,092	2,417	746	2,819	1,110
2009.....	7,204	2,455	753	2,872	1,125
2010.....	7,290	2,488	761	2,906	1,134
2011.....	7,379	2,518	773	2,942	1,146
2012.....	7,473	2,544	786	2,983	1,159
2013.....	7,575	2,567	802	3,033	1,174
2014.....	7,666	2,583	816	3,079	1,188
2015.....	7,738	2,592	828	3,118	1,201
2016.....	7,806	2,601	839	3,153	1,213
2017.....	7,874	2,614	850	3,184	1,226
Low alternative projections					
2007.....	6,982	2,378	738	2,770	1,095
2008.....	7,090	2,422	745	2,821	1,102
2009.....	7,147	2,448	749	2,836	1,115
2010.....	7,184	2,470	753	2,838	1,122
2011.....	7,225	2,490	761	2,842	1,132
2012.....	7,284	2,508	773	2,859	1,143
2013.....	7,358	2,525	786	2,891	1,157
2014.....	7,429	2,537	798	2,924	1,170
2015.....	7,483	2,542	808	2,951	1,181
2016.....	7,536	2,549	818	2,977	1,192
2017.....	7,590	2,559	828	2,997	1,205
High alternative projections					
2007.....	7,004	2,380	740	2,784	1,101
2008.....	7,135	2,425	749	2,848	1,114
2009.....	7,258	2,465	757	2,907	1,129
2010.....	7,362	2,502	767	2,954	1,140
2011.....	7,475	2,537	780	3,005	1,153
2012.....	7,595	2,569	796	3,063	1,168
2013.....	7,723	2,596	813	3,131	1,184
2014.....	7,832	2,615	828	3,190	1,199
2015.....	7,919	2,627	841	3,239	1,212
2016.....	8,007	2,640	854	3,287	1,226
2017.....	8,097	2,657	867	3,332	1,241

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 A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:92-99), and Spring 2002 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This table was prepared November 2007.)

Table 16. Actual and alternative projected numbers for enrollment in public 2-year degree-granting postsecondary institutions, by sex and attendance status: Fall 1992 through fall 2017

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
Actual					
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
2003	6,209	1,060	1,515	1,346	2,288
2004	6,244	1,065	1,518	1,360	2,300
2005	6,184	1,055	1,514	1,332	2,283
2006	6,225	1,067	1,533	1,325	2,300
Middle alternative projections					
2007	6,392	1,098	1,574	1,379	2,342
2008	6,470	1,119	1,593	1,395	2,364
2009	6,544	1,136	1,611	1,410	2,387
2010	6,601	1,146	1,627	1,421	2,407
2011	6,662	1,154	1,647	1,433	2,427
2012	6,728	1,160	1,669	1,450	2,448
2013	6,805	1,167	1,693	1,474	2,471
2014	6,881	1,172	1,717	1,498	2,494
2015	6,939	1,175	1,734	1,518	2,512
2016	6,998	1,179	1,752	1,538	2,530
2017	7,068	1,187	1,771	1,557	2,553
Low alternative projections					
2007	6,388	1,099	1,574	1,380	2,335
2008	6,455	1,121	1,591	1,396	2,347
2009	6,494	1,133	1,602	1,392	2,367
2010	6,520	1,138	1,611	1,387	2,383
2011	6,551	1,141	1,624	1,384	2,401
2012	6,596	1,144	1,641	1,389	2,421
2013	6,655	1,148	1,661	1,404	2,442
2014	6,718	1,152	1,681	1,421	2,463
2015	6,765	1,153	1,696	1,435	2,480
2016	6,813	1,156	1,711	1,450	2,496
2017	6,872	1,163	1,728	1,464	2,518
High alternative projections					
2007	6,409	1,100	1,577	1,387	2,345
2008	6,500	1,123	1,599	1,409	2,370
2009	6,581	1,141	1,619	1,427	2,394
2010	6,651	1,153	1,638	1,444	2,416
2011	6,727	1,163	1,662	1,465	2,438
2012	6,811	1,171	1,687	1,490	2,462
2013	6,905	1,180	1,715	1,523	2,487
2014	6,992	1,187	1,741	1,553	2,511
2015	7,061	1,191	1,761	1,579	2,531
2016	7,133	1,196	1,781	1,605	2,550
2017	7,217	1,206	1,804	1,632	2,575

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 A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:91-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This table was prepared November 2007.)

Table 17. Actual and alternative projected numbers for enrollment in private 4-year degree-granting postsecondary institutions, by sex and attendance status: Fall 1992 through fall 2017

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
Actual					
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
2003.....	3,768	1,250	382	1,561	574
2004.....	3,990	1,313	400	1,670	607
2005.....	4,162	1,354	402	1,774	632
2006.....	4,285	1,381	411	1,830	664
Middle alternative projections					
2007.....	4,299	1,392	412	1,831	665
2008.....	4,330	1,415	415	1,834	665
2009.....	4,356	1,437	419	1,836	664
2010.....	4,407	1,456	424	1,858	669
2011.....	4,464	1,475	430	1,882	676
2012.....	4,526	1,493	438	1,911	684
2013.....	4,595	1,509	447	1,946	693
2014.....	4,658	1,521	455	1,979	702
2015.....	4,708	1,529	462	2,007	710
2016.....	4,755	1,536	469	2,031	718
2017.....	4,801	1,546	476	2,053	727
Low alternative projections					
2007.....	4,300	1,393	412	1,832	663
2008.....	4,329	1,418	415	1,835	660
2009.....	4,320	1,432	417	1,813	658
2010.....	4,340	1,446	419	1,814	662
2011.....	4,366	1,458	424	1,817	667
2012.....	4,406	1,472	430	1,830	674
2013.....	4,457	1,484	438	1,853	683
2014.....	4,506	1,493	445	1,877	691
2015.....	4,545	1,499	451	1,896	698
2016.....	4,582	1,505	457	1,914	706
2017.....	4,618	1,512	463	1,929	714
High alternative projections					
2007.....	4,314	1,394	413	1,841	666
2008.....	4,358	1,420	417	1,853	667
2009.....	4,391	1,443	421	1,860	667
2010.....	4,454	1,465	427	1,889	673
2011.....	4,525	1,487	434	1,924	680
2012.....	4,604	1,508	443	1,964	689
2013.....	4,690	1,526	453	2,011	700
2014.....	4,764	1,540	462	2,052	709
2015.....	4,825	1,550	470	2,087	718
2016.....	4,884	1,560	478	2,121	726
2017.....	4,944	1,572	485	2,152	736

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 A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:92-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This table was prepared November 2007.)

Table 18. Actual and alternative projected numbers for enrollment in private 2-year degree-granting postsecondary institutions, by sex and attendance status: Fall 1992 through fall 2017

[In thousands]

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
Actual					
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
2003.....	285	103	13	142	28
2004.....	302	101	13	156	31
2005.....	304	99	12	161	32
2006.....	293	93	11	159	30
Middle alternative projections					
2007.....	304	102	13	159	31
2008.....	308	104	13	161	31
2009.....	312	106	13	162	31
2010.....	315	106	13	164	31
2011.....	317	107	13	165	32
2012.....	320	108	14	167	32
2013.....	324	108	14	170	32
2014.....	328	109	14	173	32
2015.....	331	109	14	175	33
2016.....	334	110	14	177	33
2017.....	337	110	14	179	33
Low alternative projections					
2007.....	304	102	13	159	30
2008.....	308	104	13	161	31
2009.....	309	105	13	160	31
2010.....	310	106	13	160	31
2011.....	310	106	13	159	31
2012.....	311	106	13	160	32
2013.....	314	107	13	162	32
2014.....	316	107	14	164	32
2015.....	319	107	14	165	32
2016.....	321	107	14	167	33
2017.....	323	108	14	169	33
High alternative projections					
2007.....	305	102	13	160	31
2008.....	311	104	13	162	31
2009.....	315	106	13	165	31
2010.....	318	107	13	166	31
2011.....	322	108	13	169	32
2012.....	326	109	14	172	32
2013.....	331	110	14	175	32
2014.....	336	110	14	179	33
2015.....	340	111	14	182	33
2016.....	344	111	14	185	33
2017.....	348	112	15	188	34

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 A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:92-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This table was prepared November 2007.)

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 1992 through fall 2017

[In thousands]

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
Actual							
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
2003.....	14,480	6,227	8,253	9,045	5,435	11,523	2,957
2004.....	14,781	6,340	8,441	9,284	5,496	11,651	3,130
2005.....	14,964	6,409	8,555	9,446	5,518	11,698	3,266
2006.....	15,184	6,514	8,671	9,571	5,613	11,847	3,337
Middle alternative projections							
2007.....	15,366	6,615	8,752	9,690	5,677	12,022	3,344
2008.....	15,571	6,719	8,852	9,836	5,735	12,201	3,369
2009.....	15,770	6,816	8,954	9,975	5,795	12,378	3,391
2010.....	15,939	6,895	9,044	10,090	5,849	12,507	3,432
2011.....	16,106	6,971	9,136	10,195	5,911	12,636	3,470
2012.....	16,273	7,039	9,234	10,295	5,978	12,766	3,507
2013.....	16,457	7,105	9,352	10,408	6,050	12,911	3,546
2014.....	16,628	7,161	9,467	10,510	6,118	13,046	3,582
2015.....	16,755	7,195	9,560	10,584	6,171	13,148	3,608
2016.....	16,881	7,232	9,649	10,657	6,224	13,248	3,633
2017.....	17,022	7,281	9,741	10,737	6,285	13,362	3,660
Low alternative projections							
2007.....	15,364	6,618	8,746	9,697	5,667	12,019	3,345
2008.....	15,556	6,725	8,831	9,847	5,709	12,186	3,370
2009.....	15,649	6,790	8,858	9,896	5,753	12,284	3,364
2010.....	15,724	6,841	8,883	9,932	5,792	12,343	3,381
2011.....	15,798	6,887	8,911	9,958	5,840	12,403	3,396
2012.....	15,899	6,935	8,963	10,002	5,897	12,484	3,415
2013.....	16,031	6,985	9,046	10,071	5,960	12,589	3,442
2014.....	16,162	7,028	9,134	10,140	6,022	12,695	3,467
2015.....	16,257	7,053	9,204	10,188	6,069	12,772	3,485
2016.....	16,355	7,081	9,273	10,239	6,116	12,851	3,504
2017.....	16,466	7,122	9,344	10,295	6,171	12,943	3,523
High alternative projections							
2007.....	15,414	6,627	8,787	9,726	5,687	12,058	3,355
2008.....	15,657	6,743	8,914	9,905	5,753	12,267	3,391
2009.....	15,876	6,846	9,031	10,060	5,817	12,459	3,417
2010.....	16,083	6,936	9,147	10,204	5,878	12,616	3,467
2011.....	16,296	7,025	9,270	10,347	5,949	12,779	3,517
2012.....	16,513	7,109	9,404	10,488	6,025	12,947	3,566
2013.....	16,747	7,189	9,558	10,642	6,105	13,129	3,618
2014.....	16,951	7,253	9,697	10,771	6,180	13,289	3,662
2015.....	17,108	7,295	9,812	10,869	6,239	13,413	3,695
2016.....	17,271	7,343	9,928	10,973	6,298	13,541	3,729
2017.....	17,452	7,403	10,049	11,085	6,367	13,686	3,766

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 A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:92-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This table was prepared November 2007.)

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 1992 through fall 2017

[In thousands]

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
Actual							
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
2003.....	2,102	867	1,235	985	1,117	1,201	901
2004.....	2,157	879	1,278	1,024	1,132	1,194	963
2005.....	2,186	877	1,309	1,047	1,139	1,186	1,001
2006.....	2,231	887	1,344	1,077	1,154	1,193	1,038
Middle alternative projections							
2007.....	2,259	909	1,350	1,098	1,161	1,208	1,051
2008.....	2,275	919	1,356	1,108	1,167	1,216	1,059
2009.....	2,290	927	1,362	1,116	1,173	1,224	1,065
2010.....	2,312	939	1,373	1,129	1,182	1,236	1,076
2011.....	2,348	955	1,392	1,150	1,197	1,255	1,093
2012.....	2,398	977	1,421	1,181	1,216	1,281	1,117
2013.....	2,455	1,000	1,455	1,215	1,239	1,311	1,144
2014.....	2,508	1,021	1,487	1,246	1,262	1,339	1,169
2015.....	2,556	1,039	1,516	1,272	1,283	1,364	1,191
2016.....	2,599	1,056	1,543	1,296	1,304	1,388	1,212
2017.....	2,640	1,073	1,567	1,315	1,325	1,409	1,231
Low alternative projections							
2007.....	2,258	909	1,349	1,099	1,159	1,207	1,051
2008.....	2,272	920	1,352	1,110	1,162	1,214	1,057
2009.....	2,269	923	1,345	1,105	1,163	1,213	1,056
2010.....	2,275	930	1,345	1,107	1,168	1,217	1,058
2011.....	2,295	941	1,353	1,116	1,178	1,228	1,067
2012.....	2,333	959	1,374	1,138	1,195	1,248	1,085
2013.....	2,380	979	1,401	1,165	1,215	1,273	1,108
2014.....	2,426	998	1,428	1,190	1,236	1,297	1,129
2015.....	2,467	1,014	1,452	1,211	1,255	1,318	1,148
2016.....	2,504	1,029	1,474	1,230	1,274	1,338	1,166
2017.....	2,539	1,044	1,494	1,245	1,293	1,357	1,182
High alternative projections							
2007.....	2,267	911	1,356	1,103	1,163	1,212	1,055
2008.....	2,290	923	1,367	1,118	1,172	1,224	1,066
2009.....	2,308	932	1,375	1,128	1,179	1,234	1,074
2010.....	2,336	946	1,391	1,146	1,190	1,249	1,088
2011.....	2,380	964	1,415	1,172	1,207	1,272	1,108
2012.....	2,439	989	1,450	1,210	1,229	1,302	1,137
2013.....	2,506	1,014	1,491	1,250	1,255	1,337	1,168
2014.....	2,566	1,037	1,529	1,286	1,280	1,369	1,197
2015.....	2,620	1,057	1,563	1,317	1,302	1,397	1,222
2016.....	2,671	1,076	1,595	1,346	1,325	1,424	1,247
2017.....	2,720	1,095	1,625	1,371	1,348	1,450	1,270

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 A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:92-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This table was prepared November 2007.)

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 1992 through fall 2017

[In thousands]

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
Actual							
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
2003.....	329	166	163	296	33	134	195
2004.....	335	168	166	302	33	136	199
2005.....	337	170	167	303	34	138	199
2006.....	343	174	170	309	34	140	204
Middle alternative projections							
2007.....	351	181	170	316	34	143	208
2008.....	354	183	171	319	35	144	210
2009.....	357	186	171	322	35	145	212
2010.....	361	188	173	326	35	147	214
2011.....	368	192	176	332	36	150	218
2012.....	377	196	181	341	36	153	223
2013.....	387	201	186	350	37	158	229
2014.....	397	205	191	359	38	162	235
2015.....	405	209	196	366	38	165	240
2016.....	412	212	200	373	39	168	244
2017.....	418	215	203	378	40	170	248
Low alternative projections							
2007.....	351	181	170	317	34	143	208
2008.....	354	184	171	320	35	144	210
2009.....	354	185	169	319	35	144	210
2010.....	355	187	168	320	35	144	211
2011.....	358	189	169	323	35	145	212
2012.....	365	193	172	329	36	148	217
2013.....	373	197	176	337	36	152	221
2014.....	381	201	180	344	37	155	226
2015.....	387	204	184	350	37	158	230
2016.....	393	207	187	355	38	160	233
2017.....	398	209	189	360	39	162	236
High alternative projections							
2007.....	352	181	171	318	35	143	209
2008.....	357	184	173	322	35	145	212
2009.....	360	187	174	325	35	147	214
2010.....	366	190	176	330	35	149	217
2011.....	374	194	180	338	36	152	222
2012.....	385	199	186	348	37	157	228
2013.....	397	204	193	360	37	162	235
2014.....	408	208	200	370	38	166	241
2015.....	417	212	205	378	39	170	247
2016.....	426	216	210	386	40	174	252
2017.....	434	219	215	393	40	177	257

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 A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:92-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This table was prepared November 2007.)

Table 22. Actual and projected numbers for enrollment in all degree-granting postsecondary institutions, by race/ethnicity: Fall 1992 through fall 2017

[In thousands]

Year	Race/ethnicity						
	Total	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaska Native	Nonresident alien ¹
Actual							
1992.....	14,486	10,876	1,393	955	697	119	448
1993.....	14,305	10,601	1,413	989	725	122	457
1994.....	14,279	10,428	1,449	1,046	774	127	456
1995.....	14,262	10,313	1,474	1,094	797	131	454
1996.....	14,368	10,265	1,506	1,166	828	138	466
1997.....	14,502	10,267	1,551	1,219	859	142	465
1998.....	14,507	10,180	1,583	1,257	901	144	444
1999.....	14,791	10,283	1,643	1,319	913	145	488
2000.....	15,312	10,462	1,730	1,462	978	151	529
2001.....	15,928	10,775	1,850	1,561	1,019	158	565
2002.....	16,612	11,140	1,979	1,662	1,074	166	591
2003.....	16,911	11,281	2,068	1,716	1,076	173	598
2004.....	17,272	11,423	2,165	1,810	1,109	176	590
2005.....	17,487	11,495	2,215	1,882	1,134	176	585
2006.....	17,759	11,572	2,280	1,964	1,166	181	596
Projected							
2007.....	17,976	11,660	2,319	2,024	1,197	181	595
2008.....	18,200	11,764	2,353	2,091	1,197	200	594
2009.....	18,416	11,835	2,406	2,158	1,223	202	591
2010.....	18,613	11,886	2,457	2,224	1,250	205	590
2011.....	18,822	11,939	2,512	2,293	1,280	208	589
2012.....	19,048	11,995	2,574	2,363	1,313	212	591
2013.....	19,299	12,062	2,641	2,438	1,347	217	594
2014.....	19,533	12,115	2,704	2,515	1,380	222	596
2015.....	19,716	12,130	2,761	2,589	1,412	227	598
2016.....	19,893	12,140	2,816	2,663	1,443	231	599
2017.....	20,080	12,164	2,870	2,738	1,472	236	599

¹The racial/ethnic backgrounds of nonresident aliens are not known.NOTE: Race categories exclude persons of Hispanic ethnicity. Detail may not sum to totals because of rounding. Data for 1999 were imputed using alternative procedures. (For more details, see appendix E of *Projections of Education Statistics to 2011*.) Enrollment data in the "racial/ethnicity unknown" category of the IPEDS "Fall Enrollment Survey" have been prorated to the other racial/ethnicity categories at the institutional level. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:92-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions by Race/Ethnicity Model, 1980-2006. (This table was prepared December 2007.)

Table 23. Actual and alternative projected numbers for full-time-equivalent enrollment in all degree-granting postsecondary institutions, by control and type of institution: Fall 1992 through fall 2017

[In thousands]

Year	Total	Public		Private	
		4-year	2-year	4-year	2-year
Actual					
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
2003.....	12,674	5,558	3,679	3,177	261
2004.....	13,001	5,641	3,707	3,377	276
2005.....	13,201	5,728	3,662	3,533	277
2006.....	13,403	5,825	3,679	3,631	268
Middle alternative projections					
2007.....	13,572	5,859	3,791	3,644	278
2008.....	13,755	5,959	3,842	3,672	282
2009.....	13,928	6,057	3,888	3,697	286
2010.....	14,084	6,132	3,921	3,743	288
2011.....	14,244	6,207	3,955	3,791	290
2012.....	14,415	6,285	3,993	3,844	293
2013.....	14,605	6,368	4,039	3,902	296
2014.....	14,780	6,442	4,084	3,954	300
2015.....	14,915	6,499	4,119	3,995	303
2016.....	15,045	6,553	4,154	4,033	305
2017.....	15,180	6,606	4,196	4,069	309
Low alternative projections					
2007.....	13,578	5,862	3,791	3,646	278
2008.....	13,757	5,962	3,839	3,675	282
2009.....	13,816	6,009	3,857	3,667	283
2010.....	13,872	6,039	3,866	3,683	283
2011.....	13,931	6,069	3,877	3,702	283
2012.....	14,030	6,114	3,897	3,734	284
2013.....	14,163	6,172	3,929	3,775	286
2014.....	14,295	6,227	3,964	3,815	289
2015.....	14,395	6,268	3,991	3,845	291
2016.....	14,494	6,308	4,018	3,875	293
2017.....	14,597	6,348	4,052	3,902	295
High alternative projections					
2007.....	13,621	5,880	3,803	3,658	279
2008.....	13,844	5,998	3,864	3,698	284
2009.....	14,039	6,106	3,915	3,729	288
2010.....	14,233	6,198	3,958	3,785	291
2011.....	14,441	6,295	4,004	3,847	295
2012.....	14,665	6,397	4,054	3,916	299
2013.....	14,910	6,504	4,113	3,989	303
2014.....	15,121	6,594	4,167	4,052	308
2015.....	15,289	6,665	4,210	4,102	311
2016.....	15,459	6,737	4,255	4,152	315
2017.....	15,638	6,809	4,308	4,202	319

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 A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:92-99), and Spring 2001 through Spring 2007; and Enrollment in Degree-Granting Institutions Model, 1980-2006. (This table was prepared November 2007.)

Table 24. Actual and projected numbers for high school graduates, by control of school: 1992–93 through 2017–18

[In thousands]

School year	Total	Public	Private
Actual			
1992–93.....	2,481	2,233	247
1993–94 ¹	2,464	2,221	243
1994–95.....	2,519	2,274	246
1995–96 ¹	2,518	2,273	245
1996–97.....	2,612	2,358	254
1997–98 ¹	2,704	2,439	265
1998–99.....	2,759	2,486	273
1999–2000 ¹	2,833	2,554	279
2000–01.....	2,848	2,569	279
2001–02 ¹	2,906	2,622	285
2002–03.....	3,016	2,720	296
2003–04 ¹	3,054	2,753	301
2004–05.....	3,106	2,799	307
Projected			
2005–06.....	3,198	2,886	312
2006–07.....	3,262	2,950	312
2007–08.....	3,346	3,026	320
2008–09.....	3,328	3,011	317
2009–10.....	3,327	3,005	321
2010–11.....	3,286	2,973	313
2011–12.....	3,234	2,925	309
2012–13.....	3,235	2,933	302
2013–14.....	3,197	2,903	295
2014–15.....	3,199	2,910	288
2015–16.....	3,231	2,952	279
2016–17.....	3,250	2,976	273
2017–18.....	3,307	3,021	286

¹Private 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 A-2, 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,” 1993–94 through 2005–06; Private School Universe Survey (PSS), selected years, 1993–94 through 2005–06; and National Elementary and Secondary High School Graduates Model, 1972–73 through 2004–05. (This table was prepared November 2007.)

Table 25. Actual and projected numbers for high school graduates of public schools, by region and state: 1999–2000 through 2017–18

Region and state	Actual						Projected			
	1999–2000	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09
United States	2,553,844	2,568,956	2,621,534	2,719,907	2,753,438	2,799,250	2,886,480	2,950,450	3,025,780	3,011,040
Northeast	453,814	457,638	461,479	477,236	485,670	503,528	519,100	529,180	537,720	529,180
Connecticut	31,562	30,388	32,327	33,665	34,573	35,515	36,040	37,450	37,730	37,580
Maine	12,211	12,654	12,593	12,947	13,278	13,077	13,490	13,390	13,250	12,660
Massachusetts	52,950	54,393	55,272	55,987	58,326	59,665	61,160	62,460	63,200	61,710
New Hampshire	11,829	12,294	12,452	13,210	13,309	13,775	13,920	14,240	14,440	14,160
New Jersey	74,420	76,130	77,664	81,391	83,826	86,502	91,810	95,590	97,830	96,930
New York	141,731	141,884	140,139	143,818	142,526	153,203	157,870	158,850	161,550	157,840
Pennsylvania	113,959	114,436	114,943	119,932	123,474	124,758	127,830	129,890	132,330	131,230
Rhode Island	8,477	8,603	9,006	9,318	9,258	9,881	9,930	10,180	10,360	10,150
Vermont	6,675	6,856	7,083	6,968	7,100	7,152	7,070	7,140	7,050	6,910
Midwest	648,020	644,770	651,640	673,241	680,178	676,786	691,400	701,390	718,770	716,040
Illinois	111,835	110,624	116,657	117,507	124,763	123,615	125,790	130,080	134,110	134,170
Indiana	57,012	56,172	56,722	57,895	56,008	55,444	59,350	61,060	62,720	63,110
Iowa	33,926	33,774	33,789	34,858	34,339	33,547	34,900	35,480	35,810	35,580
Kansas	29,102	29,360	29,541	29,963	30,155	30,355	29,450	29,550	30,030	29,290
Michigan	97,679	96,515	95,001	100,301	98,823	101,582	104,300	106,750	112,230	110,390
Minnesota	57,372	56,581	57,440	59,432	59,096	58,391	59,360	59,640	60,540	59,040
Missouri	52,848	54,138	54,487	56,925	57,983	57,841	58,700	59,680	60,530	61,830
Nebraska	20,149	19,658	19,910	20,161	20,309	19,940	19,830	19,860	20,840	20,550
North Dakota	8,606	8,445	8,114	8,169	7,888	7,555	7,380	7,220	7,080	6,990
Ohio	111,668	111,281	110,608	115,762	119,029	116,702	120,550	119,710	121,920	123,350
South Dakota	9,278	8,881	8,796	8,998	9,001	8,585	8,300	8,240	8,380	8,250
Wisconsin	58,545	59,341	60,575	63,270	62,784	63,229	63,480	64,120	64,590	63,500
South	861,498	866,693	890,643	930,458	946,808	953,206	984,650	1,014,100	1,039,720	1,033,740
Alabama	37,819	37,082	35,887	36,741	36,464	37,453	37,380	38,060	39,180	39,480
Arkansas	27,335	27,100	26,984	27,555	27,181	26,621	27,440	27,920	29,080	29,310
Delaware	6,108	6,614	6,482	6,817	6,951	6,934	7,120	7,080	7,270	7,590
District of Columbia	2,695	2,808	3,090	2,723	3,031	2,781	3,150	3,400	3,820	3,830
Florida	106,708	111,112	119,537	127,484	131,418	133,318	142,560	150,280	156,280	145,580
Georgia	62,563	62,499	65,983	66,888	68,550	70,834	74,610	76,550	80,920	81,620
Kentucky	36,830	36,957	36,337	37,654	37,787	38,399	38,010	38,850	40,040	40,450
Louisiana	38,430	38,314	37,905	37,608	37,019	36,009	33,040	31,690	29,900	29,150
Maryland	47,849	49,222	50,881	51,864	52,870	54,170	55,720	57,080	58,480	58,110
Mississippi	24,232	23,748	23,740	23,808	23,735	23,523	24,100	24,540	24,970	25,360
North Carolina	62,140	63,288	65,955	69,694	72,126	75,010	77,980	81,080	83,590	84,170
Oklahoma	37,646	37,458	36,852	36,694	36,799	36,227	36,220	36,860	37,360	37,180
South Carolina	31,617	30,026	31,302	32,480	33,235	33,439	34,970	38,080	35,480	35,340
Tennessee	41,568	40,642	40,894	44,111	46,096	47,967	48,120	50,830	51,620	51,530
Texas	212,925	215,316	225,167	238,109	244,165	239,717	252,680	255,830	263,840	265,940
Virginia	65,596	66,067	66,519	72,943	72,042	73,667	74,730	78,710	80,520	81,200
West Virginia	19,437	18,440	17,128	17,285	17,339	17,137	16,850	17,260	17,390	17,900
West	590,512	600,099	617,772	638,972	640,782	665,730	691,330	705,790	729,560	732,070
Alaska	6,615	6,812	6,945	7,297	7,236	6,909	7,780	7,930	7,990	7,470
Arizona	38,304	46,733	47,175	49,986	45,508	59,498	63,450	69,060	74,640	77,920
California	309,866	315,189	325,895	341,097	343,480	355,217	370,450	375,930	387,990	386,780
Colorado	38,924	39,241	40,760	42,379	44,777	44,532	46,660	46,890	48,450	47,170
Hawaii	10,437	10,102	10,452	10,013	10,324	10,813	10,690	10,680	11,130	11,240
Idaho	16,170	15,941	15,874	15,856	15,547	15,768	16,100	16,360	16,710	16,940
Montana	10,903	10,628	10,554	10,657	10,500	10,335	10,320	10,130	10,310	10,030
Nevada	14,551	15,127	16,270	16,378	15,201	15,740	16,350	17,450	19,430	20,860
New Mexico	18,031	18,199	18,094	16,923	17,892	17,353	17,390	17,430	17,530	17,710
Oregon	30,151	29,939	31,153	32,585	32,958	32,602	31,710	32,020	32,390	32,270
Utah	32,501	31,036	30,183	29,525	30,252	30,253	31,730	31,480	32,450	33,220
Washington	57,597	55,081	58,311	60,433	61,274	61,094	63,280	65,050	65,130	64,920
Wyoming	6,462	6,071	6,106	5,843	5,833	5,616	5,420	5,380	5,420	5,530

See notes at end of table.

Table 25. Actual and projected numbers for high school graduates of public schools, by region and state: 1999–2000 through 2017–18—Continued

Region and state	Projected—Continued								
	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
United States	3,005,220	2,973,230	2,925,410	2,932,910	2,902,600	2,910,390	2,951,850	2,976,080	3,021,440
Northeast	526,380	516,310	505,640	498,270	488,070	480,870	482,830	478,610	478,690
Connecticut	37,110	36,670	35,960	35,280	35,480	34,600	34,980	34,500	33,930
Maine	12,710	11,980	11,720	11,300	11,160	11,050	11,060	10,720	10,740
Massachusetts	61,210	59,280	58,340	57,770	56,570	55,850	56,180	55,190	55,340
New Hampshire	13,880	13,340	13,240	12,980	12,660	12,590	12,590	12,200	11,910
New Jersey	96,940	96,960	94,640	95,110	93,550	93,710	94,420	94,550	94,210
New York	158,150	154,190	150,400	147,590	142,930	139,260	138,870	137,070	138,180
Pennsylvania	129,810	127,940	125,600	123,190	121,030	119,420	120,440	121,310	121,100
Rhode Island	9,940	9,630	9,560	9,080	8,930	8,700	8,660	7,450	7,850
Vermont	6,640	6,320	6,190	5,980	5,750	5,700	5,640	5,630	5,440
Midwest	707,330	696,310	682,600	675,120	666,200	662,700	670,370	670,880	674,720
Illinois	133,410	132,240	132,800	132,170	128,660	126,830	127,730	126,580	128,600
Indiana	62,700	62,510	61,420	61,830	62,500	61,890	62,270	62,690	64,000
Iowa	35,570	34,900	34,120	33,600	33,860	34,160	34,740	35,130	35,080
Kansas	29,260	28,390	28,050	27,830	27,600	27,350	28,340	28,410	28,680
Michigan	107,140	104,830	102,000	100,330	97,840	96,990	97,150	96,530	96,350
Minnesota	58,200	57,380	56,050	55,330	54,490	55,050	55,360	56,080	56,060
Missouri	62,120	60,270	57,570	57,280	57,040	57,190	58,900	59,030	59,070
Nebraska	20,090	19,770	19,290	19,250	19,120	19,170	19,390	19,770	19,760
North Dakota	6,890	6,780	6,420	6,230	6,190	6,090	6,060	5,870	5,930
Ohio	120,870	119,800	116,490	114,600	112,100	111,820	113,480	113,100	113,290
South Dakota	8,000	7,920	7,730	7,490	7,460	7,450	7,430	7,500	7,610
Wisconsin	63,090	61,520	60,670	59,180	59,340	58,720	59,520	60,190	60,300
South	1,042,340	1,035,670	1,012,190	1,034,550	1,025,630	1,045,550	1,070,220	1,089,660	1,120,620
Alabama	39,350	38,860	38,120	37,770	37,200	37,840	38,760	38,940	39,860
Arkansas	29,030	28,230	28,480	28,400	29,040	29,800	30,270	30,870	31,140
Delaware	7,620	7,570	7,640	7,530	7,490	7,620	7,680	8,000	8,030
District of Columbia	3,890	3,850	3,620	3,250	3,120	2,910	2,890	2,740	2,900
Florida	150,830	151,340	141,490	153,680	151,920	155,230	160,060	164,000	166,500
Georgia	81,970	82,890	81,680	82,920	83,650	86,180	88,910	91,320	95,180
Kentucky	40,120	39,510	38,970	39,050	38,630	39,270	39,530	40,330	40,600
Louisiana	27,800	26,080	24,040	23,850	22,140	21,050	20,660	20,220	20,450
Maryland	57,410	55,710	54,870	53,890	52,590	51,900	51,360	49,370	51,530
Mississippi	25,270	25,120	24,590	24,180	23,220	23,210	23,360	23,700	24,260
North Carolina	85,250	83,990	85,300	84,440	84,900	86,760	90,520	92,230	96,240
Oklahoma	37,600	36,250	35,820	35,410	35,130	36,080	37,250	37,110	37,520
South Carolina	35,920	35,110	34,080	33,550	32,780	33,090	33,850	34,390	36,170
Tennessee	51,470	50,420	49,860	49,900	49,270	49,870	51,410	52,200	53,200
Texas	270,760	273,740	267,970	281,540	280,780	291,380	297,870	307,610	318,580
Virginia	80,670	80,160	79,050	78,660	77,800	77,480	79,720	80,560	81,970
West Virginia	17,390	16,830	16,610	16,530	15,980	15,890	16,150	16,090	16,500
West	729,170	724,950	724,990	724,970	722,700	721,280	728,430	736,930	747,420
Alaska	7,590	7,130	7,060	6,830	6,690	6,800	6,730	6,990	6,800
Arizona	77,090	77,450	79,980	81,600	84,720	86,350	89,150	92,700	96,690
California	383,250	383,520	384,090	380,430	373,290	366,860	363,920	362,710	363,690
Colorado	48,340	47,740	47,170	47,230	47,750	48,320	49,940	51,270	52,720
Hawaii	10,610	10,530	10,460	10,200	10,100	9,790	9,840	9,770	9,700
Idaho	17,180	17,010	17,070	17,200	17,960	18,040	18,700	19,730	19,930
Montana	10,010	9,370	9,220	9,000	9,020	8,840	8,980	8,990	9,040
Nevada	21,100	21,320	21,670	22,730	22,860	23,300	24,330	25,330	26,150
New Mexico	17,690	17,410	17,070	16,710	16,730	17,030	17,310	17,830	18,130
Oregon	32,060	31,290	30,930	31,350	31,720	31,580	32,390	32,640	33,230
Utah	33,910	33,130	32,950	34,310	35,250	36,540	38,470	39,670	41,620
Washington	65,100	63,930	62,340	62,650	61,710	62,960	63,650	64,270	64,680
Wyoming	5,260	5,120	4,980	4,740	4,900	4,880	5,020	5,040	5,050

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 A-2, 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," 2000–01 through 2005–06; and State Public High School Graduates Model, 1980–81 through 2004–05. (This table was prepared December 2007.)

Table 26. Actual and projected percentage changes in public high school graduates, by region and state: Selected years, 1999–2000 through 2017–18

Region and state	Actual 1999–2000 to 2004–05	Projected		
		2004–05 to 2011–12	2011–12 to 2017–18	2004–05 to 2017–18
United States	9.6	4.5	3.3	7.9
Northeast	11.0	0.4	-5.3	-4.9
Connecticut	12.5	1.3	-5.6	-4.5
Maine	7.1	-10.4	-8.4	-17.9
Massachusetts	12.7	-2.2	-5.1	-7.2
New Hampshire	16.5	-3.9	-10.0	-13.5
New Jersey	16.2	9.4	-0.5	8.9
New York	8.1	-1.8	-8.1	-9.8
Pennsylvania	9.5	0.7	-3.6	-2.9
Rhode Island	16.6	-3.2	-17.9	-20.6
Vermont	7.1	-13.5	-12.1	-23.9
Midwest	4.4	0.9	-1.2	-0.3
Illinois	10.5	7.4	-3.2	4.0
Indiana	-2.8	10.8	4.2	15.4
Iowa	-1.1	1.7	2.8	4.6
Kansas	4.3	-7.6	2.2	-5.5
Michigan	4.0	0.4	-5.5	-5.2
Minnesota	1.8	-4.0	#	-4.0
Missouri	9.4	-0.5	2.6	2.1
Nebraska	-1.0	-3.3	2.4	-0.9
North Dakota	-12.2	-15.0	-7.6	-21.5
Ohio	4.5	-0.2	-2.7	-2.9
South Dakota	-7.5	-10.0	-1.6	-11.4
Wisconsin	8.0	-4.0	-0.6	-4.6
South	10.6	6.2	10.7	17.6
Alabama	-1.0	1.8	4.6	6.4
Arkansas	-2.6	7.0	9.3	17.0
Delaware	13.5	10.2	5.1	15.8
District of Columbia	3.2	30.2	-19.9	4.3
Florida	24.9	6.1	17.7	24.9
Georgia	13.2	15.3	17.7	34.4
Kentucky	4.3	1.5	4.2	5.7
Louisiana	-6.3	-33.2	-14.9	-43.2
Maryland	13.2	1.3	-6.1	-4.9
Mississippi	-2.9	4.5	-1.3	3.1
North Carolina	20.7	13.7	12.8	28.3
Oklahoma	-3.8	-1.1	4.7	3.6
South Carolina	5.8	1.9	6.1	8.2
Tennessee	15.4	3.9	6.7	10.9
Texas	12.6	11.8	18.9	32.9
Virginia	12.3	7.3	3.7	11.3
West Virginia	-11.8	-3.1	-0.7	-3.7
West	12.7	8.9	3.1	12.3
Alaska	4.4	2.2	-3.7	-1.6
Arizona	55.3	34.4	20.9	62.5
California	14.6	8.1	-5.3	2.4
Colorado	14.4	5.9	11.8	18.4
Hawaii	3.6	-3.3	-7.3	-10.3
Idaho	-2.5	8.3	16.8	26.4
Montana	-5.2	-10.8	-2.0	-12.5
Nevada	8.2	37.7	20.7	66.1
New Mexico	-3.8	-1.6	6.2	4.5
Oregon	8.1	-5.1	7.4	1.9
Utah	-6.9	8.9	26.3	37.6
Washington	6.1	2.0	3.8	5.9
Wyoming	-13.1	-11.3	1.4	-10.1

#Rounds to zero.

NOTE: Calculations are based on unrounded numbers. Mean absolute percentage errors of selected education statistics can be found in table A-2, 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," 2000–01 and 2005–06; and State Public High School Graduates Model, 1980–81 through 2004–05. (This table was prepared December 2007.)

Table 27. Actual and alternative projected numbers for associate's degrees, by sex of recipient: 1992–93 through 2017–18

Year	Total	Men	Women
Actual			
1992–93.	514,756	211,964	302,792
1993–94.	530,632	215,261	315,371
1994–95.	539,691	218,352	321,339
1995–96.	555,216	219,514	335,702
1996–97.	571,226	223,948	347,278
1997–98.	558,555	217,613	340,942
1998–99.	559,954	218,417	341,537
1999–2000.	564,933	224,721	340,212
2000–01.	578,865	231,645	347,220
2001–02.	595,133	238,109	357,024
2002–03.	634,016	253,451	380,565
2003–04.	665,301	260,033	405,268
2004–05.	696,660	267,536	429,124
2005–06.	713,066	270,095	442,971
Middle alternative projections			
2006–07.	726,000	275,000	451,000
2007–08.	718,000	272,000	446,000
2008–09.	731,000	277,000	454,000
2009–10.	741,000	282,000	459,000
2010–11.	743,000	283,000	459,000
2011–12.	745,000	285,000	460,000
2012–13.	747,000	286,000	461,000
2013–14.	750,000	287,000	463,000
2014–15.	755,000	288,000	467,000
2015–16.	757,000	288,000	470,000
2016–17.	763,000	288,000	475,000
2017–18.	773,000	290,000	483,000
Low alternative projections			
2006–07.	726,000	275,000	451,000
2007–08.	696,000	264,000	432,000
2008–09.	710,000	269,000	440,000
2009–10.	705,000	268,000	437,000
2010–11.	698,000	266,000	432,000
2011–12.	695,000	266,000	429,000
2012–13.	681,000	261,000	420,000
2013–14.	684,000	262,000	422,000
2014–15.	687,000	262,000	425,000
2015–16.	690,000	262,000	428,000
2016–17.	696,000	263,000	433,000
2017–18.	704,000	265,000	440,000
High alternative projections			
2006–07.	726,000	275,000	451,000
2007–08.	740,000	281,000	459,000
2008–09.	752,000	285,000	467,000
2009–10.	776,000	295,000	481,000
2010–11.	788,000	301,000	487,000
2011–12.	794,000	304,000	490,000
2012–13.	814,000	312,000	502,000
2013–14.	817,000	313,000	505,000
2014–15.	822,000	313,000	508,000
2015–16.	825,000	313,000	512,000
2016–17.	831,000	314,000	517,000
2017–18.	842,000	316,000	526,000

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 A-2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C:93–99), and Fall 2000 through Fall 2006; and Degrees Conferred Model, 1975–76 through 2005–06. (This table was prepared December 2007.)

Table 28. Actual and alternative projected numbers for bachelor's degrees, by sex of recipient: 1992–93 through 2017–18

Year	Total	Men	Women
Actual			
1992–93.....	1,165,178	532,881	632,297
1993–94.....	1,169,275	532,422	636,853
1994–95.....	1,160,134	526,131	634,003
1995–96.....	1,164,792	522,454	642,338
1996–97.....	1,172,879	520,515	652,364
1997–98.....	1,184,406	519,956	664,450
1998–99.....	1,200,303	518,746	681,557
1999–2000.....	1,237,875	530,367	707,508
2000–01.....	1,244,171	531,840	712,331
2001–02.....	1,291,900	549,816	742,084
2002–03.....	1,348,811	573,258	775,553
2003–04.....	1,399,542	595,425	804,117
2004–05.....	1,439,264	613,000	826,264
2005–06.....	1,485,242	630,600	854,642
Middle alternative projections			
2006–07.....	1,515,000	641,000	875,000
2007–08.....	1,563,000	658,000	904,000
2008–09.....	1,603,000	675,000	928,000
2009–10.....	1,634,000	689,000	945,000
2010–11.....	1,653,000	699,000	954,000
2011–12.....	1,667,000	707,000	961,000
2012–13.....	1,681,000	713,000	968,000
2013–14.....	1,692,000	718,000	974,000
2014–15.....	1,700,000	720,000	980,000
2015–16.....	1,703,000	718,000	985,000
2016–17.....	1,711,000	718,000	993,000
2017–18.....	1,730,000	723,000	1,007,000
Low alternative projections			
2006–07.....	1,515,000	641,000	875,000
2007–08.....	1,532,000	645,000	886,000
2008–09.....	1,557,000	656,000	902,000
2009–10.....	1,569,000	661,000	907,000
2010–11.....	1,554,000	657,000	897,000
2011–12.....	1,543,000	654,000	889,000
2012–13.....	1,534,000	651,000	883,000
2013–14.....	1,543,000	655,000	888,000
2014–15.....	1,551,000	657,000	894,000
2015–16.....	1,553,000	655,000	898,000
2016–17.....	1,561,000	655,000	906,000
2017–18.....	1,578,000	660,000	918,000
High alternative projections			
2006–07.....	1,515,000	641,000	875,000
2007–08.....	1,594,000	672,000	922,000
2008–09.....	1,648,000	694,000	954,000
2009–10.....	1,700,000	717,000	983,000
2010–11.....	1,752,000	741,000	1,012,000
2011–12.....	1,792,000	759,000	1,033,000
2012–13.....	1,829,000	776,000	1,053,000
2013–14.....	1,840,000	781,000	1,059,000
2014–15.....	1,850,000	783,000	1,067,000
2015–16.....	1,852,000	781,000	1,071,000
2016–17.....	1,862,000	782,000	1,080,000
2017–18.....	1,882,000	786,000	1,095,000

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 A-2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C:93–99), and Fall 2000 through Fall 2006; and Degrees Conferred Model, 1975–76 through 2005–06. (This table was prepared December 2007.)

Table 29. Actual and alternative projected numbers for master's degrees, by sex of recipient: 1992–93 through 2017–18

Year	Total	Men	Women
Actual			
1992–93.....	369,585	169,258	200,327
1993–94.....	387,070	176,085	210,985
1994–95.....	397,629	178,598	219,031
1995–96.....	406,301	179,081	227,220
1996–97.....	419,401	180,947	238,454
1997–98.....	430,164	184,375	245,789
1998–99.....	439,986	186,148	253,838
1999–2000.....	457,056	191,792	265,264
2000–01.....	468,476	194,351	274,125
2001–02.....	482,118	199,120	282,998
2002–03.....	513,339	211,664	301,675
2003–04.....	558,940	229,545	329,395
2004–05.....	574,618	233,590	341,028
2005–06.....	594,065	237,896	356,169
Middle alternative projections			
2006–07.....	610,000	242,000	368,000
2007–08.....	631,000	248,000	383,000
2008–09.....	649,000	258,000	391,000
2009–10.....	659,000	265,000	393,000
2010–11.....	663,000	269,000	394,000
2011–12.....	670,000	273,000	398,000
2012–13.....	680,000	277,000	402,000
2013–14.....	694,000	284,000	411,000
2014–15.....	712,000	291,000	422,000
2015–16.....	730,000	297,000	433,000
2016–17.....	745,000	302,000	443,000
2017–18.....	759,000	306,000	452,000
Low alternative projections			
2006–07.....	610,000	242,000	368,000
2007–08.....	607,000	238,000	368,000
2008–09.....	599,000	239,000	361,000
2009–10.....	592,000	239,000	353,000
2010–11.....	582,000	236,000	346,000
2011–12.....	575,000	234,000	341,000
2012–13.....	562,000	229,000	333,000
2013–14.....	574,000	235,000	339,000
2014–15.....	589,000	240,000	349,000
2015–16.....	603,000	245,000	358,000
2016–17.....	616,000	250,000	366,000
2017–18.....	627,000	253,000	374,000
High alternative projections			
2006–07.....	610,000	242,000	368,000
2007–08.....	656,000	257,000	398,000
2008–09.....	699,000	278,000	421,000
2009–10.....	725,000	292,000	433,000
2010–11.....	744,000	301,000	443,000
2011–12.....	766,000	311,000	454,000
2012–13.....	798,000	326,000	472,000
2013–14.....	815,000	333,000	482,000
2014–15.....	836,000	341,000	495,000
2015–16.....	856,000	348,000	508,000
2016–17.....	874,000	354,000	520,000
2017–18.....	891,000	360,000	531,000

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 A-2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C:93–99), and Fall 2000 through Fall 2006; and Degrees Conferred Model, 1975–76 through 2005–06. (This table was prepared December 2007.)

Table 30. Actual and alternative projected numbers for doctor's degrees, by sex of recipient: 1992–93 through 2017–18

Year	Total	Men	Women
Actual			
1992–93.....	42,132	26,073	16,059
1993–94.....	43,185	26,552	16,633
1994–95.....	44,446	26,916	17,530
1995–96.....	44,652	26,841	17,811
1996–97.....	45,876	27,146	18,730
1997–98.....	46,010	26,664	19,346
1998–99.....	44,077	25,146	18,931
1999–2000.....	44,808	25,028	19,780
2000–01.....	44,904	24,728	20,176
2001–02.....	44,160	23,708	20,452
2002–03.....	46,024	24,341	21,683
2003–04.....	48,378	25,323	23,055
2004–05.....	52,631	26,973	25,658
2005–06.....	56,067	28,634	27,433
Middle alternative projections			
2006–07.....	57,800	28,400	29,400
2007–08.....	59,100	28,800	30,400
2008–09.....	59,900	29,200	30,700
2009–10.....	60,400	29,700	30,700
2010–11.....	61,300	30,500	30,800
2011–12.....	62,100	31,000	31,100
2012–13.....	63,200	31,500	31,600
2013–14.....	64,600	32,200	32,400
2014–15.....	66,200	32,900	33,300
2015–16.....	67,800	33,600	34,200
2016–17.....	69,500	34,300	35,200
2017–18.....	71,200	35,000	36,200
Low alternative projections			
2006–07.....	57,800	28,400	29,400
2007–08.....	56,600	27,600	29,100
2008–09.....	58,100	28,400	29,700
2009–10.....	57,300	28,200	29,100
2010–11.....	58,700	29,200	29,500
2011–12.....	60,700	30,300	30,400
2012–13.....	59,600	29,700	29,800
2013–14.....	60,900	30,400	30,500
2014–15.....	62,400	31,000	31,400
2015–16.....	64,000	31,700	32,200
2016–17.....	65,500	32,400	33,200
2017–18.....	67,200	33,100	34,100
High alternative projections			
2006–07.....	57,800	28,400	29,400
2007–08.....	61,700	30,000	31,700
2008–09.....	61,700	30,100	31,600
2009–10.....	63,500	31,300	32,300
2010–11.....	63,800	31,700	32,100
2011–12.....	63,500	31,700	31,800
2012–13.....	66,700	33,300	33,400
2013–14.....	68,200	34,000	34,200
2014–15.....	69,900	34,800	35,100
2015–16.....	71,600	35,500	36,100
2016–17.....	73,400	36,300	37,200
2017–18.....	75,300	37,000	38,200

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 A-2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C:93–99), and Fall 2000 through Fall 2006; and Degrees Conferred Model, 1975–76 through 2005–06. (This table was prepared December 2007.)

Table 31. Actual and alternative projected numbers for first-professional degrees, by sex of recipient: 1992–93 through 2017–18

Year	Total	Men	Women
Actual			
1992–93.....	75,387	45,153	30,234
1993–94.....	75,418	44,707	30,711
1994–95.....	75,800	44,853	30,947
1995–96.....	76,734	44,748	31,986
1996–97.....	78,730	45,564	33,166
1997–98.....	78,598	44,911	33,687
1998–99.....	78,439	44,339	34,100
1999–2000.....	80,057	44,239	35,818
2000–01.....	79,707	42,862	36,845
2001–02.....	80,698	42,507	38,191
2002–03.....	80,897	41,887	39,010
2003–04.....	83,041	42,169	40,872
2004–05.....	87,289	43,849	43,440
2005–06.....	87,655	44,038	43,617
Middle alternative projections			
2006–07.....	89,800	45,200	44,600
2007–08.....	91,800	46,000	45,800
2008–09.....	93,300	46,800	46,400
2009–10.....	94,400	47,500	46,900
2010–11.....	95,100	48,000	47,100
2011–12.....	96,100	48,500	47,600
2012–13.....	97,200	49,100	48,100
2013–14.....	98,900	49,800	49,200
2014–15.....	101,000	50,500	50,500
2015–16.....	103,100	51,200	51,900
2016–17.....	105,000	51,800	53,200
2017–18.....	106,700	52,300	54,400
Low alternative projections			
2006–07.....	89,800	45,200	44,600
2007–08.....	90,500	45,300	45,100
2008–09.....	91,600	46,000	45,600
2009–10.....	91,600	46,100	45,500
2010–11.....	89,800	45,300	44,500
2011–12.....	89,400	45,100	44,200
2012–13.....	89,100	45,000	44,100
2013–14.....	90,700	45,600	45,100
2014–15.....	92,600	46,300	46,300
2015–16.....	94,500	46,900	47,600
2016–17.....	96,200	47,400	48,800
2017–18.....	97,800	47,900	49,900
High alternative projections			
2006–07.....	89,800	45,200	44,600
2007–08.....	93,100	46,700	46,400
2008–09.....	94,900	47,700	47,300
2009–10.....	97,300	49,000	48,300
2010–11.....	100,400	50,700	49,700
2011–12.....	102,800	51,900	50,900
2012–13.....	105,300	53,200	52,200
2013–14.....	107,100	53,900	53,200
2014–15.....	109,400	54,700	54,700
2015–16.....	111,700	55,400	56,200
2016–17.....	113,700	56,100	57,600
2017–18.....	115,500	56,600	58,900

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 A-2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C:93–99), and Fall 2000 through Fall 2006; and Degrees Conferred Model, 1975–76 through 2005–06. (This table was prepared December 2007.)

Table 32. Actual and alternative projected numbers for elementary and secondary teachers and elementary and secondary new teacher hires, by control of school: Fall 1992 through fall 2017

[In thousands]

Year	Number of teachers, by control			Number of new teacher hires, by control		
	Total	Public	Private	Total	Public	Private
Actual						
1992 ¹	2,827	2,459	368	—	—	—
1993	2,874	2,504	370	—	—	—
1994 ¹	2,925	2,552	373	—	—	—
1995	2,974	2,598	376	—	—	—
1996 ¹	3,051	2,667	384	—	—	—
1997	3,138	2,746	391	—	—	—
1998 ¹	3,230	2,830	400	—	—	—
1999	3,319	2,911	408	305	222	83
2000 ¹	3,366	2,941	424	—	—	—
2001	3,440	3,000	441	—	—	—
2002 ¹	3,476	3,034	442	—	—	—
2003	3,490	3,049	441	303	236	67
2004 ²	3,536	3,090	445	377	296	81
2005 ³	3,587	3,137	450	364	285	79
Middle alternative projections						
2006	3,613	3,161	452	348	270	78
2007	3,663	3,204	459	378	296	82
2008	3,713	3,246	467	387	303	84
2009	3,760	3,286	474	393	308	86
2010	3,808	3,326	482	403	316	88
2011	3,859	3,369	489	412	322	89
2012	3,914	3,417	497	423	332	91
2013	3,970	3,465	505	428	336	92
2014	4,034	3,520	513	441	347	94
2015	4,101	3,579	522	448	352	96
2016	4,171	3,640	531	455	358	98
2017	4,244	3,704	540	464	364	100
Low alternative projections						
2006	3,613	3,161	452	348	270	78
2007	3,656	3,198	459	372	290	82
2008	3,693	3,229	465	374	291	83
2009	3,729	3,259	471	380	297	84
2010	3,766	3,289	477	390	304	86
2011	3,807	3,324	483	398	311	87
2012	3,856	3,366	490	412	323	89
2013	3,907	3,410	497	418	328	90
2014	3,968	3,462	506	432	339	93
2015	4,031	3,517	514	438	344	94
2016	4,099	3,576	523	447	350	96
2017	4,170	3,638	532	455	357	98
High alternative projections						
2006	3,613	3,161	452	348	270	78
2007	3,671	3,211	460	386	303	83
2008	3,727	3,258	468	394	308	85
2009	3,776	3,300	476	397	311	86
2010	3,828	3,344	484	409	321	89
2011	3,886	3,394	493	420	330	90
2012	3,949	3,448	501	433	340	92
2013	4,012	3,502	510	438	344	93
2014	4,080	3,561	519	449	353	96
2015	4,152	3,624	528	456	359	98
2016	4,228	3,690	538	466	367	100
2017	4,309	3,761	548	476	375	102

—Not available.

¹Private school teacher numbers are estimated.²Private school teacher numbers and public and private new teacher hire numbers are estimated.³Public and private new teacher hire numbers are estimated.

NOTE: Number of teachers reported in full-time equivalents. 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 A-2, 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," 1992–93 through 2005–06; Private School Universe Survey (PSS), selected years, 1993–94 through 2005–06; Elementary and Secondary Teacher Model, 1973–2004; and New Teacher Hires Model, 1988–2004. (This table was prepared December 2007.)

Table 33. Actual and alternative projected numbers for the pupil/teacher ratios in elementary and secondary schools, by control of school: Fall 1992 through fall 2017

Year	Total	Public	Private
Actual			
1992 ¹	17.2	17.4	15.4
1993	17.1	17.4	15.3
1994 ¹	17.1	17.3	15.5
1995	17.1	17.3	15.7
1996 ¹	16.9	17.1	15.5
1997	16.6	16.8	15.2
1998 ¹	16.3	16.4	15.0
1999	15.9	16.1	14.7
2000 ¹	15.9	16.0	14.5
2001	15.7	15.9	14.3
2002 ¹	15.7	15.9	14.1
2003	15.7	15.9	13.8
2004 ¹	15.5	15.8	13.7
2005	15.4	15.7	13.5
Middle alternative projections			
2006	15.4	15.6	13.5
2007	15.2	15.5	13.2
2008	15.1	15.3	13.0
2009	15.0	15.2	12.8
2010	14.9	15.1	12.6
2011	14.9	15.1	12.4
2012	14.8	15.0	12.2
2013	14.8	14.9	12.1
2014	14.7	14.9	12.0
2015	14.6	14.8	11.9
2016	14.6	14.7	11.8
2017	14.5	14.6	11.8
Low alternative projections			
2006	15.3	15.5	13.5
2007	15.1	15.4	13.4
2008	15.0	15.2	13.1
2009	14.9	15.1	12.9
2010	14.8	15.0	12.7
2011	14.7	14.8	12.5
2012	14.6	14.7	12.4
2013	14.5	14.6	12.3
2014	14.4	14.5	12.1
2015	14.3	14.4	12.0
2016	14.2	14.3	11.9
2017	14.1	14.2	11.8
High alternative projections			
2006	15.3	15.5	13.5
2007	15.2	15.4	13.4
2008	15.1	15.4	13.2
2009	15.1	15.3	13.1
2010	15.0	15.2	12.9
2011	14.9	15.1	12.8
2012	14.9	15.0	12.7
2013	14.8	15.0	12.6
2014	14.7	14.9	12.4
2015	14.7	14.8	12.4
2016	14.6	14.7	12.3
2017	14.5	14.6	12.2

¹Private school numbers are estimated.

NOTE: The pupil/teacher ratios were derived from tables 1 and 32. Teachers reported in full-time equivalents. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, 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," 1992–93 through 2005–06; Private School Universe Survey (PSS), selected years, 1993–94 through 2005–06; National Elementary and Secondary Enrollment Model, 1972–2005; and Elementary and Secondary Teacher Model, 1973–2004. (This table was prepared November 2007.)

Table 34. Actual and alternative projected numbers for current expenditures and current expenditures per pupil in fall enrollment in public elementary and secondary schools: 1992–93 through 2017–18

School year	Current expenditures				
	Fall enrollment (in thousands)	Constant 2005–06 dollars ¹		Current dollars	
		Total (in billions)	Per pupil in fall enrollment	Total (in billions)	Per pupil in fall enrollment
Actual					
1992–93.....	42,823	\$308.6	\$7,205	\$220.9	\$5,160
1993–94.....	43,465	315.1	7,249	231.5	5,327
1994–95.....	44,111	322.7	7,315	243.9	5,529
1995–96.....	44,840	328.6	7,327	255.1	5,689
1996–97.....	45,611	338.4	7,418	270.2	5,923
1997–98.....	46,127	351.2	7,614	285.5	6,189
1998–99.....	46,539	366.3	7,871	302.9	6,508
1999–2000.....	46,857	380.7	8,125	323.9	6,912
2000–01.....	47,204	396.0	8,389	348.4	7,380
2001–02.....	47,672	411.5	8,631	368.4	7,727
2002–03.....	48,183	423.5	8,790	387.6	8,044
2003–04.....	48,540	431.4	8,887	403.4	8,310
2004–05.....	48,795	440.8	9,033	424.6	8,701
Middle alternative projections					
2005–06.....	49,113	446.9	9,099	446.9	9,099
2006–07.....	49,464	460.7	9,314	470.1	9,504
2007–08.....	49,644	473.8	9,543	492.9	9,929
2008–09.....	49,825	486.8	9,770	517.4	10,384
2009–10.....	50,067	500.9	10,005	542.9	10,844
2010–11.....	50,353	514.9	10,227	568.8	11,296
2011–12.....	50,722	528.6	10,422	–	–
2012–13.....	51,194	542.0	10,588	–	–
2013–14.....	51,701	556.1	10,756	–	–
2014–15.....	52,284	572.6	10,951	–	–
2015–16.....	52,910	590.4	11,159	–	–
2016–17.....	53,503	608.1	11,367	–	–
2017–18.....	54,087	626.4	11,582	–	–
Low alternative projections					
2005–06.....	49,113	446.9	9,099	446.9	9,099
2006–07.....	49,464	460.4	9,308	470.6	9,515
2007–08.....	49,644	470.1	9,470	493.9	9,950
2008–09.....	49,825	477.4	9,582	517.2	10,380
2009–10.....	50,067	486.1	9,710	542.3	10,831
2010–11.....	50,353	494.7	9,825	567.9	11,279
2011–12.....	50,722	503.5	9,926	–	–
2012–13.....	51,194	513.2	10,024	–	–
2013–14.....	51,701	524.0	10,134	–	–
2014–15.....	52,284	537.5	10,280	–	–
2015–16.....	52,910	552.2	10,436	–	–
2016–17.....	53,503	566.9	10,596	–	–
2017–18.....	54,087	582.1	10,762	–	–
High alternative projections					
2005–06.....	49,113	446.9	9,099	446.9	9,099
2006–07.....	49,464	461.0	9,321	469.3	9,488
2007–08.....	49,644	477.7	9,622	491.6	9,902
2008–09.....	49,825	493.2	9,899	515.7	10,351
2009–10.....	50,067	508.9	10,164	539.4	10,774
2010–11.....	50,353	525.4	10,435	565.5	11,231
2011–12.....	50,722	542.3	10,692	–	–
2012–13.....	51,194	559.3	10,925	–	–
2013–14.....	51,701	577.1	11,163	–	–
2014–15.....	52,284	596.4	11,407	–	–
2015–16.....	52,910	617.1	11,663	–	–
2016–17.....	53,503	638.3	11,930	–	–
2017–18.....	54,087	660.5	12,212	–	–

–Not available.

¹Based 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 A-2, 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,” 1992–93 through 2005–06; “National Public Education Financial Survey,” 1992–93 through 2004–05; National Elementary and Secondary Enrollment Model, 1972–2005; and Elementary and Secondary School Current Expenditures Model, 1969–70 through 2004–05. (This table was prepared December 2007.)

Table 35. Actual and alternative projected numbers for current expenditures and current expenditures per pupil in average daily attendance (ADA) in public elementary and secondary schools: 1992–93 through 2017–18

School year	Current expenditures				
	ADA (in thousands)	Constant 2005–06 dollars ¹		Current dollars	
		Total (in billions)	Per pupil in ADA	Total (in billions)	Per pupil in ADA
Actual					
1992–93.	39,570	\$308.6	\$7,798	\$220.9	\$5,584
1993–94.	40,146	315.1	7,848	231.5	5,767
1994–95.	40,721	322.7	7,924	243.9	5,989
1995–96.	41,502	328.6	7,917	255.1	6,147
1996–97.	42,262	338.4	8,006	270.2	6,393
1997–98.	42,766	351.2	8,213	285.5	6,676
1998–99.	43,187	366.3	8,481	302.9	7,013
1999–2000.	43,807	380.7	8,691	323.9	7,394
2000–01.	44,076	396.0	8,984	348.4	7,904
2001–02.	44,605	411.5	9,224	368.4	8,259
2002–03.	45,017	423.5	9,408	387.6	8,610
2003–04.	45,326	431.4	9,518	403.4	8,900
2004–05.	45,625	440.8	9,661	424.6	9,305
Middle alternative projections					
2005–06.	45,747	446.9	9,769	446.9	9,769
2006–07.	46,074	460.7	10,000	470.1	10,203
2007–08.	46,242	473.8	10,246	492.9	10,659
2008–09.	46,410	486.8	10,489	517.4	11,148
2009–10.	46,635	500.9	10,742	542.9	11,641
2010–11.	46,902	514.9	10,979	568.8	12,127
2011–12.	47,246	528.6	11,189	—	—
2012–13.	47,685	542.0	11,367	—	—
2013–14.	48,158	556.1	11,547	—	—
2014–15.	48,701	572.6	11,757	—	—
2015–16.	49,284	590.4	11,981	—	—
2016–17.	49,836	608.1	12,203	—	—
2017–18.	50,381	626.4	12,434	—	—
Low alternative projections					
2005–06.	45,747	446.9	9,769	446.9	9,769
2006–07.	46,074	460.4	9,993	470.6	10,215
2007–08.	46,242	470.1	10,167	493.9	10,682
2008–09.	46,410	477.4	10,288	517.2	11,144
2009–10.	46,635	486.1	10,424	542.3	11,628
2010–11.	46,902	494.7	10,548	567.9	12,109
2011–12.	47,246	503.5	10,657	—	—
2012–13.	47,685	513.2	10,762	—	—
2013–14.	48,158	524.0	10,880	—	—
2014–15.	48,701	537.5	11,037	—	—
2015–16.	49,284	552.2	11,204	—	—
2016–17.	49,836	566.9	11,376	—	—
2017–18.	50,381	582.1	11,554	—	—
High alternative projections					
2005–06.	45,747	446.9	9,769	446.9	9,769
2006–07.	46,074	461.0	10,007	469.3	10,186
2007–08.	46,242	477.7	10,330	491.6	10,631
2008–09.	46,410	493.2	10,627	515.7	11,112
2009–10.	46,635	508.9	10,912	539.4	11,567
2010–11.	46,902	525.4	11,203	565.5	12,058
2011–12.	47,246	542.3	11,479	—	—
2012–13.	47,685	559.3	11,729	—	—
2013–14.	48,158	577.1	11,984	—	—
2014–15.	48,701	596.4	12,246	—	—
2015–16.	49,284	617.1	12,521	—	—
2016–17.	49,836	638.3	12,808	—	—
2017–18.	50,381	660.5	13,111	—	—

—Not available.

¹Based 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 A-2, appendix A.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 1992–93 through 2004–05; National Elementary and Secondary Average Daily Attendance Model, 1992–93 through 2004–05; and Elementary and Secondary School Current Expenditures Model, 1969–70 through 2004–05. (This table was prepared December 2007.)

Technical Appendixes

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Appendix A

Projection Methodology

Since its inception in 1964, the *Projection of Education Statistics* series has been providing projections of key education statistics to policy makers, educators, researchers, the press, and the general public. This edition, the *Projections of Education Statistics to 2017*, is the thirty-sixth in the series. It provides projections of enrollment, graduates, teachers, and expenditures.

The general methodological procedure for *Projections of Education Statistics to 2017* 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 2006. This enrollment rate was then projected through the year 2017 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.

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

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 relatively high smoothing constant (0.7 or higher), weights for earlier observations decrease rapidly. For a relatively low smoothing constant (0.3 or lower), 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 for most variables in this report are collected 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 also is 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 equations in this appendix should be viewed as forecasting rather than structural equations, as the limitations of time and available data precluded the building of large-scale, structural models. The particular equations shown were selected on the basis of their statistical properties, such as coefficients of determination (R^2 s), the t-statistics of the coefficients, the Durbin-Watson statistic, and residual plots.

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 X will lead to a given percent change in Y. 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 A-1.

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.

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.

The future fertility rate assumption along with corresponding projections of females, determine projections of the number of births, a 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.

The key economic factors of 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. Age-specific unemployment rates are likely to increase during a weak or pessimistic economy, with the result that the estimated opportunity costs will be lower. This will have a positive impact on higher education enrollment, as 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 can be lower than the low alternative projections in the short term. 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.

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 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 from the “U.S. Quarterly Model: February 2007: Long-Term-Projections” of the economic consulting firm Global Insight, Inc. (See supplemental table B-6 for the projections of disposable income per capita.)

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 over past projections 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, 0.6, 1.3, and 2.3 percent, respectively. For more information on mean absolute percentage errors, see table A-2.

Table A-1. Summary of forecast assumptions to 2017

Variable	Middle alternative	Low alternative	High alternative
Demographic assumptions			
Population	Projections are consistent with the Census Bureau middle series estimates ¹	Same as middle alternative	Same as middle alternative
18- to 24-year-old population	Census Bureau middle series projection: average annual growth rate of -0.07%	Same as middle alternative	Same as middle alternative
25- to 29-year-old population	Census Bureau middle series projection: average annual growth rate of 0.9%	Same as middle alternative	Same as middle alternative
30- to 34-year-old population	Census Bureau middle series projection: average annual growth rate of 1.3%	Same as middle alternative	Same as middle alternative
35- to 44-year-old population	Census Bureau middle series projection: average annual decline of -0.3%	Same as middle alternative	Same as middle alternative
Economic assumptions			
Disposable income per capita in constant dollars	Annual percent changes range between 0.4% and 2.7% with an annual growth rate of 2.1%	Annual percent changes range between 0.4% and 2.3% with an annual growth rate of 1.4%	Annual percent changes range between 0.4% and 3.6% with an annual growth rate of 2.6%
Education revenue receipts from state sources per capita in constant dollars	Annual percent changes range between -1.2% and 3.6% with an annual growth rate of 2.5%	Annual percent changes range between -1.2% and 3.5% with an annual growth rate of 1.7%	Annual percent changes range between -1.2% and 3.7% with an annual growth rate of 3.1%
Inflation rate	Inflation rate ranges between 1.8% and 3.8%	Inflation rate ranges between 2.2% and 3.8%	Inflation rate ranges between 1.1% and 3.8%
Unemployment rate (men)			
Ages 18 and 19	Remains between 15.4% and 17.0%	Remains between 16.8% and 18.5%	Remains between 15.2% and 16.7%
Ages 20 to 24	Remains between 8.3% and 9.2%	Remains between 9.1% and 10.1%	Remains between 8.2% and 9.1%
Age 25 and over	Remains between 3.3% and 3.7%	Remains between 3.7% and 4.1%	Remains between 3.3% and 3.7%
Unemployment rate (women)			
Ages 18 and 19	Remains between 12.0% and 13.0%	Remains between 12.9% and 14.0%	Remains between 11.8% and 12.9%
Ages 20 to 24	Remains between 6.9% and 7.6%	Remains between 7.5% and 8.2%	Remains between 6.9% and 7.5%
Age 25 and over	Remains between 3.4% and 3.7%	Remains between 3.7% and 4.1%	Remains between 3.4% and 3.7%

¹As the Census Bureau projections were not updated to reflect the 2007 Census Bureau population estimates, the Census Bureau age-specific population projections for each year were adjusted by multiplying the ratio of the total Census Bureau estimate for 2007 to the total Census Bureau projection for 2007.

SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved September 7, 2007, from http://www.census.gov/popest/national/asrh/2006_nat_af.html; and Population Projections, retrieved September 7, 2007, from <http://www.census.gov/ipc/www/usinterimproj/>; and Global Insight, Inc., "U.S. Quarterly Model." (This table was prepared December 2007.)

Table A-2. Mean absolute percentage errors (MAPEs) by lead time for selected statistics in all public elementary and secondary schools and degree-granting institutions: 2007

Statistic	Lead time (years)									
	1	2	3	4	5	6	7	8	9	10
Public elementary and secondary schools										
Prekindergarten–12 enrollment	0.3	0.6	0.8	1.1	1.3	1.4	1.6	1.7	2.0	2.3
Prekindergarten–8 enrollment	0.4	0.6	0.9	1.1	1.3	1.6	1.9	2.2	2.7	3.2
9–12 enrollment	0.4	0.7	1.0	1.2	1.4	1.6	1.9	2.1	2.2	2.3
High school graduates	0.8	0.8	1.6	1.9	1.8	2.1	2.7	3.5	3.9	3.9
Elementary and secondary teachers ¹	1.0	1.5	1.9	2.6	2.7	3.3	3.9	4.7	5.3	6.1
Total current expenditures ²	1.3	2.2	2.2	2.4	2.9	3.7	4.4	4.7	4.5	3.8
Current expenditures per pupil in fall enrollment ² . . .	1.3	2.1	2.0	2.3	3.3	4.0	4.9	5.3	5.8	5.4
Degree-granting institutions										
Total enrollment	1.5	2.1	2.8	3.2	4.6	5.6	7.0	9.4	9.8	10.9
Men	1.5	2.7	3.1	3.8	5.4	6.6	8.4	9.3	9.6	10.3
Women	2.5	3.0	3.3	4.3	5.6	6.5	7.9	9.4	10.0	11.3
4-year institutions	1.2	2.1	2.8	3.8	5.4	6.8	8.1	9.9	11.2	12.5
2-year institutions	2.2	3.7	4.2	4.3	4.9	5.6	7.6	8.5	7.5	8.1
Associate's degrees	2.1	2.9	3.1	4.8	5.7	6.9	8.9	11.0	12.6	14.3
Bachelor's degrees	1.0	1.9	2.6	4.0	5.6	7.3	8.8	9.7	11.1	12.1
Master's degrees	1.9	3.7	6.9	10.1	12.1	14.7	17.3	19.5	21.8	22.9
Doctor's degrees	3.0	4.4	3.6	5.1	5.4	3.9	5.7	7.3	7.2	7.6
First-professional degrees	1.4	1.5	1.6	3.0	5.1	6.8	8.3	9.9	12.4	13.7

¹Data for teachers expressed in full-time equivalents.

²In 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 over past projections of the absolute values of errors expressed in percentage terms. MAPEs for PK-12 enrollments were calculated using the last 24 editions of *Projections of Education Statistics*. MAPEs for high school graduates were calculated from the past 16 editions of *Projections of Education Statistics*. MAPEs for teachers were calculated from the past 17 editions containing teachers projections and MAPEs for current expenditures were calculated using projections from the last 17 editions containing current expenditure projections. MAPEs for degree-granting institution enrollments and earned degrees were calculated using the last 10 and 11 editions, respectively. 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 December 2007.)

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.

Enrollment data for degree-granting institutions presented in this report are derived from both NCES aggregate enrollment counts and the U.S. Census Bureau age-specific enrollment counts. Specifically, the most detailed level of enrollment data (by age, sex, enrollment status, control of institution, type of institution, and level enrolled) were iteratively changed using proportions that are based on known more aggregate totals to ensure that the sum across these most detailed level of enrollment data equal the more aggregate NCES totals that do not include age.

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 A-3 shows enrollment rates for 2006 and middle alternative projected enrollment rates for 2012 and 2017. Table A-4 shows the estimated equations used to project the enrollments for men by attendance status. Table A-5 shows the estimated equations used to project enrollment rates for women by attendance status.

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

The second stage of EDMOD projects enrollment in public elementary and secondary schools by grade group and by organizational level. Public enrollments by age were based on enrollment rate projections for grade classifications of 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 A-6 shows the public school enrollment rates, and table A-7 shows the public school grade progression rates for 2005 and projections for 2006 through 2017. The projected rates in tables A-6 and A-7 were used to compute the projections of enrollments in elementary and secondary schools, by grade, shown in table 3.

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 2007 through 2017 are shown in tables A-8 and A-9, along with actual values for 2006. 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 A-8 and A-9 were then adjusted to agree with the projected age-specific enrollment rates in the first stage of EDMOD. The adjusted rates were then applied to the projected enrollments by age group, sex, and attendance status from the first stage of EDMOD to obtain projections by age group, sex, attendance status, level enrolled, and type of institution.

For each enrollment category—sex, attendance status, level enrolled, and type of institution—public enrollment was projected as a percent of total enrollment. Projections for 2007 through 2017 are shown in table A-10, along with actual percents for 2006. 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 2006 and projections for 2007 through 2017 are shown in table A-11. The projected rates in table A-11 were then applied to projections of postbaccalaureate enrollment

to obtain graduate and first-professional enrollment projections by sex, attendance status, and type and control of institution.

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

The fourth stage of EDMOD projects full-time-equivalent enrollment, by type and control of institution and by level enrolled. The full-time-equivalent enrollment measures enrollment as if students were enrolled full time for one academic year, and equals the sum of full-time enrollment and full-time-equivalent of part-time enrollment. The full-time-equivalent of part-time enrollment was estimated as a percentage of part-time enrollment. In EDMOD, the full-time-equivalent of part-time enrollment was calculated using different percentages for enrollment category by level enrolled and by type and control of institution. Actual percents for 2006 and projections for 2007 and 2017 are shown in table A-12.

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.

College Enrollment, by Sex, Attendance Status, Age Group, and Race/Ethnicity

The fifth stage of EDMOD projects enrollments in degree-granting institutions by age, sex, attendance status, and race/ethnicity. The race/ethnicity groups projected include the following: White; Black; Hispanic; Asian or Hawaiian-Pacific Islander; American Indian/Alaska Native and Non-Resident Alien. Enrollment projections are based on projected enrollment rates by age, sex, attendance status, and race/ethnicity 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. With the exception of American Indian/Alaska Native and Non-Resident Alien, all race/ethnicity groups were projected by taking into account the most recent trends, as well as the effects of economic conditions and demographic changes. Due to the nature of the historical data, American Indian/Alaska Native enrollments were projected using single exponential smoothing and Non-Resident Alien enrollments were projected using patterns in recent historical growth.

Enrollments by sex, race/ethnicity and age from the U.S. Census Bureau were adjusted to NCES totals by sex and race/ethnicity to compute rates for 1981 through 2006. As with the first stage of EDMOD, the fifth stage consists of age-specific enrollment models for each sex-race/ethnicity group in which enrollment rates are projected and applied to age-specific population projections by sex and race/ethnicity from the U.S. Census Bureau. The final set of projected rates by age, sex, attendance status, and race/ethnicity were controlled to the stage one enrollment rates by age, sex, and attendance status to ensure consistency across stages. Specifically, the most detailed level of enrollment data (by age, sex, enrollment status, and race/ethnicity) were iteratively changed using proportions that are based on known more aggregate totals to ensure that the sum across these most detailed level of enrollment data equal the more aggregate NCES totals that do not include age.

Stage five consists of 16 individual pooled time series models—one for each attendance status - sex - race/ethnicity combination—that are each pooled across age. As with the stage one postsecondary level projections, projections of full-time and part-time college enrollments by race/ethnicity were considered only for ages 16 and over. College enrollment is negligible for earlier ages. Within each model, 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. Table A-14 shows the estimated equations used to project the enrollments for White men by attendance status. Table A-15 shows the estimated equations used to project enrollment rates for White women by attendance. Table A-16 shows the estimated equations used to project the enrollments for Black men by attendance status. Table A-17 shows the estimated equations used to project enrollment rates for Black women by attendance. Table A-18 shows the estimated equations used to project the enrollments for Hispanic men by attendance status. Table A-19 shows the estimated equations used to project enrollment rates for Hispanic women by attendance. Table A-20 shows the estimated equations used to project the enrollments for Asian or Hawaiian-Pacific Islander men by attendance status. Table A-21 shows the estimated equations used to project enrollment rates for Asian or Hawaiian-Pacific Islander women by attendance status.

Accuracy of Projections

An analysis of projection errors from the past 24 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, 0.6, 1.3, and 2.3 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 0.4, 0.6, 1.3, and 3.2 percent, respectively, while those for projections of public school enrollment in grades 9–12 were 0.4, 0.7, 1.4, and 2.3 percent for the same lead times.

For projections of total enrollment in degree-granting institutions, an analysis of projection errors based on the past 10 editions of *Projections of Education Statistics* indicates that the MAPEs for lead times of 1, 2, 5, and 10 years were 1.5, 2.1, 4.6, and 10.9 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 1.5 percent of the actual value, on the average. For more information on MAPEs, see table A-2, page 86.

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

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:

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

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

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

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

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

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:

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

Enrollment in Degree-Granting Institutions by Race/Ethnicity

Projections for degree-granting institutions by sex and attendance status of student were further disaggregated by race/ethnicity. 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
- l = Subscript denoting race/ethnicity
- E_{ijklt} = Enrollment of students age i by sex, attendance status, and race/ethnicity
- P_{ijlt} = Population age i by sex and race/ethnicity
- R_{ijklt} = Enrollment rate for students age i by sex, attendance status, and race/ethnicity
- T_{ijklt} = Total enrollment for a particular subset of students by race/ethnicity: full-time men, full-time women, part-time men, part-time women

Then:

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

where:

$$E_{ijklt} = R_{ijklt} (P_{ijlt})$$

Methodological Tables

Table A-22 gives the basic assumptions underlying enrollment projections.

Private School Enrollment

This edition is the seventh 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 NCES Private School Universe Survey for 1989–90, 1991–92, 1993–94, 1995–96, 1997–98, 1999–2000, 2001–02, 2003–04, and 2005–06 were used to develop these projections. In addition, population estimates for 1989 to 2006 and population projections for 2007 to 2017 from the U.S. Census Bureau were used to develop the projections.

Prekindergarten, 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. 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. 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 2005 levels. To obtain projections of total enrollment, projections of enrollments for the individual grades (prekindergarten 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

This edition contains projected trends in public elementary and secondary enrollment by grade level from 2006 to the year 2017 for each of the 50 states and the District of Columbia.

Public school enrollment data from the NCES Common Core of Data survey for 1980 to 2005 were used to develop these projections. This survey does not collect enrollment data for private schools.

Population estimates for 1980 to 2006 and population projections for 2007 to 2017 from the U.S. Census Bureau were used to develop the enrollment projections. The set of population projections used in this year’s *Projections of Education Statistics to 2017* are the Census Bureau’s set of interim state-level population projections (April 2005), which were also used in last year’s report. This set of state-level projections line up with the Census Bureau’s interim national population projections, which were released earlier in May 2004.

Table A-13 describes the number of years, projection methods, and smoothing constants used to project enrollments in public schools. Also included in table A-13 is the procedure for choosing the different smoothing constants for the time-series models. All jurisdictions were projected using the same single exponential smoothing parameter.

As with the national enrollment projections, projections of enrollment in public elementary and secondary schools by state primarily used the grade progression rate method. As with the national projections, prekindergarten, 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 2005 levels. To obtain projections of total enrollment, projections of enrollments for the individual grades (prekindergarten 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 unanticipated 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 projections of state enrollments were adjusted to sum to the national projections of public school K–12,

K–8, and 9–12 enrollments shown in table 1. This was done through the use of ratio adjustments in which all the states' enrollment projections for each grade level were multiplied by the ratio of the national enrollment projection for that grade level to the sum of the state enrollment projections for that grade level. For details on the methods used to develop the national projections for this statistic, see the section on national enrollment projections in this appendix.

Regional Projections

For each region, the enrollment projections equaled the sum of enrollment projections within its region.

Table A-3. Actual and middle alternative projected numbers for college enrollment rates, by sex, attendance status, and age: Fall 2006, 2012, and 2017

Sex, attendance status, and age	Actual 2006	Projected	
		2012	2017
Men			
Full-time			
16 years old	0.6	0.4	0.4
17 years old	2.3	2.4	2.6
18 years old	29.6	30.8	32.5
19 years old	36.0	37.3	39.1
20 years old	31.6	32.8	34.6
21 years old	29.1	30.2	31.8
22 years old	23.6	24.6	26.1
23 years old	13.2	13.9	14.8
24 years old	8.8	9.2	9.9
25 to 29 years old	5.3	5.6	6.0
30 to 34 years old	2.3	2.5	2.7
35 to 44 years old	1.3	1.3	1.4
Part-time			
16 years old	0.1	0.2	0.2
17 years old	0.6	0.6	0.7
18 years old	6.4	6.6	6.9
19 years old	7.5	7.7	8.0
20 years old	6.8	7.0	7.4
21 years old	8.8	9.1	9.5
22 years old	7.0	7.3	7.7
23 years old	6.5	6.8	7.3
24 years old	7.6	7.9	8.5
25 to 29 years old	4.6	4.8	5.2
30 to 34 years old	3.2	3.4	3.7
35 to 44 years old	3.5	3.7	4.0
Women			
Full-time			
16 years old	0.7	0.5	0.5
17 years old	3.9	2.7	3.4
18 years old	37.0	37.7	41.0
19 years old	49.0	50.4	54.0
20 years old	42.6	44.7	48.8
21 years old	36.3	37.7	41.2
22 years old	27.2	28.2	30.9
23 years old	15.5	17.0	19.7
24 years old	10.9	11.7	13.6
25 to 29 years old	6.5	6.6	7.4
30 to 34 years old	3.8	3.9	4.4
35 to 44 years old	2.3	2.4	2.6
Part-time			
16 years old	0.5	0.2	0.2
17 years old	1.5	1.6	1.7
18 years old	5.1	5.3	5.4
19 years old	10.6	10.8	10.6
20 years old	9.2	9.3	9.1
21 years old	8.6	8.8	8.8
22 years old	11.2	11.5	11.7
23 years old	10.6	11.0	11.3
24 years old	9.2	9.6	10.0
25 to 29 years old	6.9	7.2	7.6
30 to 34 years old	4.9	5.2	5.5
35 to 44 years old	7.2	7.5	8.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model, 1980–2006. (This table was prepared November 2007.)

Table A-4. Estimated equations and model statistics 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					
Age 17	-5.71	0.253	-22.58	0.99	2.1*
Age 18	-3.04	0.198	-15.33		
Age 19	-2.82	0.177	-15.95		
Age 20	-2.98	0.179	-16.71		
Age 21	-3.09	0.181	-17.10		
Age 22	-3.59	0.183	-19.59		
Age 23	-4.02	0.178	-22.57		
Age 24	-4.34	0.194	-22.39		
Age 25	-5.12	0.201	-25.44		
Age 25–29	-6.07	0.198	-30.62		
Age 35–44	-6.70	0.192	-34.85		
LNRYPDNRMA	0.41	0.033	12.24		
LNRUM	0.08	0.038	2.14		
Rho17	0.70	0.093	7.47		
Rho18	0.78	0.074	10.63		
Rho19	0.26	0.140	1.86		
Rho20	0.37	0.122	3.03		
Rho21	0.48	0.134	3.56		
Rho22	0.50	0.139	3.58		
Rho23	0.09	0.134	0.64		
Rho24	0.71	0.099	7.23		
Rho25–29	0.77	0.077	10.00		
Rho30–34	0.64	0.104	6.13		
Rho35–44	0.42	0.101	4.17		
Part-time					
Age 17	-8.27	0.880	-9.40	0.38	1.9*
Age 18	-4.79	0.583	-8.22		
Age 19	-4.44	0.626	-7.10		
Age 20	-4.41	0.582	-7.58		
Age 21	-4.49	0.583	-7.69		
Age 22	-4.39	0.586	-7.50		
Age 23	-4.65	0.580	-8.02		
Age 24	-4.85	0.594	-8.17		
Age 25	-4.97	0.634	-7.85		
Age 25–29	-5.34	0.619	-8.63		
Age 35–44	-5.37	0.591	-9.08		
LNRYPDNRMA	0.40	0.108	3.68		
LNRUM	0.06	0.072	0.79		
Rho17	-0.12	0.158	-0.73		
Rho18	0.33	0.178	1.84		
Rho19	0.83	0.081	10.21		
Rho20	0.37	0.169	2.20		
Rho21	0.38	0.193	1.97		
Rho22	0.44	0.146	2.99		
Rho23	0.19	0.187	1.03		
Rho24	0.65	0.120	5.44		
Rho25–29	0.86	0.070	12.29		
Rho30–34	0.85	0.061	13.94		
Rho35–44	0.66	0.127	5.21		

* p<.05.

R² = Coefficient of determination.

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

Where:

AGE(age) = Age-specific intercept term.

Rho(age) = Autocorrelation coefficient for each age.

LNRUM = Log unemployment rate for men.

LNRYPDNRMA = Log of three-period weighted average of per capita disposable income in 2000 dollars, using the present period and the previous two periods.

NOTE: The regression method used to estimate the full-time and part-time equations was the pooled seemingly unrelated regression method with a first-order autocorrelation correction. The time period used to estimate the equations is from 1975 to 2006. The number of observations is 374. 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, Enrollment in Degree-Granting Institutions Model, 1980–2006. (This table was prepared December 2007.)

Table A-5. Estimated equations and model statistics 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					
Age 17	-10.39	2.009	-5.17	0.99	2.39*
Age 18	-6.92	0.377	-18.37		
Age 19	-6.61	0.215	-30.70		
Age 20	-6.80	0.210	-32.45		
Age 21	-7.02	0.209	-33.55		
Age 22	-7.69	0.240	-32.04		
Age 23	-8.18	0.221	-37.02		
Age 24	-8.47	0.211	-40.03		
Age 25	-9.18	0.215	-42.81		
Age 25–29	-9.89	0.211	-46.87		
Age 35–44	-10.14	0.208	-48.78		
LNRYPDRNMA	1.18	0.048	24.48		
LNURUF	0.21	0.062	3.37		
Rho17	0.96	0.052	18.38		
Rho18	0.91	0.070	13.01		
Rho19	0.35	0.138	2.51		
Rho20	0.34	0.142	2.38		
Rho21	0.31	0.131	2.39		
Rho22	0.79	0.073	10.77		
Rho23	0.68	0.088	7.72		
Rho24	0.41	0.105	3.91		
Rho25–29	0.67	0.085	7.90		
Rho30–34	0.45	0.139	3.25		
Rho35–44	0.08	0.120	0.68		
Part-time					
Age 17	-7.01	0.554	-12.67	0.79	2.34*
Age 18	-4.30	0.301	-14.29		
Age 19	-3.83	0.460	-8.32		
Age 20	-4.04	0.319	-12.68		
Age 21	-4.15	0.334	-12.43		
Age 22	-4.09	0.301	-13.56		
Age 23	-4.35	0.306	-14.21		
Age 24	-4.48	0.330	-13.59		
Age 25	-4.67	0.299	-15.61		
Age 25–29	-4.90	0.303	-16.17		
Age 35–44	-4.67	0.300	-15.54		
LNRYPDRNMA	0.35	0.053	6.69		
Rho17	0.51	0.121	4.22		
Rho18	0.38	0.162	2.35		
Rho19	0.87	0.075	11.65		
Rho20	0.63	0.116	5.40		
Rho21	0.76	0.075	10.16		
Rho22	0.38	0.137	2.78		
Rho23	0.51	0.121	4.18		
Rho24	0.77	0.091	8.46		
Rho25–29	0.54	0.117	4.60		
Rho30–34	0.75	0.073	10.27		
Rho35–44	0.60	0.088	6.82		

* p<.05.

R² = Coefficient of determination.D.W. statistic = Durbin-Watson statistic. For an explanation of the Durbin-Watson statistic, see J. Johnston and J. Dinardo, *Econometric Methods*, New York: McGraw-Hill, 1996.**Where:**

AGE(age) = Age-specific intercept term.

Rho(age) = Autocorrelation coefficient for each age.

LNURUF = Log unemployment rate for women.

LNRYPDRNMA = Log of three-period weighted average of per capita disposable income in 2000 dollars, using the present period and the previous two periods.

NOTE: The regression method used to estimate the full-time and part-time equations was the pooled seemingly unrelated regression method with a first-order autocorrelation correction. The time period used to estimate the equations is from 1975 to 2006. The number of observations is 374. 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, Enrollment in Degree-Granting Institutions Model, 1980–2006. (This table was prepared December 2007.)

Table A-6. Actual and projected numbers for national enrollment rates in public schools, by grade level: Fall 2005, and 2006 through 2017

Grade level	Actual 2005	Projected 2006 through 2017
Prekindergarten	26.5	26.5
Kindergarten	92.5	92.5
Grade 1	95.4	95.4
Elementary ungraded	0.6	0.6
Secondary ungraded	0.6	0.6

NOTE: The base age for each grade level is as follows: kindergarten, 5 years old; grade 1, 6 years old; elementary ungraded, 5- to 13-year-olds; and secondary ungraded 14- to 17-year-olds. Projected values for 2006 through 2017 were held constant at the actual values for 2005.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Elementary and Secondary Enrollment Model, 1972–2005. (This table was prepared November 2007.)

Table A-7. Actual and projected numbers for national public school grade progression rates: Fall 2005, and 2006 through 2017

Grade	Actual 2005	Projected 2006 through 2017
1 to 2	98.5	98.5
2 to 3	100.7	100.9
3 to 4	99.9	100.0
4 to 5	100.6	100.5
5 to 6	101.0	101.3
6 to 7	101.1	101.3
7 to 8	99.6	99.6
8 to 9	112.1	112.6
9 to 10	90.3	89.7
10 to 11	92.1	91.6
11 to 12	94.4	94.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Elementary and Secondary Enrollment Model, 1972–2005. (This table was prepared November 2007.)

Table A-8. Actual and projected numbers for the percentage distribution of full-time students at degree-granting postsecondary institutions, by sex and age group: Fall 2006, and 2007 through 2017

Age and institution type	Men		Women	
	Actual 2006	Projected 2007 through 2017	Actual 2006	Projected 2007 through 2017
18 and 19 years old				
Undergraduate, 4-year institutions	63.3	64.9	69.5	68.2
Undergraduate, 2-year institutions	36.7	34.8	30.3	31.5
Postbaccalaureate, 4-year institutions	#	0.2	#	0.3
20 and 21 years old				
Undergraduate, 4-year institutions	78.2	76.7	78.1	78.9
Undergraduate, 2-year institutions	20.7	21.2	19.4	18.9
Postbaccalaureate, 4-year institutions	1.1	2.1	2.5	2.2
22 to 24 years old				
Undergraduate, 4-year institutions	70.4	67.3	58.8	60.4
Undergraduate, 2-year institutions	12.9	15.6	16.2	17.1
Postbaccalaureate, 4-year institutions	16.8	17.1	25.0	22.5
25 to 29 years old				
Undergraduate, 4-year institutions	42.3	41.0	41.9	40.6
Undergraduate, 2-year institutions	16.1	18.1	23.2	24.4
Postbaccalaureate, 4-year institutions	41.6	40.9	35.0	35.0
30 to 34 years old				
Undergraduate, 4-year institutions	32.7	34.8	46.0	38.2
Undergraduate, 2-year institutions	19.3	19.3	28.2	33.7
Postbaccalaureate, 4-year institutions	48.0	45.9	25.8	28.2
35 years and over				
Undergraduate, 4-year institutions	43.2	40.9	43.1	40.4
Undergraduate, 2-year institutions	26.1	27.8	32.5	32.8
Postbaccalaureate, 4-year institutions	30.7	31.4	24.4	26.8

Rounds to zero.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model, 1980–2006. (This table was prepared November 2007.)

Table A-9. Actual and projected numbers for the percentage distribution of part-time students at degree-granting postsecondary institutions, by sex and age group: Fall 2006, and 2007 through 2017

Institution type and age	Men		Women	
	Actual 2006	Projected 2007 through 2017	Actual 2006	Projected 2007 through 2017
18 and 19 years old				
Undergraduate, 4-year institutions	22.8	20.7	19.7	19.8
Undergraduate, 2-year institutions	77.2	79.2	80.3	79.9
Postbaccalaureate, 4-year institutions	#	0.1	#	0.3
20 and 21 years old				
Undergraduate, 4-year institutions	26.0	26.8	40.3	33.9
Undergraduate, 2-year institutions	73.3	72.7	57.6	65.1
Postbaccalaureate, 4-year institutions	0.8	0.5	2.0	1.0
22 to 24 years old				
Undergraduate, 4-year institutions	34.5	34.2	27.5	28.6
Undergraduate, 2-year institutions	54.4	56.1	60.0	59.6
Postbaccalaureate, 4-year institutions	11.1	9.7	12.6	11.8
25 to 29 years old				
Undergraduate, 4-year institutions	28.5	28.2	21.1	22.8
Undergraduate, 2-year institutions	52.3	52.5	56.2	53.9
Postbaccalaureate, 4-year institutions	19.2	19.4	22.8	23.3
30 to 34 years old				
Undergraduate, 4-year institutions	21.2	23.6	22.2	23.3
Undergraduate, 2-year institutions	52.2	47.1	50.1	52.4
Postbaccalaureate, 4-year institutions	26.6	29.3	27.8	24.3
35 years and over				
Undergraduate, 4-year institutions	23.6	21.6	24.8	23.2
Undergraduate, 2-year institutions	48.9	51.7	52.0	52.3
Postbaccalaureate, 4-year institutions	27.6	26.7	23.2	24.6

Rounds to zero.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model, 1980–2005. (This table was prepared November 2007.)

Table A-10. Actual and projected numbers for enrollment in public degree-granting postsecondary institutions as a percent of total enrollment, by sex, attendance status, level enrolled, and type of institution: Fall 2006, and 2007 through 2017

Enrollment category	Men		Women	
	Actual 2006	Projected 2007 through 2017	Actual 2006	Projected 2007 through 2017
Full-time, undergraduate, 4-year institutions	65.6	65.9	62.7	63.6
Part-time, undergraduate, 4-year institutions	70.6	70.5	67.0	67.6
Full-time, undergraduate, 2-year institutions	92.0	91.5	89.3	89.7
Part-time, undergraduate, 2-year institutions	99.3	99.2	98.7	98.7
Full-time, postbaccalaureate, 4-year institutions	49.3	49.3	47.8	47.8
Part-time, postbaccalaureate, 4-year institutions	54.3	54.3	56.4	56.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model, 1980–2006. (This table was prepared November 2007.)

Table A-11. Actual and projected numbers for graduate enrollment in degree-granting postsecondary institutions as a percent of total postbaccalaureate enrollment, by sex, attendance status, and control of institution: Fall 2006, and 2007 through 2017

Enrollment category	Men		Women	
	Actual 2006	Projected 2007 through 2017	Actual 2006	Projected 2007 through 2017
Full-time, 4-year, public	79.1	79.1	81.1	81.1
Part-time, 4-year, public	98.6	98.6	99.2	99.2
Full-time, 4-year, private	70.5	70.5	79.1	79.1
Part-time, 4-year, private	92.5	92.5	96.2	96.2

NOTE: Projected values for 2007 through 2017 were held constant at the actual values for 2006.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model, 1980–2006. (This table was prepared November 2007.)

Table A-12. Actual and projected numbers for full-time-equivalent enrollment of part-time students in degree-granting postsecondary institutions as a percent of part-time enrollment, by type and control of institution, and level enrolled: Fall 2006, and 2007 through 2017

Enrollment category	Actual 2006	Projected 2007 through 2017
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	60.0	60.0
Private, 4-year, first-professional	54.6	54.6

NOTE: Projected values for 2007 through 2017 were held constant at the actual values for 2006.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Model, 1980–2006. (This table was prepared November 2007.)

Table A-13. 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 (1972–2005)	Projection method	Smoothing constant	Basis for smoothing constant
Grade progression rates	33	Single exponential smoothing	0.4	Empirical research
Graduates divided by grade 12 enrollment	33	Single exponential smoothing	0.4	Empirical research

SOURCE: U.S. Department of Education, National Center for Education Statistics, State Public Elementary and Secondary Enrollment Model, 1980–2005; and State Public High School Graduates Model, 1980–81 through 2004–05. (This table was prepared November 2007.)

Table A-14. Estimated equations and model statistics for full-time and part-time college enrollment rates of White men

Independent variable	Coefficient	Standard error	T-statistic	R ²	D.W. statistic
Full-time					
Age 17	-7.85	0.148	-52.98	0.99	1.67*
Age 18	-4.89	0.114	-42.99		
Age 19	-4.67	0.110	-42.62		
Age 20	-4.89	0.110	-44.32		
Age 21	-5.02	0.111	-45.37		
Age 22	-5.52	0.113	-48.76		
Age 23	-6.04	0.111	-54.46		
Age 24	-6.41	0.113	-56.86		
Age 25–29	-7.32	0.111	-66.09		
Age 30–34	-8.37	0.114	-73.12		
Age 35 and up	-9.00	0.118	-76.15		
LNYPDNWNH	0.22	0.006	39.12		
Part-time					
Age 17	-6.21	0.900	-6.89	0.99	1.71*
Age 18	-1.76	0.125	-14.14		
Age 19	-1.46	0.136	-10.76		
Age 20	-1.41	0.121	-11.68		
Age 21	-1.52	0.125	-12.17		
Age 22	-1.45	0.125	-11.63		
Age 23	-1.72	0.119	-14.41		
Age 24	-1.92	0.122	-15.74		
Age 25–29	-2.00	0.117	-17.20		
Age 30–34	-2.45	0.120	-20.47		
Age 35 and up	-2.51	0.114	-21.89		
LNRJECIWSSPCPI	1.03	0.148	6.99		

* p<.05.

R² = Coefficient of determination.

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

Where:

AGE(age) = Age-specific intercept term.

LNYPDNWNH = Log of White per capita disposable income in current dollars.

LNRJECIWSSPCPI = Log of real total private compensation employment cost index.

NOTE: The regression method used to estimate the full-time and part-time equations was the pooled seemingly unrelated regression method. The time period used to estimate the equations is from 1980 to 2006. 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, Enrollment in Degree-Granting Institutions by Race/Ethnicity Model, 1980–2006. (This table was prepared December 2007.)

Table A-15. Estimated equations and model statistics for full-time and part-time college enrollment rates of White women

Independent variable	Coefficient	Standard error	T-statistic	R ²	D.W. statistic
Full-time					
Age 17	-12.49	0.264	-47.24	0.99	1.82*
Age 18	-9.59	0.244	-39.25		
Age 19	-9.48	0.243	-39.01		
Age 20	-9.75	0.243	-40.13		
Age 21	-10.00	0.243	-41.14		
Age 22	-10.79	0.246	-43.89		
Age 23	-11.28	0.244	-46.16		
Age 24	-11.58	0.244	-47.55		
Age 25–29	-12.49	0.243	-51.29		
Age 30–34	-13.19	0.243	-54.18		
Age 35 and up	-13.38	0.243	-54.98		
LNYPDNWNH	0.48	0.013	38.56		
Part-time					
Age 17	-8.92	0.418	-21.32	0.99	1.80*
Age 18	-5.08	0.266	-19.10		
Age 19	-4.79	0.270	-17.72		
Age 20	-4.76	0.266	-17.88		
Age 21	-4.95	0.268	-18.50		
Age 22	-4.88	0.265	-18.44		
Age 23	-5.17	0.265	-19.51		
Age 24	-5.33	0.266	-20.04		
Age 25–29	-5.46	0.262	-20.80		
Age 30–34	-5.77	0.264	-21.82		
Age 35 and up	-5.46	0.262	-20.82		
LNYPDNWNH	0.15	0.014	10.96		

* p<.05.

R² = Coefficient of determination.D.W. statistic = Durbin-Watson statistic. For an explanation of the Durbin-Watson statistic, see J. Johnston and J. Dinardo, *Econometric Methods*, New York: McGraw-Hill, 1996.**Where:**

AGE(age) = Age-specific intercept term.

LNYPDNWNH = Log of White per capita disposable income in current dollars.

NOTE: The regression method used to estimate the full-time and part-time equations was the pooled seemingly unrelated regression method. The time period used to estimate the equations is from 1980 to 2006. 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, Enrollment in Degree-Granting Institutions by Race/Ethnicity Model, 1980–2006. (This table was prepared December 2007.)

Table A-16. Estimated equations and model statistics for full-time and part-time college enrollment rates of Black men

Independent variable	Coefficient	Standard error	T-statistic	R ²	D.W. statistic
Full-time					
Age 17	-9.23	0.438	-21.10	0.97	1.96*
Age 18	-7.04	0.430	-16.36		
Age 19	-6.79	0.430	-15.78		
Age 20	-6.90	0.431	-16.01		
Age 21	-7.15	0.431	-16.60		
Age 22	-7.35	0.432	-17.00		
Age 23	-7.81	0.437	-17.87		
Age 24	-8.05	0.432	-18.67		
Age 25–29	-8.86	0.433	-20.46		
Age 30–34	-9.68	0.439	-22.05		
Age 35 and up	-10.05	0.435	-23.08		
LNYPDNBNH	0.29	0.023	12.59		
Part-time					
Age 17	-10.84	0.960	-11.30	0.99	1.97*
Age 18	-8.58	0.465	-18.44		
Age 19	-7.82	0.450	-17.37		
Age 20	-7.74	0.444	-17.44		
Age 21	-7.69	0.436	-17.65		
Age 22	-7.59	0.451	-16.81		
Age 23	-8.04	0.454	-17.72		
Age 24	-8.07	0.447	-18.08		
Age 25–29	-8.06	0.435	-18.52		
Age 30–34	-8.29	0.433	-19.15		
Age 35 and up	-8.35	0.431	-19.38		
LNYPDNBNH	0.26	0.023	11.04		

* p<.05.

R² = Coefficient of determination.

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

Where:

AGE(age) = Age-specific intercept term.

LNYPDNBNH = Log of Black per capita disposable income in current dollars.

NOTE: The regression method used to estimate the full-time and part-time equations was the pooled seemingly unrelated regression method. The time period used to estimate the equations is from 1980 to 2006. 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, Enrollment in Degree-Granting Institutions by Race/Ethnicity Model, 1980–2006. (This table was prepared December 2007.)

Table A-17. Estimated equations and model statistics for full-time and part-time college enrollment rates of Black women

Independent variable	Coefficient	Standard error	T-statistic	R ²	D.W. statistic
Full-time					
Age 17	-13.62	0.604	-22.57	0.93	1.81*
Age 18	-11.57	0.597	-19.38		
Age 19	-11.34	0.597	-19.00		
Age 20	-11.62	0.597	-19.48		
Age 21	-11.74	0.596	-19.69		
Age 22	-12.27	0.597	-20.55		
Age 23	-12.49	0.598	-20.90		
Age 24	-12.74	0.597	-21.32		
Age 25–29	-13.67	0.598	-22.84		
Age 30–34	-14.12	0.597	-23.67		
Age 35 and up	-14.50	0.597	-24.30		
LNYPDNBNH	0.57	0.032	17.65		
Part-time					
Age 17	-13.52	0.659	-20.51	0.98	1.83*
Age 18	-11.35	0.555	-20.46		
Age 19	-11.09	0.554	-20.01		
Age 20	-11.00	0.553	-19.89		
Age 21	-11.05	0.554	-19.96		
Age 22	-10.78	0.555	-19.42		
Age 23	-10.99	0.554	-19.85		
Age 24	-11.32	0.556	-20.35		
Age 25–29	-11.31	0.546	-20.72		
Age 30–34	-11.42	0.547	-20.87		
Age 35 and up	-11.29	0.546	-20.70		
LNYPDNBNH	0.46	0.030	15.52		

* p<.05.

R² = Coefficient of determination.D.W. statistic = Durbin-Watson statistic. For an explanation of the Durbin-Watson statistic, see J. Johnston and J. Dinardo, *Econometric Methods*, New York: McGraw-Hill, 1996.**Where:**

AGE(age) = Age-specific intercept term.

LNYPDNBNH = Log of Black per capita disposable income in current dollars.

NOTE: The regression method used to estimate the full-time and part-time equations was the pooled seemingly unrelated regression method. The time period used to estimate the equations is from 1980 to 2006. 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, Enrollment in Degree-Granting Institutions by Race/Ethnicity Model, 1980–2006. (This table was prepared December 2007.)

Table A-18. Estimated equations and model statistics for full-time and part-time college enrollment rates of Hispanic men

Independent variable	Coefficient	Standard error	T-statistic	R ²	D.W. statistic
Full-time					
Age 17	-9.68	0.552	-17.53	0.97	1.97*
Age 18	-7.72	0.544	-14.20		
Age 19	-7.51	0.543	-13.83		
Age 20	-7.72	0.543	-14.21		
Age 21	-7.91	0.547	-14.46		
Age 22	-8.42	0.546	-15.42		
Age 23	-8.66	0.546	-15.85		
Age 24	-8.75	0.545	-16.05		
Age 25–29	-9.64	0.547	-17.64		
Age 30–34	-10.40	0.547	-19.02		
Age 35 and up	-10.97	0.553	-19.84		
LNYPDNH	0.31	0.030	10.53		
Part-time					
Age 17	-10.30	0.979	-10.52	0.99	1.90*
Age 18	-7.39	0.472	-15.66		
Age 19	-7.29	0.479	-15.22		
Age 20	-7.05	0.471	-14.96		
Age 21	-7.12	0.473	-15.07		
Age 22	-7.23	0.471	-15.34		
Age 23	-7.49	0.484	-15.49		
Age 24	-7.67	0.476	-16.10		
Age 25–29	-7.81	0.462	-16.91		
Age 30–34	-8.24	0.464	-17.73		
Age 35 and up	-8.27	0.462	-17.91		
LNYPDNH	0.24	0.025	9.50		

* p<.05.

R² = Coefficient of determination.

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

Where:

AGE(age) = Age-specific intercept term.

LNYPDNH = Log of Hispanic per capita disposable income in current dollars.

NOTE: The regression method used to estimate the full-time and part-time equations was the pooled seemingly unrelated regression method. The time period used to estimate the equations is from 1980 to 2006. 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, Enrollment in Degree-Granting Institutions by Race/Ethnicity Model, 1980–2006. (This table was prepared December 2007.)

Table A-19. Estimated equations and model statistics for full-time and part-time college enrollment rates of Hispanic women

Independent variable	Coefficient	Standard error	T-statistic	R ²	D.W. statistic
Full-time					
Age 17	-16.44	0.504	-32.65	0.97	1.94*
Age 18	-13.98	0.480	-29.11		
Age 19	-13.88	0.477	-29.07		
Age 20	-14.22	0.479	-29.69		
Age 21	-14.35	0.479	-29.97		
Age 22	-15.00	0.483	-31.06		
Age 23	-15.20	0.480	-31.64		
Age 24	-15.60	0.487	-32.06		
Age 25–29	-16.32	0.478	-34.15		
Age 30–34	-16.97	0.482	-35.19		
Age 35 and up	-17.30	0.486	-35.59		
LNYPDNH	0.69	0.026	26.43		
Part-time					
Age 17	-14.64	0.522	-28.03	0.99	1.98*
Age 18	-12.46	0.400	-31.18		
Age 19	-12.27	0.392	-31.26		
Age 20	-12.45	0.401	-31.03		
Age 21	-12.35	0.400	-30.87		
Age 22	-12.51	0.400	-31.29		
Age 23	-12.51	0.396	-31.61		
Age 24	-12.96	0.403	-32.15		
Age 25–29	-13.01	0.386	-33.73		
Age 30–34	-13.37	0.387	-34.59		
Age 35 and up	-13.24	0.385	-34.42		
LNYPDNH	0.55	0.021	25.95		

* p<.05.

R² = Coefficient of determination.D.W. statistic = Durbin-Watson statistic. For an explanation of the Durbin-Watson statistic, see J. Johnston and J. Dinardo, *Econometric Methods*, New York: McGraw-Hill, 1996.**Where:**

AGE(age) = Age-specific intercept term.

LNYPDNH = Log of Hispanic per capita disposable income in current dollars.

NOTE: The regression method used to estimate the full-time and part-time equations was the pooled seemingly unrelated regression method. The time period used to estimate the equations is from 1980 to 2006. 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, Enrollment in Degree-Granting Institutions by Race/Ethnicity Model, 1980–2006. (This table was prepared December 2007.)

Table A-20. Estimated equations and model statistics for full-time and part-time college enrollment rates of Asian/Pacific Islander men

Independent variable	Coefficient	Standard error	T-statistic	R ²	D.W. statistic
Full-time					
Age 17	-8.00	0.497	-14.87	0.98	2.00*
Age 18	-5.16	0.479	-10.11		
Age 19	-4.98	0.480	-9.69		
Age 20	-5.10	0.478	-9.94		
Age 21	-5.07	0.481	-9.87		
Age 22	-5.40	0.479	-10.48		
Age 23	-5.64	0.481	-10.88		
Age 24	-5.99	0.485	-11.46		
Age 25–29	-6.85	0.479	-13.19		
Age 30–34	-7.84	0.481	-14.98		
Age 35 and up	-8.61	0.480	-16.47		
LNYPDNAHNNH	0.25	0.025	10.03		
Part-time					
Age 17	-7.21	1.476	-4.88	0.99	1.98*
Age 18	-4.55	0.750	-6.06		
Age 19	-3.79	0.745	-5.08		
Age 20	-3.75	0.749	-5.01		
Age 21	-3.99	0.756	-5.28		
Age 22	-3.83	0.776	-4.94		
Age 23	-3.94	0.748	-5.26		
Age 24	-4.42	0.746	-5.92		
Age 25–29	-4.62	0.733	-6.31		
Age 30–34	-5.16	0.732	-7.06		
Age 35 and up	-5.48	0.731	-7.51		
LNYPDNAHNNH	0.12	0.038	3.10		

* p<.05.

R² = Coefficient of determination.

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

Where:

AGE(age) = Age-specific intercept term.

LNYPDNAHNNH = Log of Asian/Pacific Islander per capita disposable income in current dollars.

NOTE: The regression method used to estimate the full-time and part-time equations was the pooled seemingly unrelated regression method. The time period used to estimate the equations is from 1980 to 2006. 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, Enrollment in Degree-Granting Institutions by Race/Ethnicity Model, 1980–2006. (This table was prepared December 2007.)

Table A-21. Estimated equations and model statistics for full-time and part-time college enrollment rates of Asian/Pacific Islander women

Independent variable	Coefficient	Standard error	T-statistic	R ²	D.W. statistic
Full-time					
Age 17	-12.39	0.496	-24.98	0.99	1.93*
Age 18	-10.11	0.482	-20.95		
Age 19	-9.47	0.492	-19.26		
Age 20	-9.91	0.485	-20.43		
Age 21	-9.90	0.484	-20.47		
Age 22	-10.47	0.489	-21.40		
Age 23	-10.84	0.484	-22.39		
Age 24	-11.33	0.503	-22.53		
Age 25–29	-12.23	0.480	-25.47		
Age 30–34	-13.55	0.487	-27.84		
Age 35 and up	-13.94	0.486	-28.68		
LNYPDNAHNNH	0.52	0.025	20.77		
Part-time					
Age 17	-16.63	0.827	-20.12	0.99	2.05*
Age 18	-14.67	0.683	-21.48		
Age 19	-14.01	0.707	-19.83		
Age 20	-14.46	0.686	-21.09		
Age 21	-13.95	0.689	-20.26		
Age 22	-13.98	0.680	-20.57		
Age 23	-14.53	0.678	-21.44		
Age 24	-14.84	0.695	-21.36		
Age 25–29	-15.21	0.672	-22.64		
Age 30–34	-15.92	0.674	-23.62		
Age 35 and up	-15.70	0.668	-23.49		
LNYPDNAHNNH	0.67	0.035	19.31		

* p<.05.

R² = Coefficient of determination.D.W. statistic = Durbin-Watson statistic. For an explanation of the Durbin-Watson statistic, see J. Johnston and J. Dinardo, *Econometric Methods*, New York: McGraw-Hill, 1996.**Where:**

AGE(age) = Age-specific intercept term.

LNYPDNAHNNH = Log of Asian/Pacific Islander per capita disposable income in current dollars..

NOTE: The regression method used to estimate the full-time and part-time equations was the pooled seemingly unrelated regression method. The time period used to estimate the equations is from 1980 to 2005. The number of observations is 286. 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, Enrollment in Degree-Granting Institutions by Race/Ethnicity Model, 1980–2006. (This table was prepared December 2007.)

Table A-22. Enrollment (assumptions)

Variable	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, sex, and attendance status	Age-specific enrollment rates are a function of dummy variables by age, the log of three-period weighted average of real disposable income per capita from the Global Insight's February 2007 trend scenario and the log unemployment rate by age group from the Global Insight's February 2007 trend scenario.	Middle	10–19
	Age-specific enrollment rates are a function of dummy variables by age, the log of three-period weighted average of real disposable income per capita from the Global Insight's February 2007 pessimistic scenario and the log unemployment rate by age group from the Global Insight's February 2007 pessimistic scenario.	Low	10–19
	Age-specific enrollment rates are a function of dummy variables by age, the log of three-period weighted average of real disposable income per capita from the Global Insight's February 2007 optimistic scenario and the log unemployment rate by age group from the Global Insight's February 2007 optimistic scenario.	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 2017. 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
College enrollment, by age, sex, attendance status, and race/ethnicity			
Full-time: White men; White women; Black men; Black women; Hispanic men; Hispanic women; Asian/Pacific Islander men; Asian/Pacific Islander women. Part-time: White women; Black men; Black women; Hispanic men; Hispanic women; Asian/Pacific Islander men; Asian/Pacific Islander women	Age-specific enrollment rates by race/ethnicity are a function of dummy variables by age and the log of the corresponding race/ethnicity group's disposable income per capita in current dollars.	Middle (no alternatives)	22
Part-time White men	Age-specific enrollment rates by race/ethnicity are a function of dummy variables by age and the log of real total compensation.	Middle (no alternatives)	22
Full-time-equivalent of part-time enrollment	For each enrollment category, by type and control of institution and level enrolled, the percent that full-time-equivalent of part-time enrollment is of part-time enrollment will remain constant at levels consistent with the most recent rates.	High, middle, and low	23

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Elementary and Secondary Enrollment Model, 1972–2005; State Public Elementary and Secondary Enrollment Model, 1980–2005; Enrollment in Degree-Granting Institutions Model, 1980–2006; and Enrollment in Degree-Granting Institutions by Race/Ethnicity Model, 1980–2006. (This table was prepared December 2007.)

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 2004–05. 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 affected by changes in graduation requirements, but this is not considered in the projections in this report.

Projections of private high school graduates were calculated using the same methodology as public high school graduates, using data from 1988–89 to 2004–05.

Projection Accuracy

An analysis of projections from models used in the past 17 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, 0.8 percent for 2 years ahead, 1.8 percent for 5 years ahead, and 3.9 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 A-2, page 86.

State Level

This edition contains projections of high school graduates from public schools by state from 2005–06 to 2017–18. Public school graduate data from the Common Core of Data survey for 1980–81 to 2004–05 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 2004–05. 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 jurisdictions were projected using the same single exponential smoothing parameter of 0.4. Projections of grade 12 enrollment were developed based on the grade progression rates discussed in appendix A, Enrollment. The projected rates were 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.

Adjustment to National Projections

The projections of state high school graduates were adjusted to sum to the national projections of public high school projections shown in table 24. This was done through the use of ratio adjustments in which all the states' high school graduate projections were multiplied by the ratio of the national high school graduate projection to the sum of the state high school projections.

Regional Projections

For each region, the projections of high school graduates equaled the sum of the high school projections of the states within the region.

Degrees Conferred

Projections of associate's, bachelor's, master's, doctor's, and first-professional degrees for men and women were based on demographic models that relate degree awards to college-age populations and college enrollment by level enrolled and attendance status. Table A-23 describes the estimated equations used to calculate projections, and table A-24 contains the basic assumptions underlying projections.

Associate's Degrees

Associate's degree projections for men and women were based on a weighted average over the last 2 years of total 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 are shown in table A-23.

Bachelor's Degrees

Bachelor's degree projections for men and women were based on a weighted average over the last 4 years of full-time 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 are shown in table A-23.

Master's Degrees

Master's degree projections for men were based on a weighted average over the last 2 years of full-time graduate enrollment by attendance status and sex relative to the 25- to 34-year-old population by sex. Master's degree projections for women were based on a weighted average over the last 2 years of total graduate enrollment by attendance status and sex relative to the 25- to 34-year-old population by sex. In each case, 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 are shown in table A-23.

Doctor's Degrees

Doctor's degree projections for men were based on a weighted average over the last 4 years of total graduate enrollment by attendance status and sex relative to the 35- to 44-year-old population by sex. Doctor's degree projections for women were based on a weighted average over the last 4 years of full-time enrollment by attendance status and sex relative to the 35- to 44-year-old population by sex. In each case, 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 doctor's degrees are shown in table A-23.

First-Professional Degrees

First-professional degree projections for men were based on a weighted average over the last 3 years of total first-professional enrollment by attendance status in 4-year institutions and sex relative to the 25- to 34-year-old population by sex. First-professional degree projections for women 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. In each case, 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 degree are shown in table A-23.

Projection Accuracy

An analysis of projection errors from similar models used in the past nine editions of *Projections of Education Statistics* indicates that mean absolute percentage errors (MAPEs) for associate's degrees were 2.1 percent for 1 year out, 2.9 percent for 2 years out, 5.7 percent for 5 years out, and 14.3 percent for 10 years out. For the 1-year-out prediction, this means that one would expect the projection to be within 2.1 percent of the actual value, on average. MAPEs for bachelor's degree projections were 1.0 percent for 1 year out, 1.9 percent for 2 years out, 5.6 percent for 5 years out, and 12.1 percent for 10 years out. MAPEs for master's degrees were 1.9, 3.7, 12.1, and 22.9 percent, respectively. For doctor's degrees, the MAPEs were 3.0, 4.4, 5.4, and 7.6 percent, respectively. For first-professional degrees, the MAPEs were 1.4, 1.5, 5.1, and 13.7 percent, respectively. For more information on the MAPEs, see table A-2.

Table A-23. Estimated equations and model statistics for degrees conferred, by degree type and sex

Dependent variable	Equation	R ²	Durbin-Watson statistic	Error distribution pattern ¹	Rho	Time period
Associate's degrees, men	LNASSOCM = 5.0 + 0.4LNUG2ML2 (10.4)	0.95	1.9*	AR(1)	0.58 (5.1)	1975–76 to 2005–06
Associate's degrees, women	LNASSOCW = 5.7 + 0.6LNUG2WL2 (15.6)	0.99	1.4 [^]	AR(1)	0.67 (8.8)	1975–76 to 2005–06
Bachelor's degrees, men	LNBACHM = 5.7 + 1.2LNUG4FTML4 (5.4)	0.98	1.4 [^]	AR(1)	0.89 (8.2)	1977–78 to 2005–06
Bachelor's degrees, women	LNBACHW = 5.6 + 1.1LNUG4FTWL4 (3.9)	0.99	1.5*	AR(1)	0.92 (7.4)	1977–78 to 2005–06
Master's degrees, men	LNMASTM = 6.8 + 1.1LNGFTML2 (10.0)	0.98	1.4 [^]	AR(1)	0.75 (5.0)	1975–76 to 2005–06
Master's degrees, women	LNMASTW = 7.5 + 0.7LNGWL2 (23.6)	0.99	1.4 [^]	AR(1)	0.80 (17.7)	1975–76 to 2005–06
Doctor's degrees, men	LNDOCM = 3.4 + 0.4LNGML4 (8.2)	0.98	1.4 [^]	AR(1)	0.65 (6.7)	1977–78 to 2005–06
Doctor's degrees, women	LNDOCW = 3.7 + 0.9LNGFTWL4 (12.3)	0.97	1.8*	AR(1)	0.71 (5.1)	1977–78 to 2005–06
First-professional degrees, men	LNFPROM = 3.7 + 0.2LNFPM3 (3.2)	0.99	1.7*	AR(1)	0.86 (20.1)	1976–77 to 2005–06
First-professional degrees, women	LNFPROW = 5.7 + 1.0LNFPTWL3 (27.9)	0.99	1.6*	AR(1)	0.55 (3.12)	1976–77 to 2005–06

* p < .05.

[^] The Durbin-Watson statistic is inconclusive as to whether to either accept or reject the hypothesis of no autocorrelation at the .05 significance level. For an explanation of the Durbin-Watson statistic, see J. Johnston and J. Dinardo, *Econometric Methods*, New York: McGraw-Hill, 1996.¹AR(1) indicates that the model 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's degrees awarded to men relative to the population of 18- to 24-year-old men.

LNASSOCW = Log of the ratio of associate's degrees awarded to women 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.

LNUG4FTML4 = 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).

LNUG4FTWL4 = 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).

LNGFTML2 = Log of the ratio of full-time male graduate 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).

LNGWL2 = Log of the ratio of full-time female 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 enrollment.

LNGML4 = Log of the ratio of full-time male graduate 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 enrollment.

LNGFTWL4 = Log of the ratio of full-time female graduate 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).

LNFPM3 = Log of the ratio of full-time male first-professional 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 enrollment.

LNFPTWL3 = Log of the ratio of full-time female first-professional 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).

NOTE: R² 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 2005–06. (This table was prepared December 2007.)

Table A-24. Degrees conferred (assumptions)

Variable	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 2017–18.	Middle	27
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 2017–18.	Middle	27
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 2017–18.	Middle	28
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 2017–18.	Middle	28
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 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 2017–18.	Middle	29
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 2017–18.	Middle	29
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 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 2017–18.	Middle	30
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 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 2017–18.	Middle	30
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 2017–18.	Middle	31
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 2017–18.	Middle	31

SOURCE: U.S. Department of Education, National Center for Education Statistics, Degrees Conferred Model, 1975–76 through 2005–06. (This table was prepared December 2007.)

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 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 the 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 the 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 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:

$$\ln(\text{RELENRTCH}_t) = b_0 + b_1 \ln(\text{RSALARY}_t) + b_2 \ln(\text{RSGRNTELENR}_t)$$

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:

$$\ln(\text{RSCENRTCH}_t) = b_0 + b_1 \ln(\text{RSGRNTSCENR}_t) + b_2 \ln(\text{RSCENRPU}_t)$$

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 by increases in the number of teachers.

Table A-25 summarizes the results for the elementary and secondary public teacher models. Enrollment for this equation is by organizational level, not by grade level. Thus, secondary enrollment is not the same as grade 9–12 enrollment because some jurisdictions count some grade 7 and 8 enrollment as secondary.

Private Elementary and Secondary Teachers

Projections of private elementary and secondary teachers were derived in the following manner. From 1960 to 2005, the ratio of private school teachers to public school teachers was calculated by organizational level. These ratios were projected using single exponential smoothing with a smoothing constant of $\alpha = 0.4$, 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.

New Teacher Hires

Projections of new teacher hires were produced using the Teacher Hires Model. The model was estimated separately for public and private school teachers. The model produces projections of the number of teachers who were not teaching in the previous year, but who will be hired in a given year. Teachers who move from teaching in one sector to the other sector are considered new teacher hires. If a teacher moves from teaching in one public school to a different public school, that teacher would not be counted as a teacher hire for the purposes of this model. On the other hand, if a teacher moves from a public school to a private school, that teacher would be counted as a private school teacher hire since the teacher is moving between sectors.

In order to produce the projections of the number of new teacher hires, data were drawn from a number of sources: the 2003–04 Schools and Staffing Survey (SASS); 2004–05 Teacher Follow-Up Survey (TFS); the Common Core of Data (CCD); the Private School Universe Survey (PSS); and the projections of the numbers of public and private elementary and secondary school teachers. The teacher numbers coming from SASS and the TFS are for full-time and part-time teachers, while those for the other surveys are for full-time-equivalent (FTE) teachers.

The following is a general summary of the Teacher Hires Model used to produce the projections for new teacher hires in public schools. A similar process was used for the projections of new teacher hires in private schools. A more thorough presentation can be found in section II of the NCES report *Predicting the Need for Newly Hired Teachers in the United States to 2008-09*, which is available on-line (<http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=1999026>). As already noted, this model measures the demand for teacher hires. Due to difficulties in defining and measuring the pool of potential teachers, there were no attempts to measure the supply of new teacher candidates.

In step 1 of the Teacher Hires Model, the age distributions of the headcounts of public school teachers from the 2003–04 SASS are applied to the national number of FTE teachers in 2003 from the CCD.

In step 2, the age-specific continuation rates from the 2004–05 TFS are applied to the 2003 FTE count of teachers by age, the results being an estimate of the number of FTE teachers who remained teaching in 2004 by individual age. Summing these remaining teachers over all ages produces the estimate of those who remained teaching in 2004. Subtracting the remaining teachers from the total FTE teacher count for 2003 produces an estimate of the number of new FTE teacher hires needed to replace those leaving teaching.

In step 3, the total number of FTE teachers in 2003 is subtracted from the number of FTE teachers for 2004 from the CCD to produce an estimate of the number of new FTE teacher hires that are needed due to the overall increase in the teaching workforce.

In step 4, the number of new FTE teachers needed to replace those leaving teaching from step 2 are added to the estimated net change in the number of FTE teachers from step 3, to get an estimate of the total number of new FTE teacher hires needed in 2004.

In step 5, the age distribution for newly hired full-time and part-time teachers from the 2003–04 SASS is applied

to the estimate of total number of new FTE teacher hires needed in 2004 to produce an estimate of the number of new FTE teacher hires by age.

In step 6, for each individual age, the estimate of the number of remaining FTE teachers from step 2 is added to the estimate of the number of newly hired FTE teachers from step 5 to produce estimates of the total number of FTE teachers by age in 2004.

Steps 2 through 6 are then repeated for each year from 2005 through 2017, so that the Teacher Hires Model can produce projections for the number of new teacher hires. Projections of the age-specific continuation rates for public school teachers ages 28 through 66 and private school teacher ages 23 through 65 were used in step 2. These projections were produced using exponential smoothing with a smoothing constant of 0.4. For all other ages, the continuation rates from the 2004–05 TFS were used in step 2. Projections of the numbers of FTE teachers were used in step 3 for those years in which there were no CCD teacher numbers (2006 through 2017). Three alternative sets of projections of new teacher hires were produced, one set for each of the alternative sets of FTE teacher projections.

A number of assumptions are made in order to make these projections. They include that: (1) the age distribution of FTE teachers in 2003 is similar to that of full-time and part-time teachers in that year (Step 1); (2) the age-specific

continuation rates for FTE teachers for each year from 2004 through 2017 are similar to either the projections produced using exponential smoothing or the values from the 2004–05 TFS depending (Step 2); (3) the age distribution for newly hired FTE teachers from 2004 through 2017 is similar to that of newly hired full-time and part-time teachers in the 2003–04 SASS (Step 3); and (4) the actual numbers of FTE teachers for each year from 2004 through 2017 are similar to projections of FTE teachers on table 32; (5) and no economic or political changes further affect the size of the teaching force.

Table A-26 shows the age distributions for full-time and part-time teachers; table A-27 shows age distributions of new teacher hires; and table A-28 shows actual and projected continuation rates of teachers.

Projection Accuracy

An analysis of projection errors from the past 17 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 6.1 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 A-2.

Table A-25. Estimated equations and model statistics for public elementary and secondary teachers

Dependent variable		Equation	R ²	Durbin-Watson statistic ¹	Error distribution pattern ²	Rho	Time period
Elementary	ln(RELENRTCH)	= 3.8 + .1 ln(RSALARY) - .2 ln(RSGRNTELENR)	0.99	2.0*	AR(1)	0.34 (1.99)	1973 to 2004
		(4.9) (-10.5)					
Secondary	ln(RSCENRTCH)	= 4.1 - .2 ln(RSGRNTSCENR) + .6 ln(RSCENRPU)	0.99	1.9*	AR(1)	0.62 (4.1)	1973 to 2004
		(-14.6) (4.8)					

* p<.05.

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

²AR(1) indicates that the model 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: R² 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, 1968–2004. (This table was prepared December 2007.)

Table A-26. Percentage distribution of full-time and part-time school teachers, by age, control of school, and teaching status: 2003–04

Control of school and teaching status	Percent of total	Age distribution							
		Total	Less than 25 years	25–29 years	30–39 years	40–49 years	50–59 years	60–64 years	65 years or more
Public-actual									
2003–04.....	100	100	4	13	25	26	29	3	1
Full-time	91	100	4	13	25	26	29	3	1
Part-time	9	100	5	11	24	28	27	4	2
Private-actual									
2003–04.....	100	100	6	13	22	25	26	5	3
Full-time	78	100	6	14	22	24	26	5	2
Part-time	22	100	6	8	22	30	24	5	5

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), “Public School Teacher Questionnaire,” 2003–04 and “Private School Teacher Questionnaire,” 2003–04; and unpublished tabulations. (This table was prepared December 2007.)

Table A-27. Percentage distribution of full-time and part-time newly hired teachers, by age and control of school: Selected years, 1987–88 through 2003–04

Control of school and school year	Total	Age distribution						
		Less than 25 years	25–29 years	30–39 years	40–49 years	50–59 years	60–64 years	65 years or more
Public								
1987–88.....	100	18	24	33	21	4	#	#
1990–91.....	100	17	24	31	21	6	1	#
1993–94.....	100	16	29	25	25	5	1	#
1999–2000.....	100	24	23	22	19	11	1	1
2003–04.....	100	24	19	25	16	13	1	1
Private								
1987–88.....	100	17	23	32	18	5	3	2
1990–91.....	100	16	26	29	21	6	1	1
1993–94.....	100	19	24	25	23	7	1	1
1999–2000.....	100	19	17	24	22	14	3	1
2003–04.....	100	17	16	23	23	15	4	2

Rounds to zero.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), “Public School Teacher Questionnaire,” 1987–88 through 2003–04 and “Private School Teacher Questionnaire,” 1987–88 through 2003–04; and unpublished tabulations. (This table was prepared December 2007.)

Table A-28. Actual and projected number for continuation rates of full-time and part-time school teachers, by age and control of school: Various years, 1987–88 to 1988–89 through 2016–17 to 2017–18

Control of school and school year	Continuation rates, by age							
	Total	Less than 25 years	25–29 years	30–39 years	40–49 years	50–59 years	60–64 years	65 years or more
Public-actual								
1987–88 to 1988–89	94.4	95.9	91.0	94.2	97.4	94.3	76.6	83.3
1990–91 to 1991–92	94.9	90.9	91.0	95.8	98.0	93.3	73.2	59.1
1993–94 to 1994–95	93.4	96.2	90.0	93.3	96.1	93.7	69.5	65.9
1999–2000 to 2000–01	92.4	95.8	89.3	93.2	94.5	92.9	76.8	77.6
2003–04 to 2004–05	91.4	94.9	90.1	92.6	94.5	90.8	77.2	70.3
Public-projected								
2004–05 to 2005–06	92.3	95.8	91.0	93.2	95.1	92.0	74.6	67.4
2005–06 to 2006–07	92.2	95.8	91.0	93.3	95.1	91.8	74.3	70.2
2006–07 to 2007–08	92.0	95.8	91.0	93.3	95.0	91.7	74.3	69.0
2007–08 to 2008–09	91.9	95.8	91.0	93.3	95.0	91.7	75.0	66.3
2008–09 to 2009–10	91.7	95.8	91.0	93.3	95.0	91.6	74.6	65.2
2009–10 to 2010–11	91.6	95.8	91.0	93.3	95.0	91.6	74.0	65.2
2010–11 to 2011–12	91.6	95.8	91.0	93.3	95.0	91.5	73.8	65.9
2011–12 to 2012–13	91.5	95.8	91.0	93.3	95.0	91.5	73.8	64.0
2012–13 to 2013–14	91.6	95.8	91.0	93.2	95.0	91.6	74.0	63.5
2013–14 to 2014–15	91.6	95.8	91.0	93.2	95.0	91.6	73.6	64.3
2014–15 to 2015–16	91.7	95.8	91.0	93.2	95.0	91.6	73.6	65.5
2015–16 to 2016–17	91.7	95.8	91.0	93.2	95.0	91.6	73.5	66.4
2016–17 to 2017–18	91.8	95.8	91.0	93.2	95.0	91.7	73.8	66.0
Private-actual								
1987–88 to 1988–89	87.3	81.2	82.7	87.6	89.4	88.6	84.1	92.1
1990–91 to 1991–92	87.7	76.2	82.2	86.3	92.3	90.4	82.2	79.3
1993–94 to 1994–95	88.1	80.0	86.9	85.1	91.3	91.8	86.9	58.1
1999–2000 to 2000–01	83.0	61.7	72.2	80.2	86.1	92.3	78.8	75.2
2003–04 to 2004–05	83.3	75.4	71.7	82.2	86.8	89.2	80.1	79.5
Private-projected								
2004–05 to 2005–06	83.2	72.7	73.6	81.3	86.9	89.6	79.6	75.7
2005–06 to 2006–07	83.1	72.5	73.5	81.1	86.8	89.5	79.1	75.1
2006–07 to 2007–08	83.3	72.5	73.5	81.3	87.0	89.5	79.7	76.0
2007–08 to 2008–09	83.3	72.4	73.5	81.4	86.8	89.4	79.7	75.3
2008–09 to 2009–10	83.2	72.4	73.5	81.4	86.9	89.5	79.6	75.7
2009–10 to 2010–11	83.1	72.4	73.5	81.4	86.8	89.4	79.3	72.8
2010–11 to 2011–12	83.1	72.4	73.5	81.3	86.8	89.4	79.0	74.8
2011–12 to 2012–13	83.0	72.4	73.5	81.4	86.9	89.4	79.2	73.0
2012–13 to 2013–14	83.1	72.4	73.5	81.3	86.9	89.4	79.3	74.1
2013–14 to 2014–15	83.0	72.4	73.5	81.3	86.9	89.4	79.1	72.9
2014–15 to 2015–16	83.0	72.4	73.5	81.3	86.8	89.4	79.2	72.4
2015–16 to 2016–17	83.0	72.4	73.5	81.3	86.9	89.4	79.2	73.2
2016–17 to 2017–18	83.0	72.4	73.5	81.3	86.9	89.4	79.2	73.7

NOTE: The continuation rate for teachers for each sector is the percentage of teachers in that sector who continued teaching in the same sector from the first year to the next.
 SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow-up Survey (TFS), "Public School Teacher Questionnaire," 1988–89 through 2004–05 and "Private School Teacher Questionnaire," 1988–89 through 2004–05; and unpublished tabulations. (This table was prepared December 2007.)

Expenditures of Public Elementary and Secondary Schools

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.

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 includes: 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.

The elementary and secondary school current expenditure model contains variables reflecting the first two types of variables. The model is:

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

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. The model was estimated using data from 1969–70 to 2004–05.

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 (the National Public Education Financial Survey). 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 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 A-29. 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 .6 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 .2 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 in editions prior to the *Projections of Education Statistics to 2014*. 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. This change was made due to superior model diagnostics. Second, in some earlier editions the model contained an additional variable, as a proxy for the price facing the median voter, the ratio of enrollment to the population. This price variable has been excluded due to its lack of statistical significance as measured by its t-statistic. 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.

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 2005–06 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 from the “U.S. Quarterly Model: February 2007: Long-Term-Projections” of the economic consulting firm Global Insight, Inc. (supplemental table B-6).

Global Insight's February 2007 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 2007 pessimistic scenario was used for the low alternative projections, and Global Insight's February 2007 optimistic scenario was used for the high alternative projections.

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

In the middle alternative projections, disposable income per capita rises each year from 2006–07 to 2017–18 at rates between 0.4 percent and 2.7 percent. In the low alternative projections, disposable income per capita ranges between 0.4 percent and 2.3 percent, and in the high alternative projections, disposable income per capita rises at rates between 0.4 percent and 3.6 percent.

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

$$\ln(\text{SGRNT}_t) = b_0 + b_1 \ln(\text{PCI}_t) + b_2 \ln(\text{ENRPOP}_t)$$

where:

\ln indicates the natural log;

SGRNT_t equals local governments' education revenue 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 2004–05. These models are shown in table A-29.

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.

This year's edition of the *Projections of Education Statistics* uses the same revenue from state sources model as the last three year's editions. The model used in the prior two editions, *Projections of Education Statistics 2012* and *Projections of Education Statistics 2013*, was different. It included a term for personal taxes and non-tax receipts (PERTAX1) and an inflation rate term (RCPIANN) and was estimated over a different time period (the sample period began in 1967–68 rather than 1971–72). The

current model specification yielded superior model diagnostics than the model used in the *Projections of Education Statistics 2012* and *Projections of Education Statistics 2013*. The models in the five most recent editions of the *Projections of Education Statistics* each 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 revenue from state sources 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, revenue from state sources per capita changes each year from 2006–07 to 2017–18 at rates between -1.2 percent and 3.6 percent. In the low alternative projections, revenue from state sources per capita ranges between -1.2 percent and 3.5 percent, and in the high alternative projections, revenue from state sources per capita changes at rates between -1.2 percent and 3.7 percent.

Projection Accuracy

Seventeen of the last 18 editions of *Projections of Education Statistics* contained projections of current expenditures. The actual values of current expenditures can be compared with the projected values in the previous editions to examine the accuracy of the model.

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 15 editions of *Projections of Education Statistics*, including this one. The one major change is that in all the earlier editions except the two previous editions of the *Projections of Education Statistics*, the set of variables included the ratio of the number of students to the population.

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 A-2. 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.

An analysis of projection errors from similar models used in the past seventeen editions of *Projections of Education Statistics* that contained expenditure projections indicates that mean absolute percentage errors (MAPEs) for total current expenditures in constant dollars were 1.3 percent for 1 year out, 2.2 percent for 2 years out, 2.9 percent for 5 years out, and 3.8 percent for 10 years out. For the 1-year-out prediction, this means that one would expect the projection to be within 1.3 percent of the actual value, on average. MAPEs for current expenditure per pupil in current dollars were 1.3 percent for 1 year out, 2.1 percent for 2 years out, 3.3 percent for 5 years out, and 5.4 percent for 10 years out. For more information on the MAPEs, see table A-2.

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 2003–04, the data were 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 geographic 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 2005–06 to 2017–18 were made by multiplying the projections for enrollment by the average value of the ratios of average daily attendance to the enrollment from 1991–92 to 2004–05; this average value was approximately .93.

The values for fall enrollment from 1979–80 to 2005–06 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 2004–05, 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 projected values for disposable income, personal taxes and non-tax 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, 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 were 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 A-29. Estimated equations and model statistics for current expenditures per pupil in fall enrollment, and education revenue from state sources per capita

Dependent variable	Equation	R ²	Durbin-Watson statistic	Error distribution pattern ¹	Rho	Time period
Current expenditures per pupil	$\ln(\text{CUREXP}) = 1.0 + 0.6\ln(\text{PCI}) + 0.2\ln(\text{SGRANT})$ (3.4) (2.3)	0.99	1.56 [^]	AR(1)	0.94 (20.6)	1973–74 to 2004–05
Education revenue from state sources per capita	$\ln(\text{SGRNT}) = 1.0 + 1.2\ln(\text{PCI}) + 0.9\ln(\text{ENRPOP})$ (20.3) (5.7)	0.99	1.73*	AR(1)	0.47 (3.1)	1973–74 to 2004–05

* p<.05.

[^] The Durbin-Watson statistic is inconclusive as to whether to either accept or reject the hypothesis of no autocorrelation at the .05 significance level. For an explanation of the Durbin-Watson statistic, see J. Johnston and J. Dinardo, *Econometric Methods*, New York: McGraw-Hill, 1996.

¹AR(1) indicates that the models were 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.

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.

NOTE: R² 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 2004–05; and Revenue Receipts from State Sources Model, 1971–72 through 2004–05. (This table was prepared December 2007.)

Appendix B
Supplementary Tables

Table B-1. Annual number of births: 1946 through 2006

Calendar year	Number of births, in thousands	Calendar year	Number of births, in thousands
1946.....	3,426	1977.....	3,327
1947.....	3,834	1978.....	3,333
1948.....	3,655	1979.....	3,494
1949.....	3,667	1980.....	3,612
1950.....	3,645	1981.....	3,629
1951.....	3,845	1982.....	3,681
1952.....	3,933	1983.....	3,639
1953.....	3,989	1984.....	3,669
1954.....	4,102	1985.....	3,761
1955.....	4,128	1986.....	3,757
1956.....	4,244	1987.....	3,809
1957.....	4,332	1988.....	3,910
1958.....	4,279	1989.....	4,041
1959.....	4,313	1990.....	4,158
1960.....	4,307	1991.....	4,111
1961.....	4,317	1992.....	4,065
1962.....	4,213	1993.....	4,000
1963.....	4,142	1994.....	3,953
1964.....	4,070	1995.....	3,900
1965.....	3,801	1996.....	3,891
1966.....	3,642	1997.....	3,881
1967.....	3,555	1998.....	3,942
1968.....	3,535	1999.....	3,959
1969.....	3,626	2000.....	4,059
1970.....	3,739	2001.....	4,026
1971.....	3,556	2002.....	4,022
1972.....	3,258	2003.....	4,090
1973.....	3,137	2004.....	4,112
1974.....	3,160	2005.....	4,138
1975.....	3,144	2006.....	4,266
1976.....	3,168		

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 December 2007.)

Table B-2. Actual and projected numbers for preprimary school-age populations: 1992 through 2017

[In thousands]

Year (July 1)	3- to 5-year-olds	3-year-olds	4-year-olds	5-year-olds
Actual				
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.....	11,701	3,824	3,905	3,971
2001.....	11,580	3,816	3,840	3,924
2002.....	11,514	3,824	3,832	3,859
2003.....	11,569	3,883	3,837	3,848
2004.....	11,798	4,051	3,895	3,852
2005.....	11,984	4,008	4,064	3,911
2006.....	12,155	4,054	4,022	4,080
Projected				
2007.....	12,219	4,114	4,067	4,037
2008.....	12,314	4,151	4,099	4,064
2009.....	12,420	4,190	4,135	4,095
2010.....	12,535	4,230	4,173	4,131
2011.....	12,657	4,274	4,213	4,169
2012.....	12,784	4,318	4,257	4,209
2013.....	12,915	4,361	4,301	4,252
2014.....	13,041	4,401	4,344	4,297
2015.....	13,157	4,435	4,383	4,340
2016.....	13,260	4,465	4,417	4,378
2017.....	13,350	4,491	4,447	4,413

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Projections are from the U.S. Census Bureau's middle series.
 SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved September 7, 2007, from http://www.census.gov/popest/national/asrh/2006_nat_af.html; and Population Projections, retrieved September 7, 2007, from <http://www.census.gov/ipc/www/usinterimproj/>. (This table was prepared November 2007.)

Table B-3. Actual and projected numbers for school-age populations, ages 5, 6, 5 to 13, and 14 to 17: 1992 through 2017

[In thousands]

Year (July 1)	5-year-olds	6-year-olds	5- to 13-year-olds	14- to 17-year-olds
Actual				
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.....	3,971	4,008	37,054	16,123
2001.....	3,924	3,991	37,091	16,190
2002.....	3,859	3,944	36,996	16,366
2003.....	3,848	3,876	36,788	16,514
2004.....	3,852	3,864	36,390	16,834
2005.....	3,911	3,869	36,123	17,096
2006.....	4,080	3,928	36,078	17,240
Projected				
2007.....	4,037	4,096	36,047	17,245
2008.....	4,064	4,101	36,150	17,017
2009.....	4,095	4,128	36,324	16,759
2010.....	4,131	4,159	36,579	16,524
2011.....	4,169	4,195	36,946	16,277
2012.....	4,209	4,234	37,372	16,094
2013.....	4,252	4,275	37,816	15,983
2014.....	4,297	4,319	38,253	15,971
2015.....	4,340	4,364	38,566	16,202
2016.....	4,378	4,407	38,914	16,454
2017.....	4,413	4,447	39,271	16,706

NOTE: Some data have been revised from previously published figures. Projections are from the U.S. Census Bureau's middle series.

SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved September 7, 2007, from http://www.census.gov/popest/national/asrh/2006_nat_af.html; and Population Projections, retrieved September 7, 2007, from <http://www.census.gov/ipc/www/usinterimproj/>. (This table was prepared November 2007.)

Table B-4. Actual and projected numbers for college-age populations, ages 18, 18 to 24, 25 to 29, 30 to 34, and 35 to 44: 1992 through 2017

[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					
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.....	4,076	27,393	19,357	20,579	45,235
2001.....	4,074	28,087	19,004	20,781	45,188
2002.....	4,033	28,601	18,997	20,878	44,869
2003.....	4,131	29,094	19,213	20,789	44,484
2004.....	4,128	29,408	19,625	20,528	44,178
2005.....	4,127	29,500	20,148	20,153	43,954
2006.....	4,190	29,610	20,800	19,764	43,748
Projected					
2007.....	4,272	29,809	21,313	19,713	43,379
2008.....	4,401	30,173	21,672	19,865	42,782
2009.....	4,384	30,536	21,878	20,213	42,109
2010.....	4,312	30,762	21,944	20,657	41,600
2011.....	4,250	30,894	21,981	21,205	41,318
2012.....	4,170	30,947	22,057	21,652	41,217
2013.....	4,126	30,884	22,205	22,000	41,222
2014.....	4,080	30,693	22,459	22,202	41,258
2015.....	4,007	30,297	22,783	22,271	41,270
2016.....	3,990	29,901	23,059	22,313	41,421
2017.....	4,018	29,607	23,260	22,394	41,754

NOTE: Some data have been revised from previously published figures. Projections are from the U.S. Census Bureau's middle series.

SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved September 7, 2007, from http://www.census.gov/popest/national/asrh/2006_nat_af.html; and Population Projections, retrieved September 7, 2007, from <http://www.census.gov/ipc/www/usinterimproj/>. (This table was prepared November 2007.)

Table B-5. Actual and projected numbers for fall enrollment in public elementary and secondary schools, change in fall enrollment from previous year, population, and fall enrollment as a ratio of the population: 1992–93 through 2017–18

School year	Fall enrollment (in thousands)	Change in fall enrollment from previous year (in thousands)	Population (in millions)	Fall enrollment as a ratio of the population
Actual				
1992–93.....	42,823	776	256.9	0.167
1993–94.....	43,465	642	260.3	0.167
1994–95.....	44,111	647	263.4	0.167
1995–96.....	44,840	729	266.6	0.168
1996–97.....	45,611	771	269.7	0.169
1997–98.....	46,127	516	272.9	0.169
1998–99.....	46,539	412	276.1	0.169
1999–2000.....	46,857	319	279.3	0.168
2000–01.....	47,204	346	282.4	0.167
2001–02.....	47,672	468	285.5	0.167
2002–03.....	48,183	511	288.4	0.167
2003–04.....	48,540	357	291.3	0.167
2004–05.....	48,795	255	294.1	0.166
2005–06.....	49,113	319	296.9	0.165
Projected				
2006–07.....	49,464	350	299.8	0.165
2007–08.....	49,644	180	302.6	0.164
2008–09.....	49,825	181	305.3	0.163
2009–10.....	50,067	242	308.0	0.163
2010–11.....	50,353	286	310.7	0.162
2011–12.....	50,722	369	313.4	0.162
2012–13.....	51,194	472	316.1	0.162
2013–14.....	51,701	508	318.8	0.162
2014–15.....	52,284	583	321.5	0.163
2015–16.....	52,910	625	324.2	0.163
2016–17.....	53,503	593	326.9	0.164
2017–18.....	54,087	585	329.6	0.164

NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Population projections are from the U.S. Census Bureau's middle series.

SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved September 7, 2007, from http://www.census.gov/popest/national/asrh/2006_nat_af.html; and Population Projections, retrieved September 7, 2007, from <http://www.census.gov/ipc/www/usinterimproj/>. U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1992–93 through 2005–06; and Elementary and Secondary Enrollment Model, 1972–2005. (This table was prepared December 2007.)

Table B-6. Actual and alternative projected numbers for macroeconomic measures of the economy: School years 1992–93 through 2017–18

School year	Disposable income per capita in constant 2004–05 dollars ¹	Education revenue receipts from state sources per capita in constant 2004–05 dollars ²	Consumer Price Index
Actual			
1992–93.....	\$24,529	\$616	0.716
1993–94.....	24,624	614	0.735
1994–95.....	25,136	642	0.756
1995–96.....	25,410	660	0.776
1996–97.....	25,937	680	0.798
1997–98.....	26,879	711	0.813
1998–99.....	27,794	742	0.827
1999–2000.....	28,461	777	0.851
2000–01.....	29,113	803	0.880
2001–02.....	29,686	808	0.895
2002–03.....	29,831	812	0.915
2003–04.....	30,627	798	0.935
2004–05.....	31,130	807	0.963
2005–06.....	31,251	798	1.000
Middle alternative projections			
2006–07.....	32,005	826	1.020
2007–08.....	32,881	853	1.040
2008–09.....	33,764	879	1.063
2009–10.....	34,686	906	1.084
2010–11.....	35,554	932	1.105
2011–12.....	36,310	955	1.126
2012–13.....	36,935	976	1.147
2013–14.....	37,570	997	1.169
2014–15.....	38,306	1,024	1.190
2015–16.....	39,089	1,052	1.214
2016–17.....	39,877	1,081	1.237
2017–18.....	40,703	1,110	1.261
Low alternative projections			
2006–07.....	31,979	826	1.022
2007–08.....	32,586	844	1.051
2008–09.....	33,011	855	1.083
2009–10.....	33,496	868	1.116
2010–11.....	33,934	880	1.148
2011–12.....	34,309	891	1.184
2012–13.....	34,659	903	1.222
2013–14.....	35,055	917	1.262
2014–15.....	35,588	936	1.306
2015–16.....	36,159	957	1.354
2016–17.....	36,750	978	1.404
2017–18.....	37,370	1,001	1.457
High alternative projections			
2006–07.....	32,031	827	1.018
2007–08.....	33,196	863	1.029
2008–09.....	34,281	895	1.046
2009–10.....	35,326	926	1.060
2010–11.....	36,397	959	1.076
2011–12.....	37,407	990	1.093
2012–13.....	38,308	1,020	1.106
2013–14.....	39,226	1,051	1.119
2014–15.....	40,164	1,084	1.132
2015–16.....	41,149	1,120	1.147
2016–17.....	42,187	1,157	1.164
2017–18.....	43,291	1,197	1.182

¹Based on the price deflator for personal consumption expenditures, Bureau of Labor Statistics, U.S. Department of Labor.

²Based 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," 1989–90 through 2004–05; Revenue Receipts From State Sources Model, 1971–72 through 2004–05; and Global Insight, Inc., "U.S. Quarterly Model: February 2007 Long-Term-Projections." (This table was prepared December 2007.)

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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 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) to acquire and maintain statistical data from each of the 50 states, the District of Columbia, the Bureau of Indian Education, 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 via an on-line reporting system open to state education agencies during the school year. Beginning with the 2006–07 school year, nonfiscal CCD data are collected through the Department of Education's Education Data Exchange Network (EDEN). Since the CCD is a universe collection, CCD data are not subject to sampling errors. However, nonsampling errors could come from two sources: nonresponse and inaccurate reporting. Almost all of the states submit the five CCD survey instruments each year, but submissions are sometimes incomplete.

Misreporting can occur when 58 education agencies compile and submit data for approximately 97,000 public schools and over 17,000 local education agencies. Typically, this results from varying interpretations of NCES definitions and differing record-keeping 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 these 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 state education agencies to a comprehensive edit. Where data are determined to be inconsistent, missing, or out of range, NCES contacts the agencies for verification. NCES-prepared state summary forms are returned to the agencies for verification. Each year, states are also given an opportunity to revise their state-level aggregates from the previous survey cycle.

Further information on the nonfiscal CCD may be obtained from

Quansheng Shen
Elementary/Secondary and Libraries Studies Division
Elementary/Secondary Cooperative System and
Institutional Studies Program
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
quansheng.shen@ed.gov
<http://nces.ed.gov/ccd/>

Further information on the fiscal CCD data may be obtained from

Frank H. Johnson
Elementary/Secondary and Libraries Studies Division
Elementary/Secondary Cooperative System and
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National Center for Education Statistics
1990 K Street NW
Washington, DC 20006
frank.johnson@ed.gov
<http://nces.ed.gov/ccd/>

Private School Universe Survey

The purposes of Private School Universe 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, 2003–04, and 2005–06 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 this universe survey is all private schools in the United States that meet the NCES criteria of a school (i.e., 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 124 geographic areas, conducted by the U.S. Census Bureau.

Further information on the PSS may be obtained from

Steve Broughman
Elementary/Secondary and Libraries Studies Division
Elementary/Secondary Sample Survey Studies Program
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 6,500 postsecondary institutions, including universities and colleges, as well as institutions offering technical and vocational education beyond the high school level. IPEDS, which began in 1986, replaced the Higher Education General Information Survey (HEGIS).

IPEDS consists of nine 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. Until 2000 these components included: institutional

characteristics, fall enrollment, completions, salaries, finance, and fall staff. Since 2000, data are collected in the fall for institutional characteristics and completions; in the winter for employees by assigned position (EAP), salaries, and fall staff; and in the spring for enrollment, student financial aid, finances, and graduation rates. With the winter 2005–06 survey the employees by assigned position, fall staff, and salaries components were merged into the human resources component.

The degree-granting institutions portion of IPEDS is a census of colleges awarding associate's or higher degrees, that are eligible to participate in Title IV financial aid programs. Prior to 1993, data from 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 changed in recent years. The old standard for higher education institutions included those institutions that had courses leading to an associate degree or higher, or that had courses accepted for credit toward those degrees. The higher education institutions were accredited by an agency or association that was recognized by the U.S. Department of Education, or were recognized directly by the Secretary of Education. The current category includes institutions that award associate or higher level degrees and 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 degrees awarded at the bachelor's level or higher were not heavily affected. Most of the data on public 4-year colleges have 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, total enrollment for all institutions was about one-half of a percent higher for degree-granting institutions than 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 collected 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 HEGIS enrollment and degrees surveys can be obtained from the HEGIS Post Survey Validation Study conducted in 1979.

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Fall (Institutional Characteristics) This survey collects the basic information necessary to classify institutions, including control, level, and types of programs offered, as well as 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 headcounts and instructional activity are now collected in a separate component (12-month Enrollment), part of the fall collection. The overall response rate was 100 percent for Title IV degree-granting institutions in reporting fall 2006 data.

Further information may be obtained from

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<http://nces.ed.gov/ipeds/>

Winter/Spring (Fall Enrollment) This survey has been part of the HEGIS and IPEDS series since 1966. The enrollment survey response rate is nearly 100 percent. Beginning in 2000, the data collection method became web-based, replacing the paper survey forms that had been used in past years, resulting in higher responses rates. In 2006–07, the overall response rate was 99.8

percent for degree-granting 4-year public institutions and 100.0 percent for private not-for-profit 4-year and all 2-year institutions. Imputation methods and the response bias analysis for the 2006–07 survey are discussed in *Enrollment in Postsecondary Institutions, Fall 2006; Graduation Rates, 2000 and 2003 Cohorts; and Financial Statistics, Fiscal Year 2006* (NCES 2008-173).

The Integrated Postsecondary Education Data System Data Quality Study (NCES 2005-175) showed that public institutions made the majority of changes to enrollment data during the 2004 revision period. The majority of changes were made to unduplicated headcount data, with the net differences between the original data and the revised data at about 1 percent. Part-time students in general and enrollment in private not-for-profit institutions were often underestimated. The fewest changes by institutions were to Classification of Instructional Programs (CIP) code data.

Further information about the Winter/Spring (Fall Enrollment) survey may be obtained from

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<http://nces.ed.gov/ipeds/>

Fall (Completions) This survey was part of the HEGIS series throughout its existence. Collection of degree data has been maintained through IPEDS. However, the degree classification taxonomy was revised in 1970–71, 1982–83, 1991–92, and 2002–03.

The nonresponse rate does not appear to be a significant source of nonsampling error for this survey. The response rate over the years has been high, with the degree-granting institutions response rate for the 2006 survey at 100 percent. Because of the high response rate for degree-granting institutions, nonsampling error caused by imputation is also minimal. Imputation methods and the response bias analysis for the fall 2006 survey are discussed in *Postsecondary Institutions in the United States: Fall 2006 and Degrees and Other Awards Conferred: 2005–06* (NCES 2007-166).

The Integrated Postsecondary Education Data System Data Quality Study, Methodology Report (NCES 2005-175)

indicated that most Title IV institutions supplying revised data on completions were able to supply missing data for the prior year. The small differences between imputed data for the prior year and the revised actual data supplied by the institution indicated that the imputed values produced by NCES were acceptable.

Further information on the IPEDS Completions surveys may be obtained from

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<http://nces.ed.gov/ipeds/>

Census Bureau

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* or methods for deriving standard errors can be found within the CPS technical documentation at <http://www.census.gov/apsd/techdoc/cps/cps-main.html>. The CPS data are subject to both nonsampling and sampling errors.

Caution should also be used when comparing data between Census years. With the release of the January 2003 CPS data, population controls that reflect the results of Census 2000 were used in the monthly CPS estimation process. The new controls increased the size of the civilian noninstitutional population by about 3.5 million in May 2002. This adjustment usually occurs 3 to 4 years after the census, and, if the adjustment is substantial, historical data will be revised. Data from January 2000 through December 2002 were revised to reflect these new controls. Over and above these revisions, the U.S. Census Bureau introduced another large upward adjustment to the controls as part of its annual update of population estimates for 2003. The prior change in population controls occurred in March 1993, where data after this date were based on the 1990 census-based population controls and data before this date were based on 1980 or earlier census based population controls. This change in population controls between 1980-based and 1990-based 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 resulted 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 differed 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.

In addition to the changes in population controls, two other relevant changes were introduced into the CPS with the release of the January 2003 data. First, the questions on race and Hispanic origin in the CPS were modified to comply with the new standards for maintaining, collecting, and presenting Federal data on race and ethnicity for Federal statistical agencies. A major change

under those standards is that respondents may select more than one race when answering the survey. Respondents continued to be asked a separate question to determine if they are Hispanic, which is considered an ethnicity rather than a race. The ethnicity question was reworded to ask directly whether the respondent was Hispanic. Persons who report they are Hispanic also are classified separately in the race (or races) they consider themselves to be. Second, improvements were introduced to both the second stage and composite weighting procedures. These changes adapt the weighting procedures to the new race/ethnic classification system and enhance the stability over time of national and state/substate labor force estimates for demographic groups. These two changes, in addition to the change in population controls discussed above, benchmark the CPS data to the results of Census 2000, improve the estimation procedures, and ensure that the data series produced from the survey reflect the evolving composition of the U.S. population.

Further information on CPS may be obtained from

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

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 non-sampling 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.

The October 2004 basic CPS response rate was 92.3 percent and the school enrollment supplement response rate was 96.0 percent, for a total supplement response rate of 88.6 percent.

The October 2005 basic CPS response rate was 92.6 percent and the school enrollment supplement response rate was 96.6 percent, for a total supplement response rate of 89.5 percent.

The October 2006 basic CPS household-level response rate was 91.9 percent and the school enrollment supplement person-level response rate was 88.0 percent. Since these rates are determined at different levels they cannot be combined to derive an overall response rate.

Further information on CPS methodology may be obtained from

<http://www.census.gov/cps>

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

Education and Social Stratification Branch
 Census Bureau
 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
 Census Bureau
 U.S. Department of Commerce
 Washington, DC 20233
 (301) 763-3030
<http://www.census.gov>

Other Sources

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/>

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Appendix D

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
FTE	full-time-equivalent
IPEDS	Integrated Postsecondary Education Data System
MAPE	mean absolute percentage error
NCES	National Center for Education Statistics

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Appendix E

Glossary

Data Terms

American Indian or Alaska Native: A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition.

Asian/Pacific Islander: A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, and Pacific Islands. This includes people from China, Japan, Korea, the Philippine Islands, American Samoa, India, and Vietnam.

Associate's degree: An award that normally requires at least 2 but less than 4 years of full-time equivalent college work.

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: An award (baccalaureate or equivalent degree, as determined by the Secretary, U.S. Department of Education) that normally requires at least 4 but not more than 5 years of full-time equivalent college-level work. This includes all bachelor's degrees conferred in a 5-year cooperative (work-study) program. A cooperative plan provides for alternate class attendance and employment in business, industry, or government; thus, it allows students to combine actual work experience with their college studies. Also includes bachelor's degrees in which the normal 4 years of work are completed in 3 years.

Black: A person having origins in any of the black racial groups of Africa (except those of Hispanic origin).

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 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: The highest award a student can earn for graduate study. The doctor's degree classification includes such degrees as Doctor of Education, Doctor of Juridical Science, Doctor of Public Health, and the Doctor of Philosophy degree in any field such as agronomy, food technology, education, engineering, public administration, ophthalmology, or radiology.

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, 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 degree-granting institutions,

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: An award that requires completion of a program that meets all of the following criteria: (1) completion of the academic requirements to begin practice in the profession; (2) at least 2 years of college work prior to entering the program; and (3) a total of at least 6 academic years of college work to complete the degree program, including prior required college work plus the length of the professional program itself. First-professional degrees may be awarded in the following 10 fields: Chiropractic (D.C. or D.C.M.), Dentistry (D.D.S. or D.M.D.), Law (L.L.B., J.D.), Medicine (M.D.), Optometry (O.D.), Osteopathic Medicine (D.O.), Pharmacy (Pharm.D.), Podiatry (D.P.M., D.P., or Pod.D.), Theology (M.Div., M.H.L., B.D., or Ordination), Veterinary Medicine (D.V.M.).

First-professional enrollment: The number of students enrolled in following degree programs: Chiropractic (D.C. or D.C.M.), Dentistry (D.D.S. or D.M.D.), Law (L.L.B., J.D.), Medicine (M.D.), Optometry (O.D.), Osteopathic Medicine (D.O.), Pharmacy (Pharm.D.), Podiatry (D.P.M., D.P., or Pod.D.), Theology (M.Div., M.H.L., B.D., or Ordination), Veterinary Medicine (D.V.M.).

Four-year institution: A postsecondary institution that offers programs of at least 4 years duration or one that offers programs at or above the baccalaureate level. Includes schools that offer postbaccalaureate certificates only or those that offer graduate programs only. Also includes free-standing medical, law or other first-professional schools.

Full-time-equivalent (FTE) enrollment: A measurement equal to one student enrolled full time for one academic year. Total FTE enrollment includes full time plus the calculated equivalent of the part-time enrollment. The full-time equivalent of the part-time students can be

estimated using different factors depending on the type and control of institution and level of student.

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 towards 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.

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*.

Hispanic: A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.

Master's degree: An award that requires the successful completion of a program of study of at least the full-time

equivalent of 1 but not more than 2 academic years of work beyond the bachelor's degree.

Nonresident alien: A person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely.

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.

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: number of students with a bachelor's degree who are enrolled in graduate-level or first-professional courses.

Postsecondary education: The provision of a formal instructional program whose curriculum is designed primarily for students who are beyond the compulsory age for high school. This includes programs whose purpose is academic, vocational, and continuing professional education, and excludes avocational and adult basic education programs.

Postsecondary education institution: An institution which has as its sole purpose or one of its primary missions, the provision of postsecondary education.

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.

Race/ethnicity: Categories used to describe groups to which individuals belong, identify with, or belong in the eyes of the community. The categories do not denote scientific definitions of anthropological origins. A person may be counted in only one group. The groups used to categorize U.S. citizens, resident aliens, and other eligible non-citizens in this report are as follows: Black, American Indian/Alaska Native, Asian/Pacific Islander, Hispanic, White.

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 the Internet, 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.

Two-year institution: A postsecondary institution that offers programs of at least 2 but less than 4 years duration. Includes occupational and vocational schools with programs of at least 1800 hours and academic institutions with programs of less than 4 years. Does not include bachelor’s degree-granting institutions where the baccalaureate program can be completed in 3 years.

Unclassified student (elementary/secondary): A student who has been assigned to a school or program that does not have standard grade designations.

Unclassified student (postsecondary): A student taking courses creditable toward a degree or other formal award who cannot be classified by academic level. For example, this could include a transfer student whose earned credits have not been determined at the time of the fall report.

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.

Undergraduate enrollment: The number of students enrolled in a 4- or 5-year bachelor's degree program, an associate's degree program, or a vocational or technical program below the baccalaureate.

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, \dots , 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 smooths 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 analysis 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, \dots , 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.

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