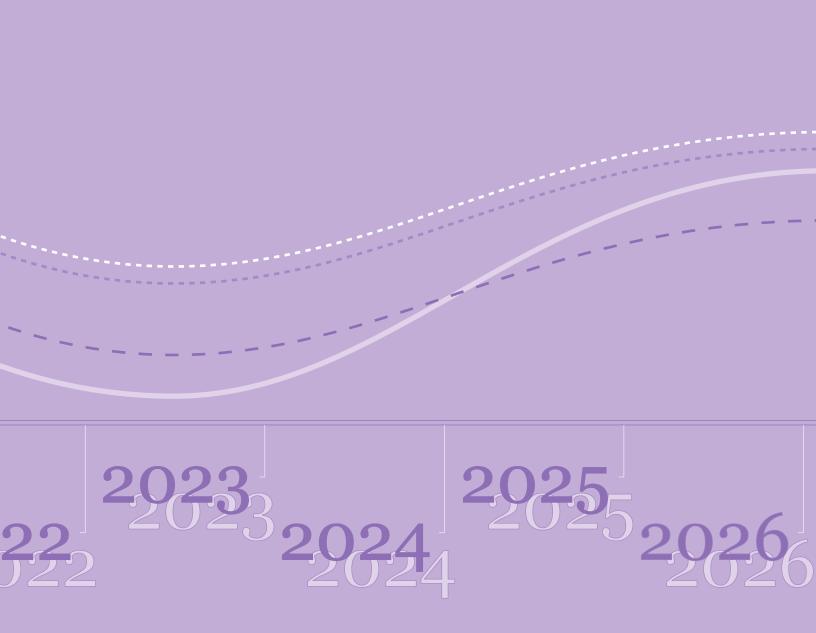


# Projections of Education Statistics to 2026

Forty-fifth Edition



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Forty-fifth Edition

April 2018

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#### April 2018

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## Foreword

*Projections of Education Statistics to 2026* is the 45th report in a series begun in 1964. It includes statistics on elementary and secondary schools and degree-granting postsecondary institutions. This report provides revisions of projections shown in *Projections of Education Statistics to 2025* and projections of enrollment, graduates, teachers, and expenditures to the year 2026.

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 2026 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 education statistics. 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, the U.S. Census Bureau, and the economic forecasting service IHS Global Inc. The models are based on the mathematical projection of past data patterns into the future. The models also use projections of economic variables from IHS Global Inc.

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

#### Thomas D. Snyder, Supervisor

Annual Reports and Information Staff National Center for Education Statistics This page intentionally left blank.

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## **About This Report**

### PROJECTIONS

This edition of *Projections of Education Statistics* provides projections for key education statistics, including enrollment, graduates, teachers, and expenditures in elementary and secondary public and private schools, as well as enrollment and degrees conferred at degree-granting postsecondary institutions. Included are national data on enrollment and graduates for at least the past 15 years and projections to the year 2026. Also included are state-level data on enrollment in public elementary and secondary schools and public high schools beginning in 1990, with projections to 2026. This report is organized by the level of schooling with sections 1, 2, 3, and 4 covering aspects of elementary and secondary education and sections 5 and 6 covering aspects of postsecondary education.

There are a number of limitations in projecting some statistics. Because of this, state-level data on enrollment and graduates in private elementary and secondary schools and on enrollment and degrees conferred in degreegranting postsecondary institutions are not included. Neither the actual numbers nor the projections of public and private elementary and secondary school enrollment include homeschooled students. Projections of elementary and secondary school enrollment and public high school graduates by age, state, and race/ethnicity are not included as the projections of the population by age, state, and race/ ethnicity are not presently available. While there were enough years of data to produce projections of public elementary and secondary enrollment separately for Asians and Pacific Islanders, there were not enough years of data to produce separate projections for Asians and Pacific Islanders for either public high school graduates or enrollment in degree-granting postsecondary institutions.

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 *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. Most figures in this report present historical and forecasted data from 2001 through 2026. The shaded area of these figures

highlights the projected data and begins at the last year of actual data and ends in 2026. As the last year of historical data differs by survey, the year in which the shaded area begins also differs.

Most statements in sections 1 through 6 examine a single statistic over a period of time. In each case, a trend test using linear regression was conducted to test for structure in the data over that time period. If the *p* value for the trend variable was less than .05, the text states that the statistic has either increased or decreased. If the *p* value was greater than 0.05 and the data for both the first and last years of the time period come from a universe sample and/or are projections, then the text compares the first and last years in the time period. However, if the data for at least one of the two years came from a sample survey, a two-tailed t test at the .05 level was conducted to determine if any apparent difference between the data for the two years is not reliably measurable due to the uncertainty around the data. Depending on the results of the test, the text will either include a comparison of the two numbers or say that there was no measurable difference between the two numbers.

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 the references; appendix E presents a list of abbreviations; and appendix F is a glossary of terms.

### LIMITATIONS OF PROJECTIONS

Projections of a 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.

The mean absolute percentage error is one way to express the forecast accuracy of past projections. This measure expresses the average of the absolute values of errors in percentage terms, where errors are the differences between past projections and actual data. For example, based on past editions of *Projections of Education Statistics*, the mean absolute percentage errors of public school enrollment in grades prekindergarten through 12 for lead times of 1, 2, 5, and 10 years were 0.3, 0.5, 1.2, and 2.4 percent, respectively. In contrast, mean absolute percentage errors of private school enrollment in grades prekindergarten through 8 for lead times of 1, 2, 5, and 10 years were 3.1, 5.8, 8.3, and 22.2 percent, respectively. For more information on mean absolute percentage errors, see table A-2 in appendix A. This page intentionally left blank.

# Section 1 Elementary and Secondary Enrollment

### **INTRODUCTION**

Total public and private elementary and secondary school enrollment was 56 million in fall 2014, representing a 3 percent increase since fall 2001 (table 1). Between fall 2014, the last year of actual public school data, and fall 2026, a further increase of 3 percent is expected. Public school enrollment is projected to be higher in 2026 than in 2014 while private school enrollment is projected to be lower. Public school enrollments are projected to be higher in 2026 than in 2014 for Blacks, Hispanics, Asians/Pacific Islanders, and students of Two or more races (table 6). Enrollment is projected to be lower for Whites and American Indians/Alaska Natives. Public school enrollments are projected to be higher in 2026 than in 2014 for 10 percent for the Northeast and Midwest (table 3).

#### Factors affecting the projections

The grade progression rate method was used to project school enrollments. This method 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, transfers to and from public schools, and state level migration. See appendixes A.0 and A.1 for more details.

#### 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 (preK) and kindergarten programs. Continued expansion of these programs could lead to higher enrollments at the elementary school level. Projections exclude the number of students who are homeschooled.

#### Students of Two or more races

This is the sixth edition of *Projections of Education Statistics* to include actual and projected numbers for enrollment in public elementary and secondary schools for students of Two or more races. Collection of enrollment data for this racial/ ethnic group began in 2008. The actual values from 2008 through 2014 and all the projected values for enrollments of the other racial/ethnic groups are lower than they would have been if this racial/ethnic category had not been added.

### **Accuracy of Projections**

An analysis of projection errors from the past 33 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 prekindergarten–12 were 0.3, 0.5, 1.2, and 2.4 percent, respectively. For the 1-year-out prediction, this means that the methodology used by the National Center for Education Statistics (NCES) has produced projections that have, on average, deviated from actual observed values by 0.3 percent. For projections of public school enrollment in grades prekindergarten–8, the MAPEs for lead times of 1, 2, 5, and 10 years out were 0.3, 0.6, 1.4, and 3.0 percent, respectively, while the MAPEs for projections of public school enrollment in grades 9–12 were 0.4, 0.7, 1.2, and 2.4 percent, respectively, for the same lead times. An analysis of projection errors from the past 15 editions of *Projections of Education Statistics* indicates that the MAPEs for lead times of 1, 2, 5, and 10 years out for projections of private school enrollment in grades prekindergarten–12 were 2.8, 5.5, 7.3, and 18.6 percent, respectively. For projections of private school enrollment in grades prekindergarten–8, the MAPEs for lead times of 1, 2, 5, and 10 years out were 3.1, 5.8, 8.3, and 22.2 percent, respectively, while the MAPEs for projections of private school enrollment in grades 9–12 were 2.9, 4.2, 4.1, and 7.2 percent, respectively, for the same lead times. For more information, see table A-2 in appendix A.

## NATIONAL

Total elementary and secondary enrollment

- ▲ increased 3 percent between 2001 and 2014 (54.0 million versus 55.6 million); and
- ▲ is projected to increase 2 percent between 2014 and 2026 to 56.8 million.

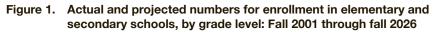
Enrollment in prekindergarten through grade 8

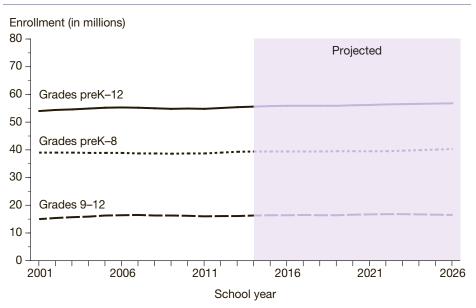
- was 1 percent higher in 2014 (39.4 million versus 39.0 million) than in 2001; and
- ▲ is projected to increase 2 percent between 2014 and 2026 to 40.3 million.

Enrollment in grades 9–12

- increased 8 percent between 2001 and 2014 (15.0 million versus 16.3 million); and
- ▲ is projected to increase 2 percent between 2014 and 2026 to 16.5 million.

For more information: Tables 1 and 2

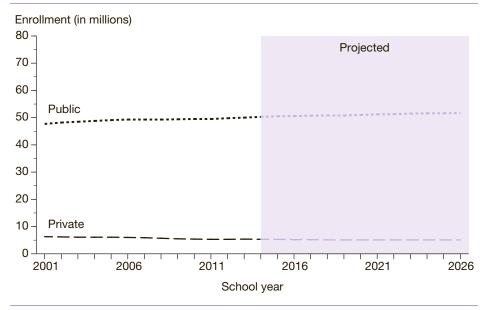




NOTE: PreK = prekindergarten. Enrollment numbers for prekindergarten through 12th grade and prekindergarten through 8th grade include private nursery and prekindergarten enrollment in schools that offer kindergarten or higher grades. Since the biennial Private School Universe Survey (PSS) is collected in the fall of odd-numbered years, private school numbers for alternate years are estimated based on data from the PSS. 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," 2001–02 through 2014–15; Private School Universe Survey (PSS), selected years 2001–02 through 2013–14; and National Elementary and Secondary Enrollment Projection Model, 1972 through 2026. (This figure was prepared April 2017.)

## Figure 2. Actual and projected numbers for enrollment in elementary and secondary schools, by control of school: Fall 2001 through fall 2026



NOTE: Private school numbers include private nursery and prekindergarten enrollment in schools that offer kindergarten or higher grades. Since the biennial Private School Universe Survey (PSS) is collected in the fall of odd-numbered years, private school numbers for alternate years are estimated based on data from the PSS. 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," 2001–02 through 2014–15; Private School Universe Survey (PSS), selected years 2001–02 through 2013–14; and National Elementary and Secondary Enrollment Projection Model, 1972 through 2026. (This figure was prepared April 2017.)

## Enrollment by control of school

Enrollment in public elementary and secondary schools

- ▲ increased 6 percent between 2001 and 2014 (47.7 million versus 50.3 million); and
- ▲ is projected to increase 3 percent between 2014 and 2026 to 51.7 million.

Enrollment in private elementary and secondary schools

- decreased 16 percent between 2001 and 2014 (6.3 million versus 5.3 million); and
- is projected to decrease by 4 percent between 2014 and 2026 to 5.1 million.

### STATE AND REGIONAL (PUBLIC SCHOOL DATA)

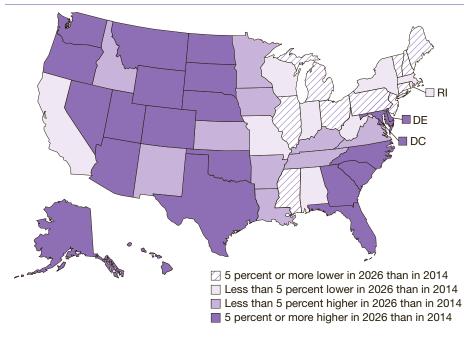
#### **Enrollment by state**

The expected 3 percent national increase in public school enrollment between 2014 and 2026 plays out differently among the states.

- Enrollments are projected to be higher in 2026 than in 2014 for 31 states and the District of Columbia, with projected enrollments
  - 5 percent or more higher in 21 states and the District of Columbia; and
  - less than 5 percent higher in 10 states.
- Enrollments are projected to be lower in 2026 than in 2014 for 19 states, with projected enrollments
  - 5 percent or more lower in 10 states; and
  - less than 5 percent lower in 9 states.

For more information: Tables 3 through 5

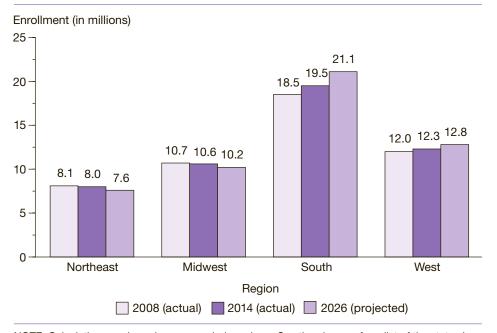
Figure 3. Projected percentage change in enrollment in public elementary and secondary schools, by state: Fall 2014 and fall 2026



NOTE: Mean absolute percentage errors of enrollment in public elementary and secondary schools by state and region can be found in table A-7, appendix A. Although rounded numbers are displayed, the figures are based on unrounded numbers. SOURCE: U.S. Department of Education, National Center for Education Statistics, Common

Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2014–15; and State Public Elementary and Secondary Enrollment Projection Model, 1980 through 2026. (This figure was prepared April 2017.)

## Figure 4. Actual and projected numbers for enrollment in public elementary and secondary schools, by region: Fall 2008, fall 2014, and fall 2026



NOTE: Calculations are based on unrounded numbers. See the glossary for a list of the states in each region. Mean absolute percentage errors of enrollment in public elementary and secondary schools by state and region can be found in table A-7, appendix A. Although rounded numbers are displayed, the figures are based on unrounded estimates. 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), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2008–09 and 2014–15; and State Public Elementary and Secondary Enrollment Projection Model, 1980 through 2026. (This figure was prepared April 2017.)

#### **Enrollment by region**

Public elementary and secondary enrollment is projected to

- decrease 5 percent between 2014 and 2026 for students in the Northeast;
- decrease 3 percent between 2014 and 2026 for students in the Midwest;
- ▲ increase 8 percent between 2014 and 2026 in the South; and
- ▲ increase 4 percent between 2014 and 2026 in the West.

For more information: Tables 3 through 5

### **RACE/ETHNICITY (PUBLIC SCHOOL DATA)**

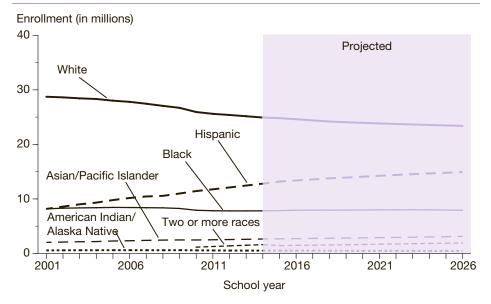
#### Enrollment by race/ ethnicity

Enrollment in public elementary and secondary schools is projected to

- decrease 6 percent between 2014 and 2026 for students who are White;
- increase 1 percent between 2014 and 2026 for students who are Black;
- increase 17 percent between 2014 and 2026 for students who are Hispanic;
- increase 18 percent between 2014 and 2026 for students who are Asian/ Pacific Islander;
- decrease 12 percent between 2014 and 2026 for students who are American Indian/Alaska Native; and
- ▲ increase 19 percent between 2014 and 2026 for students who are of Two or more races. (The line for this racial/ ethnic group in figure 5 begins in 2010 when data for that group became available for all 50 states and the District of Columbia.)

For more information: Tables 6 and 7





NOTE: Race categories exclude persons of Hispanic ethnicity. Enrollment data for students not reported by race/ethnicity were prorated by state and grade to match state totals. Data on students of Two or more races were not collected separately prior to 2008 and data on students of Two or more races from 2008 and 2009 were not reported by all states. Only in 2010 and later years were those data available for all 50 states. Total counts of ungraded students were prorated to prekindergarten through grade 8 and grades 9 through 12 based on prior reports. 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," 2001–02 through 2014–15; and National Public Elementary and Secondary Enrollment by Race/Ethnicity Projection Model, 1994 through 2026. (This figure was prepared April 2017.)

# Section 2 Elementary and Secondary Teachers

### **INTRODUCTION**

Between fall 2014, the last year of actual public school data, and fall 2026, the number of teachers in elementary and secondary schools is projected to rise (table 8). The increase is projected to occur in public schools. The number of teachers in private schools in 2026 is projected to be about the same as 2014. Both public and private schools are projected to experience a decline in pupil/teacher ratios. The annual number of new teacher hires is projected to be higher in 2026 than in 2014 in public and private schools.

#### Factors affecting the projections

The projections of the number of elementary and secondary teachers are related to projected levels of enrollments and education revenue receipts from state sources per capita. For more details, see appendixes A.0 and A.2.

#### 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.

#### 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.

#### About new teacher hires -

A teacher is considered to be a new teacher hire for a certain control of school (public or private) for a given year if the teacher teaches in that control that year but had not taught in that control in the previous year. A teacher who moves from teaching in one control of school to the other control is considered a new teacher hire, but a teacher who moves from one school to another school in the same control is not considered a new teacher hire.

### **Accuracy of Projections**

An analysis of projection errors from the past 27 editions of *Projections of Education Statistics* that included projections of teachers indicates that the mean absolute percentage errors (MAPEs) for projections of classroom teachers in public elementary and secondary schools were 0.7 percent for 1 year out, 1.4 percent for 2 years out, 3.1 percent for 5 years out, and 6.1 percent for 10 years out. For the 1-year-out prediction, this means that one would expect the projection to be within 0.7 percent of the actual value, on average. For more information on the MAPEs of different National Center for Education Statistics (NCES) projection series, see table A-2 in appendix A.

### **TEACHERS IN ELEMENTARY AND SECONDARY SCHOOLS**

#### **Number of teachers**

The total number of elementary and secondary teachers

- ▲ was 4 percent higher in 2014 than in 2001 (3.6 million versus 3.4 million), a period of 13 years; and
- is projected to increase 6 percent between 2014 and 2026 to 3.8 million, a period of 12 years.

The number of teachers in public elementary and secondary schools

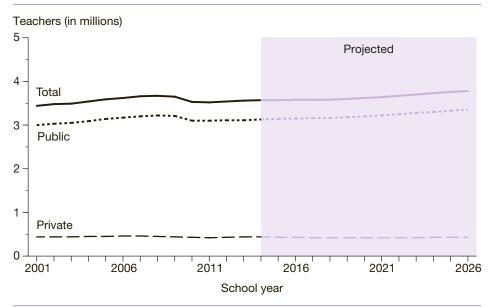
- was 4 percent higher in 2014 than in 2001 (3.1 million versus 3.0 million); and
- ▲ is projected to increase 7 percent between 2014 and 2026 to 3.3 million.

The number of teachers in private elementary and secondary schools

- was not measurably different in 2014 (436,000 versus 441,000) than in 2001; and
- is projected to be about the same in 2026 (434,000) as in 2014.

*For more information: Table 8* 

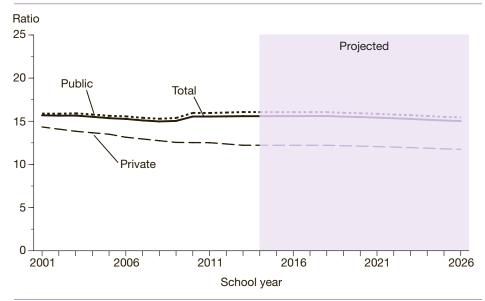
#### Figure 6. Actual and projected numbers for elementary and secondary teachers, by control of school: Fall 2001 through fall 2026



NOTE: Since the biennial Private School Universe Survey (PSS) is collected in the fall of oddnumbered years, private school numbers for alternate years are estimated based on data from the PSS. Data for teachers are expressed in full-time equivalents (FTE). Counts of private school teachers include prekindergarten through grade 12 in schools offering kindergarten or higher grades. Counts of public school teachers include prekindergarten through grade 12. 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," 2001–02 through 2014–15; Private School Universe Survey (PSS), selected years, 2001–02 through 2013–14; Elementary and Secondary Teacher Projection Model, 1973 through 2026. (This figure was prepared April 2017.)

# Figure 7. Actual and projected numbers for the pupil/teacher ratios in elementary and secondary schools, by control of school: Fall 2001 through fall 2026



NOTE: Since the biennial Private School Universe Survey (PSS) is collected in the fall of oddnumbered years, private school numbers for alternate years are estimated based on data from the PSS. Data for teachers are expressed in full-time equivalents (FTE). Counts of private school teachers and enrollment include prekindergarten through grade 12 in schools offering kindergarten or higher grades. Counts of public school teachers and enrollment include prekindergarten through grade 12. 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," 2001–02 through 2014–15; Private School Universe Survey (PSS), selected years, 2001–02 through 2013–14; National Elementary and Secondary Encollment Projection Model, 1972 through 2026; and Elementary and Secondary Teacher Projection Model, 1973 through 2026. (This figure was prepared April 2017.)

#### **Pupil/teacher ratios**

The pupil/teacher ratio in all elementary and secondary schools

- was lower in 2014 than in 2001 (15.6 versus 15.7); and
- is projected to decrease to 15.0 in 2026.

The pupil/teacher ratio in public elementary and secondary schools

- was higher in 2014 than in 2001 (16.1 versus 15.9); and
- is projected to decrease to 15.4 in 2026.

The pupil/teacher ratio in private elementary and secondary schools

- decreased from 14.3 to 12.2 between 2001 and 2014; and
- is projected to decrease to 11.8 in 2026.

#### **New teacher hires**

The total number of new teacher hires

- was 10 percent higher in 2014 than in 1999 (336,000 versus 305,000); and
- ▲ is projected to increase 5 percent between 2014 and 2026, to 353,000.

The number of new teacher hires in public schools

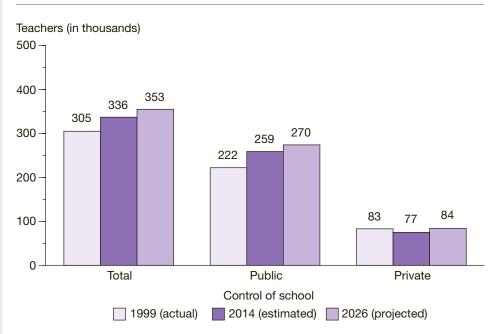
- was 17 percent higher in 2014 than in 1999 (259,000 versus 222,000); and
- ▲ is projected to increase 4 percent between 2014 and 2026, to 270,000.

The number of new teacher hires in private schools

- was 8 percent lower in 2014 than in 1999 (77,000 versus 83,000); and
- ▲ is projected to increase 9 percent between 2014 and 2026, to 84,000.

*For more information: Table 8* 

## Figure 8. Actual and projected numbers for elementary and secondary new teacher hires, by control of school: Fall 1999, fall 2014, and fall 2026



NOTE: Data for teachers are expressed in full-time equivalents (FTE). A teacher is considered to be a new hire for a public or private school if the teacher had not taught in that control of school in the previous year. A teacher who moves from a public to private or a private to public school is considered a new teacher hire, but a teacher who moves from one public school to another public school or one private school to another private school is not considered a new teacher hire. For more information about the New Teacher Hires Model, see appendix A.2. Calculations are based on 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), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2000–01 and 2014–15; Private School Universe Survey (PSS), 1999–2000 and 2013–14; Schools and Staffing Survey (SASS), "Public School Teacher Data File," and "Private School Teacher Data File," 1999–2000 and 2011–12; Elementary and Secondary Teacher Projection Model, 1973 through 2026, and New Teacher Hires Projection Model, 1988 through 2026. (This figure was prepared April 2017.)

## Section 3 High School Graduates

### **INTRODUCTION**

The number of high school graduates increased nationally by 20 percent between 2001–02 and 2012–13, the last year of actual data for public schools (table 9). The number of high school graduates is projected to be 3 percent higher in 2026–27 than in 2012–13. The number of public high school graduates is projected to be higher in 2026–27 than in 2012–13 while the number of private high school graduates is projected to be lower. The numbers of public high school graduates are projected to be higher in 2026–27 than in 2012–13 in the South and West and lower in the Northeast and Midwest (table 10).

#### Factors affecting the projections

The projections of high school graduates are related to projections of 12th-graders and the historical relationship between the number of 12th-graders and the number of high school graduates. The methodology implicitly includes the net effect of factors such as dropouts, transfers to and from public schools, and state-level migration. For more details, see appendixes A.0 and A.3.

#### About high school graduates

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. Projections of graduates could be affected by changes in policies influencing graduation requirements.

#### High school graduates of Two or more races -

This is the fourth edition of *Projections of Education Statistics* to include actual and projected numbers for high school graduates of Two or more races. Collection of high school graduate data for this racial/ethnic group began in 2008–09. The actual values from 2008–09 through 2012–13 and all the projected values for high school graduates of the other racial/ethnic groups are lower than they would have been if this racial/ethnic category had not been added.

### **Accuracy of Projections**

For National Center for Education Statistics (NCES) projections of public high school graduates produced over the last 26 editions, the mean absolute percentage errors (MAPEs) for lead times of 1, 2, 5, and 10 years out were 1.0, 1.1, 2.5, and 5.1, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 0.9 percent of the actual value, on average. For NCES projections of private high school graduates produced over the last 15 editions, the MAPEs for lead times of 1, 2, 5, and 10 years out were 1.8, 1.5, 4.9, and 4.9 percent, respectively. For more information, see table A-2 in appendix A.

### NATIONAL

The total number of high school graduates

- ▲ increased 20 percent between 2001–02 and 2012–13 (2.9 million versus 3.5 million), a period of 11 years; and
- ▲ is projected to increase 3 percent between 2012–13 and 2026–27 to 3.6 million.

The number of public high school graduates

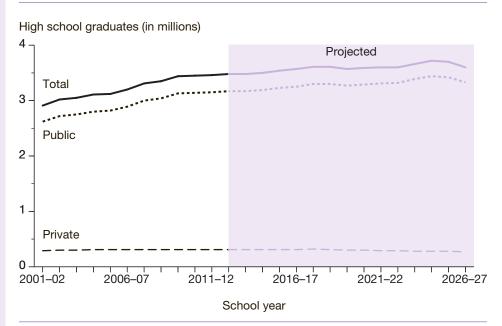
- ▲ increased 21 percent between 2001–02 and 2012–13 (2.6 million versus 3.2 million); and
- ▲ is projected to increase 5 percent between 2012–13 and 2026–27 to 3.3 million.

The number of private high school graduates

- increased 8 percent between
   2001–02 and 2012–13
   (285,000 versus 309,000); and
- is projected to decrease 13 percent between 2012–13 and 2026–27 to 270,000.

*For more information: Table 9* 

## Figure 9. Actual and projected numbers for high school graduates, by control of school: School years 2001–02 through 2026–27



NOTE: Since the biennial Private School Universe Survey (PSS) is collected in the fall of oddnumbered years and the numbers collected for high school graduates are for the preceding year, private school numbers for odd years are estimated based on data from the PSS. Includes graduates of regular day school programs. Excludes graduates of other programs, when separately reported, and recipients of high school equivalency certificates. 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," 2002–03 through 2009–10; "State Dropout and Completion Data File," 2010–11 through 2013–14; Private School Universe Survey (PSS), selected years, 2001–02 through 2013–14; and National High School Graduates Projection Model, 1972–73 through 2026–27. (This figure was prepared April 2017.)

## STATE AND REGIONAL (PUBLIC SCHOOL DATA)

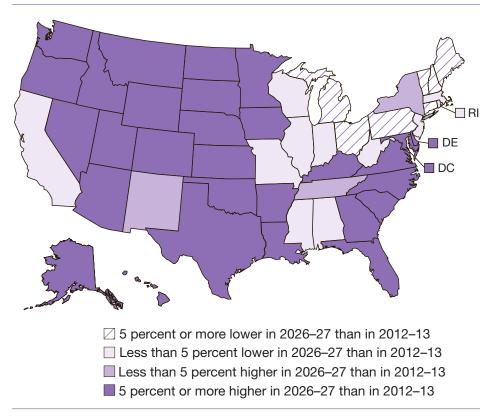


Figure 10. Projected percentage change in the number of public high school graduates, by state: School years 2012–13 and 2026–27

NOTE: Includes graduates of regular day school programs. Excludes graduates of other programs, when separately reported, and recipients of high school equivalency certificates. Calculations are based on unrounded numbers. Mean absolute percentage errors of public high school graduates by state and region can be found in table A-14, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Dropout and Completion Data File," 2013–14; and State Public High School Graduates Projection Model, 1980–81 through 2026–27. (This figure was prepared April 2017.)

## High school graduates by state

The number of public high school graduates is projected to be higher in 2026–27 than in 2012–13. This plays out differently among the states.

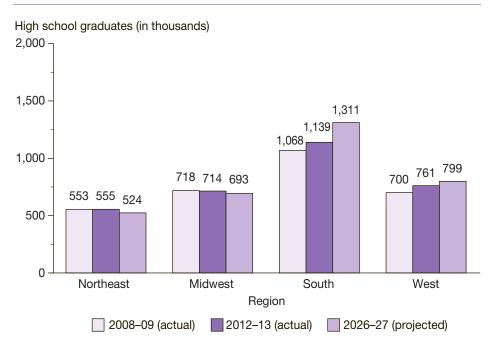
- ▲ High school graduates are projected to be higher in 2026–27 than in 2012–13 for 32 states and the District of Columbia, with projected high school graduates
  - 5 percent or more higher in 29 states and the District of Columbia; and
  - less than 5 percent higher in 3 states.
- High school graduates are projected to be lower in 2026–27 than in 2012–13 for 18 states, with projected high school graduates
  - 5 percent or more lower in 7 states; and
  - less than 5 percent lower in 11 states.

## High school graduates by region

The number of public high school graduates is projected to

- decrease 6 percent between 2012–13 and 2026–27 in the Northeast;
- be 3 percent lower in 2026–27 than in 2012–13 in the Midwest;
- ▲ increase 15 percent between 2012–13 and 2026–27 in the South; and
- ▲ increase 5 percent between 2012–13 and 2026–27 in the West.

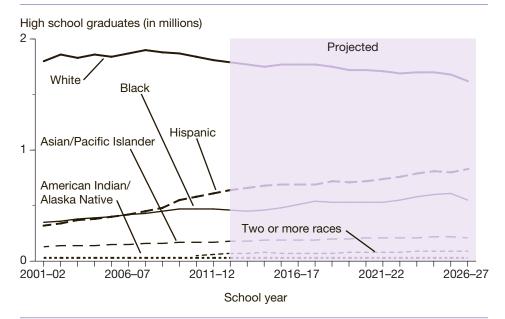
## Figure 11. Actual and projected numbers for public high school graduates, by region: School years 2008–09, 2012–13, and 2026–27



NOTE: Includes graduates of regular day school programs. Excludes graduates of other programs, when separately reported, and recipients of high school equivalency certificates. See the glossary for a list of states in each region. Mean absolute percentage errors of public high school graduates by state and region can be found in table A-14, appendix A. Calculations are based on 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), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2008–09; "State Dropout and Completion Data," 2013–14; and State Public High School Graduates Projection Model, 1980–81 through 2026–27. (This figure was prepared April 2017.)

## **RACE/ETHNICITY (PUBLIC SCHOOL DATA)**

## Figure 12. Actual and projected numbers for public high school graduates, by race/ethnicity: School years 2001–02 through 2026–27



NOTE: Race categories exclude persons of Hispanic ethnicity. Data on students of Two or more races were not collected separately prior to 2007–08, and data on students of Two or more races from 2007–08 through 2009–10 were not reported by all states. Therefore, the data are not comparable to figures for 2010–11 and later years. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. 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), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2001–02 through 2009–10; "State Dropout and Completion Data File," 2010–11 and 2013–14; and National Public High School Graduates by Race/Ethnicity Projection Model, 1995–96 through 2026–27. (This figure was prepared April 2017.)

## High school graduates by race/ethnicity

The number of public high school graduates is projected to

- decrease 10 percent between 2012–13 and 2026–27 (1,791,000 versus 1,617,000) for students who are White;
- ▲ increase 19 percent between 2012–13 and 2026–27 (462,000 versus 549,000) for students who are Black;
- ▲ increase 30 percent between 2012–13 and 2026–27 (640,000 versus 830,000) for students who are Hispanic;
- ▲ increase 18 percent between 2012–13 and 2026–27 (179,000 versus 211,000) for students who are Asian/Pacific Islander;
- decrease 13 percent between 2012–13 and 2026–27 (31,000 versus 27,000) for students who are American Indian/Alaska Native; and
- ▲ increase 42 percent between 2012–13 and 2026–27 (66,000 versus 93,000) for students who are of Two or more races.

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# Section 4 Expenditures for Public Elementary and Secondary Education

### **INTRODUCTION**

Current expenditures (e.g., instruction and support services) for public elementary and secondary education are projected to increase 19 percent in constant dollars (adjusted for inflation) between school years 2013–14, the last year of actual data, and 2026–27 (table 12).

#### Factors affecting the projections

The projections of current expenditures are related to projections of economic growth as measured by disposable income per capita and assistance by state governments to local governments. For more details, see appendixes A.0 and A.4.

#### Factors that were not considered

Many factors that may affect future school expenditures were not considered in the production of these projections. Such factors include policy initiatives as well as potential changes in the age distribution of elementary and secondary teachers as older teachers retire and are replaced by younger teachers, or as older teachers put off retirement for various reasons.

#### About constant dollars and current dollars

Throughout this section, projections of current expenditures are presented in constant 2015–16 dollars. The reference tables, later in this report, present these data both in constant 2015–16 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-5 in appendix B).

### **Accuracy of Projections**

An analysis of projection errors from similar models used in the past 26 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 1.7 percent for 1 year out, 2.5 percent for 2 years out, 2.8 percent for 5 years out, and 6.2 percent for 10 years out. For the 1-year-out prediction, this means that one would expect the projection to be within 1.7 percent of the actual value, on average. MAPEs for current expenditures per pupil in fall enrollment in constant dollars were 1.7 percent for 1 year out, 2.4 percent for 2 years out, 2.9 percent for 5 years out, and 6.9 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 MAPEs of these projections.

### **CURRENT EXPENDITURES**

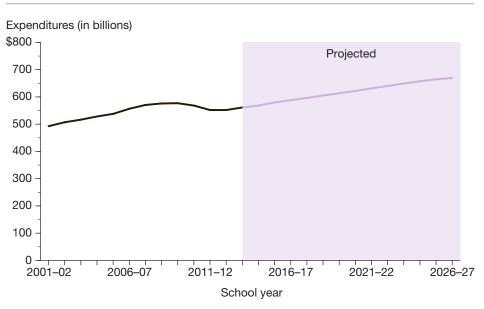
#### **Current expenditures**

Current expenditures in constant 2015–16 dollars

- ▲ increased 14 percent from 2001–02 to 2013–14 (\$493 billion versus \$561 billion), a period of 12 years; and
- ▲ are projected to increase 19 percent, to \$670 billion, from 2013–14 to 2026–27, a period of 13 years.

*For more information: Table 12* 

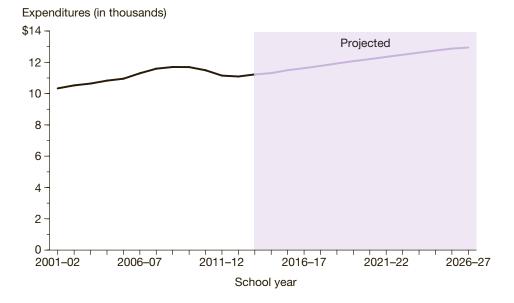
#### Figure 13. Actual and projected current expenditures for public elementary and secondary schools (in constant 2015–16 dollars): School years 2001–02 through 2026–27



NOTE: Numbers were placed in constant dollars using the Consumer Price Index (CPI) for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor. For more detail about CPI, see table B-5 in appendix B. Current expenditures include instruction, support services, food services, and enterprise operations. 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," 2001–02 through 2013–14; Public Elementary and Secondary School Current Expenditures Projection Model, 1969–70 through 2026–27. (This figure was prepared April 2017.)

#### Figure 14. Actual and projected current expenditures per pupil in fall enrollment in public elementary and secondary schools (in constant 2015–16 dollars): School years 2001–02 through 2026–27



NOTE: Numbers were placed in constant dollars using the Consumer Price Index (CPI) for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor. For more detail about CPI, see table B-5 in appendix B. Current expenditures include instruction, support services, food services, and enterprise operations. 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," 2001–02 through 2014–15; "National Public Education Financial Survey," 2001–02 through 2013–14; National Elementary and Secondary Enrollment Projection Model, 1972 through 2026; and Elementary and Secondary School Current Expenditures Projection Model, 1969–70 through 2026–27. (This figure was prepared April 2017.)

## Current expenditures per pupil

Current expenditures per pupil in fall enrollment in constant 2015–16 dollars

- ▲ increased 9 percent from 2001–02 to 2013–14 (\$10,300 versus \$11,200); and
- ▲ are projected to increase 15 percent, to \$12,900, from 2013–14 to 2026–27.

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# Section 5 Enrollment in Degree-Granting Postsecondary Institutions

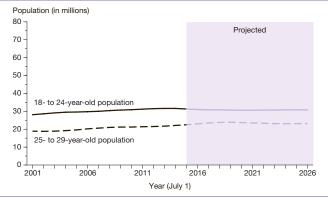
## **INTRODUCTION**

Total enrollment in degree-granting postsecondary institutions is expected to increase 13 percent between fall 2015, the last year of actual data, and fall 2026 (table 13). Degree-granting institutions are postsecondary institutions that provide study beyond secondary school and offer programs terminating in an associate's, baccalaureate, or higher degree and participate in federal financial aid programs. 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 postsecondary institutions.

### Factors affecting the projections

The projections of enrollment levels are related to projections of college-age populations, disposable income, and unemployment rates. For more details, see appendixes A.0 and A.5. An important factor in the enrollment projections is the expected change in the population of 18- to 29-year-olds from 2001 through 2026 (table B-3 in appendix B).

#### Figure 15. Actual and projected population numbers for 18- to 24-year-olds and 25- to 29-year-olds: 2001 through 2026



NOTE: Some data have been revised from previously published figures. Projections are from the U.S. Census Bureau's 2014 National Population Projections, ratio-adjusted to line up with the most recent historical estimate. SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved August 4, 2015, from https://www2.census.gov/programs-surveys/popest/ datasets/2010-2015/; and Population Projections, retrieved August 4, 2015, from https://www.census.gov/programs-surveys/popproj.html; and IHS Global Inc., "U.S. Quarterly Macroeconomic Model, November 2016 Short-Term Baseline Projections." (This table was prepared April 2017.)

## **Accuracy of Projections**

For projections of total enrollment in degree-granting postsecondary institutions, an analysis of projection errors based on the past 19 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, 2.6, 5.9, and 10.3 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.

### Factors that were not considered

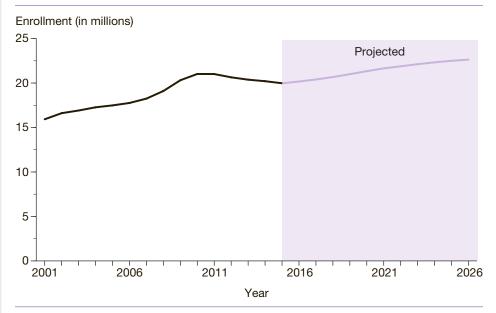
The enrollment projections do not take into account such factors as the cost of a college education, the economic value of an education, and the impact of distance learning due to technological changes. These factors may produce changes in enrollment levels. The racial/ethnic backgrounds of nonresident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

## **TOTAL ENROLLMENT**

### Total enrollment in degreegranting postsecondary institutions

- increased 25 percent from 2001 to 2015 (15.9 million versus 20.0 million), a period of 14 years; and
- ▲ is projected to increase 13 percent, to 22.6 million, from 2015 to 2026, a period of 11 years.

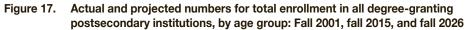
#### Figure 16. Actual and projected numbers for total enrollment in all degreegranting postsecondary institutions: Fall 2001 through fall 2026

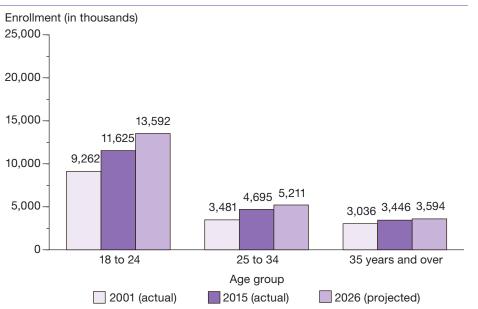


NOTE: Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS) Spring 2001 through Spring 2016, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. (This figure was prepared April 2017.)

*For more information: Table 13* 

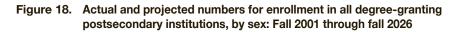
## **ENROLLMENT BY SELECTED CHARACTERISTICS AND CONTROL OF INSTITUTION**

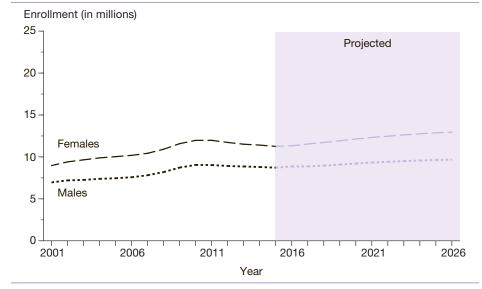




NOTE: Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Distributions by age are estimates based on samples of the civilian noninstitutional population from the U.S. Census Bureau's Current Population Survey. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. Calculations are based on unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS) Spring 2002 and Spring 2016, Fall Enrollment component; Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026; and U.S. Department of Commerce, Census Bureau, Current Population Reports, "Social and Economic Characteristics of Students," various years. (This figure was prepared April 2017.)





NOTE: Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. 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 (IPEDS) Spring 2002 through Spring 2016, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. (This figure was prepared April 2017.)

#### Enrollment by age of student

Enrollment in degree-granting postsecondary institutions of students who are 18 to 24 years old

- ▲ increased 26 percent between 2001 and 2015; and
- ▲ is projected to increase 17 percent between 2015 and 2026.

Enrollment in degree-granting postsecondary institutions of students who are 25 to 34 years old

- ▲ increased 35 percent between 2001 and 2015; and
- ▲ is projected to increase 11 percent between 2015 and 2026.

Enrollment in degree-granting postsecondary institutions of students who are 35 years old and over

- increased 13 percent between 2001 and 2015; and
- ▲ is projected to increase 4 percent between 2015 and 2026.

For more information: Table 15

### **Enrollment by sex of student**

Enrollment of males in degreegranting postsecondary institutions

- increased 25 percent between 2001 and 2015 (7.0 million versus 8.7 million); and
- ▲ is projected to increase 11 percent between 2015 and 2026 to 9.7 million.

Enrollment of females in degreegranting postsecondary institutions

- ▲ increased 26 percent between 2001 and 2015 (9.0 million versus 11.3 million); and
- ▲ is projected to increase 15 percent between 2015 and 2026 to 13.0 million.

For more information: Tables 13 and 15

# Enrollment by attendance status

Enrollment of full-time students in degree-granting postsecondary institutions

- ▲ increased 30 percent between 2001 and 2015 (9.4 million versus 12.3 million); and
- ▲ is projected to increase 12 percent between 2015 and 2026 to 13.8 million.

Enrollment of part-time students in degree-granting postsecondary institutions

- ▲ increased 19 percent between 2001 and 2015 (6.5 million versus 7.7 million); and
- ▲ is projected to increase 15 percent between 2015 and 2026 to 8.8 million.

For more information: Tables 13–15

# Enrollment by level of student

Enrollment of undergraduate students in degree-granting postsecondary institutions

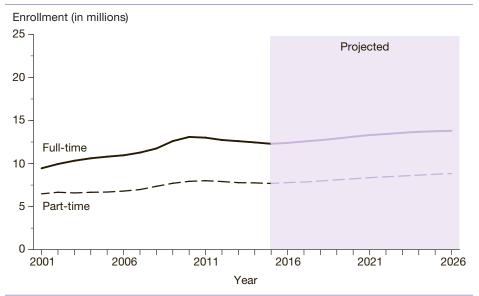
- ▲ increased 24 percent between 2001 and 2015 (13.7 million versus 17.0 million); and
- is projected to increase 14 percent between 2015 and 2026 to 19.3 million.

Enrollment of postbaccalaureate students in degree-granting postsecondary institutions

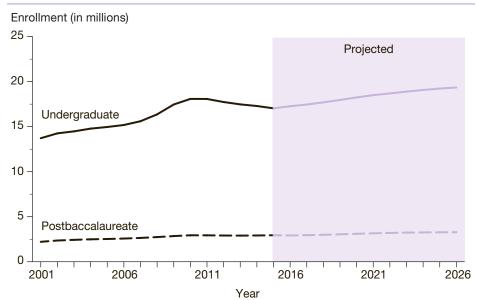
- ▲ increased 33 percent between 2001 and 2015 (2.2 million versus 2.9 million); and
- is projected to increase 12 percent between 2015 and 2026 to 3.3 million.

For more information: Tables 16–17

Figure 19. Actual and projected numbers for enrollment in all degree-granting postsecondary institutions, by attendance status: Fall 2001 through fall 2026



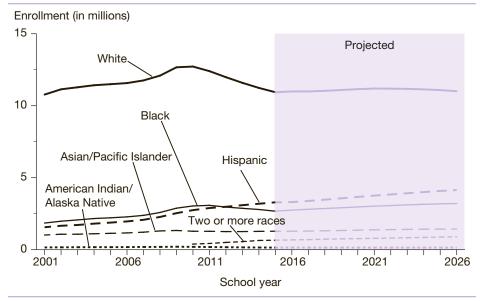
NOTE: Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS) Spring 2002 through Spring 2016, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. (This figure was prepared April 2017.)



#### Figure 20. Actual and projected numbers for enrollment in all degree-granting postsecondary institutions, by level of enrollment: Fall 2001 through fall 2026

NOTE: Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. 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 (IPEDS) Spring 2002 through Spring 2016, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. (This figure was prepared April 2017.)

# Figure 21. Actual and projected numbers for enrollment of U.S. residents in all degree-granting postsecondary institutions, by race/ethnicity: Fall 2001 through fall 2026



NOTE: Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Race categories exclude persons of Hispanic ethnicity. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS) Spring 2002 through Spring 2016, Fall Enrollment component; and Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, 1980 through 2026. (This figure was prepared April 2017.)

#### Enrollment by race/ ethnicity

Enrollment of U.S. residents is projected to

- be 1 percent higher in 2026 for students who are White than in 2015 (11.0 million versus 10.9 million);
- increase 20 percent for students who are Black between 2015 and 2026 (2.7 million versus 3.2 million);
- increase 26 percent for students who are Hispanic between 2015 and 2026 (3.3 million versus 4.1 million);
- ▲ increase 12 percent for students who are Asian/Pacific Islander between 2015 and 2026 (1.3 million versus 1.4 million);
- be 3 percent lower in 2026 than in 2015 (143,000 versus 146,000) for students who are American Indian/Alaska Native; and
- ▲ increase 37 percent for students who are of Two or more races between 2015 and 2026 (660,000 versus 904,000).

*For more information: Table 19* 

# Enrollment in public and private institutions

Enrollment in public degreegranting postsecondary institutions

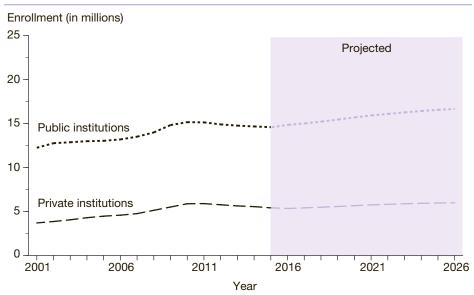
- ▲ increased 19 percent between 2001 and 2015 (12.2 million versus 14.6 million); and
- ▲ is projected to increase 14 percent between 2015 and 2026 to 16.6 million.

Enrollment in private degreegranting postsecondary institutions

- ▲ increased 46 percent between 2001 and 2015 (3.7 million versus 5.4 million); and
- ▲ is projected to increase 11 percent between 2015 and 2026 to 6.0 million.

*For more information: Table 13* 

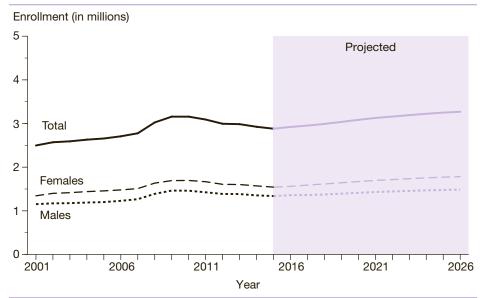
# Figure 22. Actual and projected numbers for enrollment in all degree-granting postsecondary institutions, by control of institution: Fall 2001 through fall 2026



NOTE: Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. 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 (IPEDS) Spring 2002 through Spring 2016, Fall Enrollment component; Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. (This figure was prepared April 2017.)

## FIRST-TIME FRESHMEN ENROLLMENT

#### Figure 23. Actual and projected numbers for total first-time freshmen fall enrollment in all degree-granting postsecondary institutions, by sex: Fall 2001 through fall 2026



NOTE: Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. 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 (IPEDS) Spring 2002 through Spring 2016, Fall Enrollment component; and First-Time Freshmen Projection Model, 1980 through 2026. (This figure was prepared April 2017.)

# First-time freshmen fall enrollment

Total first-time freshmen fall enrollment in all degree-granting postsecondary institutions

- increased 15 percent from 2001 to 2015 (2.5 million versus 2.9 million); and
- is projected to increase 13 percent between 2015 and 2026 to 3.3 million.

First-time freshmen fall enrollment of males in all degree-granting postsecondary institutions

- increased 16 percent from 2001 to 2015 (1.2 million versus 1.3 million); and
- is projected to increase 11 percent between 2015 and 2026 to 1.5 million.

First-time freshmen fall enrollment of females in all degree-granting postsecondary institutions

- increased 15 percent from 2001 to 2015 (1.3 million versus 1.5 million); and
- is projected to increase 16 percent between 2015 and 2026 to 1.8 million.

*For more information: Table 18* 

## FULL-TIME-EQUIVALENT ENROLLMENT, BY CONTROL OF INSTITUTION

# Full-time-equivalent fall enrollment

Total full-time-equivalent fall enrollment in degree-granting postsecondary institutions

- ▲ increased 28 percent between 2001 and 2015 (11.8 million versus 15.1 million); and
- is projected to increase 13 percent between 2015 and 2026 to 17.0 million.

Full-time-equivalent fall enrollment in public degree-granting postsecondary institutions

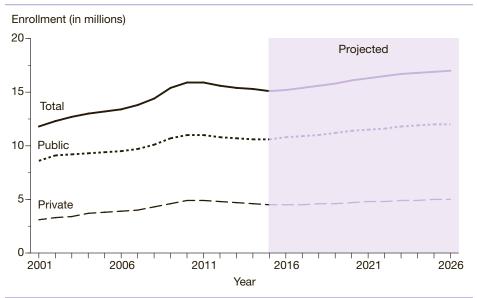
- ▲ increased 22 percent between 2001 and 2015 (8.6 million versus 10.6 million); and
- is projected to increase 14 percent between 2015 and 2026 to 12.0 million.

Full-time-equivalent fall enrollment in private degree-granting postsecondary institutions

- increased 44 percent between 2001 and 2015 (3.1 million versus 4.5 million); and
- is projected to increase 10 percent between 2015 and 2026 to 5.0 million.

*For more information: Table 20* 

#### Figure 24. Actual and projected numbers for full-time-equivalent fall enrollment in degree-granting postsecondary institutions, by control: Fall 2001 through fall 2026



NOTE: Full-time-equivalent fall enrollment is the full-time enrollment, plus the full-time-equivalent of the part time students. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS) Spring 2002 through Spring 2016, Fall Enrollment component; Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. (This figure was prepared April 2017.)

# Section 6 Postsecondary Degrees Conferred

## **INTRODUCTION**

Long-term growth in enrollment in degree-granting postsecondary institutions has been reflected by increases in the numbers of associate's, bachelor's, master's, and doctor's degrees conferred (tables 13 and 21). Increases in the number of degrees conferred are expected to continue between academic year 2014–15, the last year of actual data, and academic year 2026–27.

### Factors affecting the projections

The projections of the number of degrees conferred are related to projections of the college-age populations developed by the Census Bureau and college enrollments from this report. For more details, see appendixes A.0 and A.6.

### Factors that were not considered

Some factors that may affect future numbers of degrees, such as choice of degree and labor force requirements, were not included in the projection models.

### Changes in degree classifications-

The National Center for Education Statistics (NCES) no longer uses the first-professional degree classification. Beginning with academic year 2009–10, most degrees formerly classified as first-professional—such as M.D., D.D.S., and law degrees—are classified as doctor's degrees. However, master's of divinity degrees are now classified as master's degrees. This is the fifth edition of *Projections of Education Statistics* to use these new classifications. With this change, the actual numbers of master's and doctor's degrees conferred are higher than the actual numbers in *Projections of Education Statistics to 2020* and earlier editions of this report. The revisions of actual numbers are reflected in the projections.

## **Accuracy of Projections**

An analysis of projection errors from the past eight editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for lead times of 1, 2, and 5 years out for projections of associate's degrees conferred were 2.8, 5.5, and 12.9 percent, respectively. For the 1-year-out prediction, this means that the methodology used by the National Center for Education Statistics (NCES) has produced projections that have, on average, deviated from actual observed values by 2.8 percent. For projections of bachelor's degrees conferred, the MAPEs for lead times of 1, 2, and 5 years out were 0.6, 0.6, and 3.6 percent. For projections of master's degrees conferred, the MAPEs for lead times of 1, 2, and 5 years out were 0.9, 3.4, and 5.8 percent. For projections of doctor's degrees conferred, the MAPEs for lead times of 1, 2, and 5 years out were 0.2, 0.1, and 0.8 percent. For more information, see table A-2 in appendix A.

## DEGREES, BY LEVEL OF DEGREE AND SEX OF RECIPIENT

#### Associate's degrees

The total number of associate's degrees

- ▲ increased 70 percent between 2001–02 and 2014–15; and
- is projected to increase 27 percent between 2014–15 and 2026–27.

The number of associate's degrees awarded to males

- ▲ increased 67 percent between 2001–02 and 2014–15; and
- ▲ is projected to increase 16 percent between 2014–15 and 2026–27.

The number of associate's degrees awarded to females

- ▲ increased 73 percent between 2001–02 and 2014–15; and
- is projected to increase 34 percent between 2014–15 and 2026–27.

*For more information: Table 21* 

### Bachelor's degrees

The total number of bachelor's degrees

- ▲ increased 47 percent between 2001–02 and 2014–15; and
- ▲ is projected to increase 10 percent between 2014–15 and 2026–27.

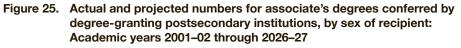
The number of bachelor's degrees awarded to males

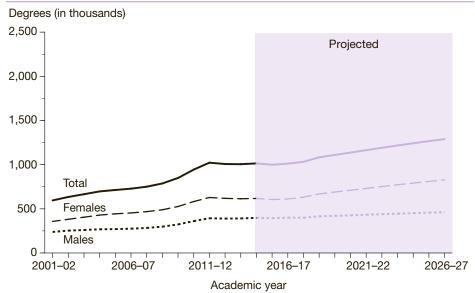
- ▲ increased 48 percent between 2001–02 and 2014–15; and
- ▲ is projected to increase 8 percent between 2014–15 and 2026–27.

The number of bachelor's degrees awarded to females

- ▲ increased 46 percent between 2001–02 and 2014–15; and
- ▲ is projected to increase 11 percent between 2014–15 and 2026–27.

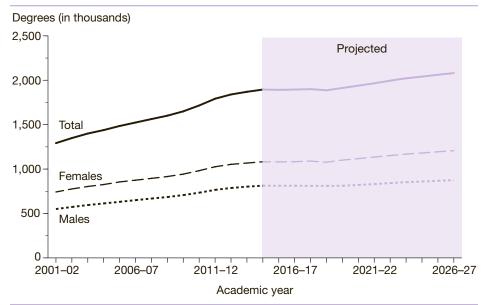
*For more information: Table 21* 





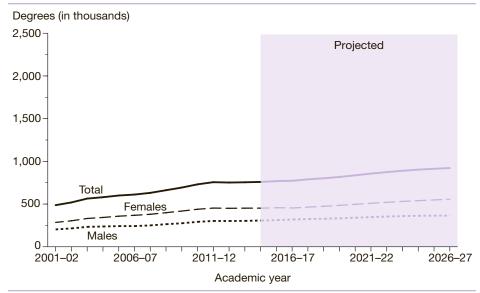
NOTE: Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS); IPEDS Fall 2002 through Fall 2015 Completions component; and Degrees Conferred Projection Model, 1980–81 through 2026–27. (This figure was prepared April 2017.)

## Figure 26. Actual and projected numbers for bachelor's degrees conferred by degree-granting postsecondary institutions, by sex of recipient: Academic years 2001–02 through 2026–27



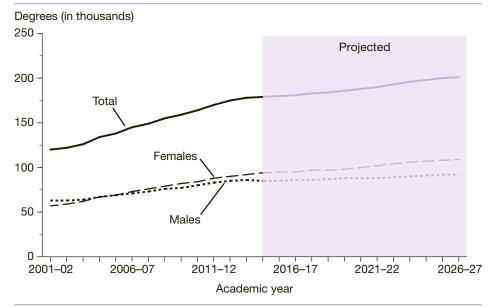
NOTE: Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS); IPEDS Fall 2002 through Fall 2015 Completions component; and Degrees Conferred Projection Model, 1980–81 through 2026–27. (This figure was prepared April 2017.)

# Figure 27. Actual and projected numbers for master's degrees conferred by degree-granting postsecondary institutions, by sex of recipient: Academic years 2001–02 through 2026–27



NOTE: Includes some degrees formerly classified as first-professional such as divinity degrees (M.Div. and M.H.L./Rav). 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 (IPEDS); IPEDS Fall 2002 through Fall 2015 Completions component; and Degrees Conferred Projection Model, 1980–81 through 2026–27. (This figure was prepared April 2017.)

# Figure 28. Actual and projected numbers for doctor's degrees conferred by degree-granting postsecondary institutions, by sex of recipient: Academic years 2001–02 through 2026–27



NOTE: Doctor's degrees include Ph.D., Ed.D., and comparable degrees at the doctoral level. Includes most degrees formerly classified as first-professional, such as M.D., D.D.S., and law degrees. 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 (IPEDS); IPEDS Fall 2002 through Fall 2015 Completions component; and Degrees Conferred Projection Model, 1980–81 through 2026–27. (This figure was prepared April 2017.)

### **Master's degrees**

The total number of master's degrees

- ▲ increased 56 percent between 2001–02 and 2014–15; and
- ▲ is projected to increase 22 percent between 2014–15 and 2026–27.

The number of master's degrees awarded to males

- ▲ increased 51 percent between 2001–02 and 2014–15; and
- ▲ is projected to increase 19 percent between 2014–15 and 2026–27.

The number of master's degrees awarded to females

- ▲ increased 59 percent between 2001–02 and 2014–15; and
- ▲ is projected to increase 23 percent between 2014–15 and 2026–27.

*For more information: Table 21* 

### **Doctor's degrees**

The total number of doctor's degrees

- ▲ increased 49 percent between 2001–02 and 2014–15; and
- ▲ is projected to increase 13 percent between 2014–15 and 2026–27.

The number of doctor's degrees awarded to males

- ▲ increased 35 percent between 2001–02 and 2014–15; and
- ▲ is projected to increase 8 percent between 2014–15 and 2026–27.

The number of doctor's degrees awarded to females

- ▲ increased 64 percent between 2001–02 and 2014–15; and
- ▲ is projected to increase 17 percent between 2014–15 and 2026–27.

For more information: Table 21 This page intentionally left blank.

# **Reference Tables**

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# Table 1. Enrollment in elementary, secondary, and degree-granting postsecondary institutions, by level and control of institution: Selected years, 1869–70 through fall 2026 [In thousands]

			Public elemen	itary and secor	ndary schools	Private eleme	entary and second	dary schools <sup>1</sup>	Degree-granting	g postsecondar	y institutions <sup>2</sup>
Year	Total enrollment, all levels	Elementary and secondary, total	Total	Prekinder- garten through grade 8	Grades 9 through 12	Total	Prekinder- garten through grade 8	Grades 9 through 12	Total	Public	Private
1	2	3	4	5	6	7	8	9	10	11	12
1869–70	_	_	6,872	6,792	80	_		_	52	_	_
1879–80	_	_	9,868	9,757	110	_	_	_	116	_	_
1889–90	14,491	14,334	12,723	12,520	203	1,611	1,516	95	157	_	_
1899–1900	17,092	16,855	15,503	14,984	519	1,352	1,241	111	238	—	—
1909–10	19,728	19,372	17,814	16,899	915	1,558	1,441	117	355	—	_
1919–20	23,876	23,278	21,578	19,378	2,200	1,699	1,486	214	598	_	_
1929–30	29,430	28,329	25,678	21,279	4,399	2,651	2,310	341	1,101	_	_
1939–40	29,539	28,045	25,434	18,832	6,601	2,611	2,153	458	1,494	797	698
1949–50	31,151	28,492	25,111	19,387	5,725	3,380	2,708	672	2,659	1,355	1,304
Fall 1959	44,497	40,857	35,182	26,911	8,271	5,675 5,500 <sup>3</sup>	4,640 4,200 <sup>3</sup>	1,035 1,300 <sup>3</sup>	3,640	2,181	1,459
Fall 1969 Fall 1979	59,055 58,221	51,050 46,651	45,550 41,651	32,513 28,034	13,037 13,616	5,000 <sup>3</sup>	4,200 <sup>3</sup>	1,300 <sup>3</sup>	8,005 11,570	5,897 9,037	2,108 2,533
Fall 1985	57,226	40,031	39,422	27,034	12,388	5,557	4,195	1,362	12,247	9,037	2,333
						· · · · ·					
Fall 1990	60,683	46,864	41,217	29,876	11,341	5,648 <sup>3</sup>	4,512 <sup>3</sup>	1,136 <sup>3</sup>	13,819	10,845	2,974
Fall 1991 Fall 1992	62,087	47,728	42,047	30,503	11,544	5,681 5,870 <sup>3</sup>	4,550 4,746 <sup>3</sup>	1,131 1,125 <sup>3</sup>	14,359	11,310	3,049
Fall 1992	63,181 63,837	48,694 49,532	42,823 43,465	31,086 31,502	11,737 11,963	6,067	4,746	1,125	14,487 14,305	11,385 11,189	3,103 3,116
Fall 1994	64,385	50,106	44,111	31,896	12,215	5,994 <sup>3</sup>	4,856 <sup>3</sup>	1,138 <sup>3</sup>	14,279	11,134	3,145
		-		-	-						
Fall 1995	65,020	50,759	44,840	32,338	12,502	5,918	4,756	1,163	14,262	11,092	3,169
Fall 1996 Fall 1997	65,911 66,574	51,544 52,071	45,611 46,127	32,762 33,071	12,849 13,056	5,933 <sup>3</sup> 5,944	4,755 <sup>3</sup> 4,759	1,178 <sup>3</sup> 1,185	14,368 14,502	11,120 11,196	3,247 3,306
Fall 1998	67,033	52,526	46,127	33,344	13,195	5,988 <sup>3</sup>	4,739 4,776 <sup>3</sup>	1,212 <sup>3</sup>	14,502	11,138	3,369
Fall 1999	67,725	52,875	46,857	33,486	13,371	6,018	4,789	1,229	14,850	11,376	3,474
Fall 2000	68,685	53,373	47,204	33,686	13,517	6,169 <sup>3</sup>	4,906 <sup>3</sup>	1,264 <sup>3</sup>	15,312	11,753	3,560
Fall 2001	69,920	53,992	47,672	33,936	13,736	6,320	5,023	1,296	15,928	12,233	3,695
Fall 2002	71,015	54,403	48,183	34,114	14,069	6,220 <sup>3</sup>	4,915 <sup>3</sup>	1,306 <sup>3</sup>	16,612	12,752	3,860
Fall 2003	71,551	54,639	48,540	34,201	14,339	6,099	4,788	1.311	16.911	12,859	4,053
Fall 2004	72,154	54,882	48,795	34,178	14,618	6,087 <sup>3</sup>	4,756 <sup>3</sup>	1,331 <sup>3</sup>	17,272	12,980	4,292
Fall 2005	72,674	55,187	49,113	34,204	14,909	6,073	4,724	1,349	17,487	13,022	4,466
Fall 2006	73,066	55,307	49,316	34,235	15,081	5,991 <sup>3</sup>	4,631 <sup>3</sup>	1,360 <sup>3</sup>		13,180	4,579
Fall 2007	73,449	55,201	49,291	34,204	15,086	5,910	4,546	1,364	18,248	13,491	4,757
Fall 2008	74,076	54,973	49,266	34,286	14,980	5,707 <sup>3</sup>	4,365 <sup>3</sup>	1,342 <sup>3</sup>		13,972	5,131
Fall 2009	75,163	54,849	49,361	34,409	14,952	5,488	4,179	1,309	20,314	14,811	5,503
Fall 2010	75,886	54,867	49,484	34,625	14,860	5,382 <sup>3</sup>	4,084 <sup>3</sup>	1,299 <sup>3</sup>	21,019	15,142	5,877
Fall 2011	75,800	54,790	49,522	34,773	14,749	5,268	3,977	1,291	21,011	15,116	5,894
Fall 2012	75,748	55,104	49,771	35,018	14,753	5,333 <sup>3</sup>	4,031 <sup>3</sup>	1,302 <sup>3</sup>		14,885	5,760
Fall 2013 Fall 2014	75,817 75,843	55,440 55,635	50,045 50,313	35,251 35,370	14,794 14,943	5,396 5,323 <sup>3</sup>	4,084 3,988 <sup>3</sup>	1,312 1,334 <sup>3</sup>	20,377 20,207	14,747 14,655	5,630 5,552
				-	-		· · · · ·				
Fall 2015 <sup>4</sup>	75,740	55,763	50,485	35,414	15,070	5,278	3,949	1,329	19,977	14,568	5,409
Fall 2016 <sup>4</sup>	76,044	55,859	50,625	35,514	15,111	5,234	3,918	1,316	20,185	14,844	5,341
Fall 2017 <sup>4</sup> Fall 2018 <sup>4</sup>	76,304	55,891	50,710	35,562	15,148	5,181	3,879	1,303	20,413	15,003	5,410 5,481
Fall 2019 <sup>4</sup>	76,580 76,957	55,892 55,947	50,759 50,843	35,593 35,657	15,166 15,186	5,133 5,104	3,852 3,845	1,281 1,259	20,688 21,009	15,206 15,443	5,481
				-							
Fall 2020 <sup>4</sup> Fall 2021 <sup>4</sup>	77,425	56,079	50,996	35,667	15,329	5,083	3,849	1,234	21,346	15,684	5,662
Fall 2021 <sup>-</sup>	77,875 78,244	56,216 56,356	51,152	35,639 35,660	15,513 15,641	5,064 5,055	3,855 3,863	1,210	21,659	15,910 16,078	5,749 5,810
Fall 2022	78,244 78,637	56,513	51,301 51,455	35,660	15,641	5,055 5,058	3,863	1,192 1,176	21,888 22,124	16,078	5,810
Fall 2022 <sup>4</sup> Fall 2023 <sup>4</sup> Fall 2023 <sup>4</sup>	78,963	56,632	51,562	35,982	15,579	5,070	3,902	1,169	22,331	16,407	5,924
				-	-						
Fall 2025 <sup>4</sup> Fall 2026 <sup>4</sup>	79,218	56,715	51,632	36,156	15,476	5,083	3,921	1,161	22,504	16,541	5,962
Fall 2020	79,465	56,834	51,738	36,362	15,376	5,096	3,942	1,154	22,631	16,642	5,990

#### -Not available.

<sup>1</sup>Beginning in fall 1985, data include estimates for an expanded universe of private schools. Therefore, direct comparisons with earlier years should be avoided. <sup>2</sup>Data for 1869–70 through 1949–50 include resident degree-credit students enrolled at any

<sup>2</sup>Data for 1869–70 through 1949–50 include resident degree-credit students enrolled at any time during the academic year. Beginning in 1959, data include all resident and extension students enrolled at the beginning of the fall term.

<sup>3</sup>Estimated.

<sup>4</sup>Projected data. Fall 2015 data for degree-granting institutions are actual. NOTE: Data for 1869–70 through 1949–50 reflect enrollment for the entire school year. Elementary and secondary enrollment includes students in local public school systems and in most private schools (religiously affiliated and nonsectarian), but generally excludes homeschooled children and students in subcollegiate departments of colleges and in federal schools. Excludes preprimary pupils in private schools that do not offer kindergarten or above. Postsecondary data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting institutions for the degree-granting but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.

sum to totals because of rounding. SOURCE: U.S. Department of Education, National Center for Education Statistics, Annual Report of the Commissioner of Education, 1870 to 1910; Biennial Survey of Education in the United States, 1919–20 through 1949–50; Statistics of Public Elementary and Secondary Schools, 1959 through 1980; 1985–86 Private School Survey; Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary and Secondary Education," 1985–86 through 2014–15; Private School Universe Survey (PSS), 1991–92 through 2013–14; National Elementary and Secondary Enrollment Projection Model, 1972 through 2026; Opening (Fall) Enrollment in Higher Education, 1959; Higher Education" survey, "Fall Enrollment Survey" (IPEDS), "Fall Enrollment in Institutions of Higher Education" survey, "Fall Enrollment Survey" (IPEDS-EF:90–99); IPEDS Spring 2001 through Spring 2016, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. (This table was prepared February 2017.)

## Table 2. Enrollment in public elementary and secondary schools, by level and grade: Selected years, fall 1980 through fall 2026 [In thousands]

							Eleme	entary								Secor	ndary		
Year	All grades	Total	Pre- kinder- garten	Kinder- garten	1st grade	2nd grade	3rd grade	4th grade	5th grade	6th grade	7th grade	8th grade	Un- graded	Total	9th grade	10th grade	11th grade	12th grade	Un- graded <sup>1</sup>
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1980	40,877	27,647	96	2,593	2,894	2,800	2,893	3,107	3,130	3,038	3,085	3,086	924	13,231	3,377	3,368	3,195	2,925	366
1985	39,422	27,034	151	3,041	3,239	2,941	2,895	2,771	2,776	2,789	2,938	2,982	511	12,388	3,439	3,230	2,866	2,550	303
1990	41,217	29,876	303	3,306	3,499	3,327	3,297	3,248	3,197	3,110	3,067	2,979	541	11,341	3,169	2,896	2,612	2,381	284
1991	42,047	30,503	375	3,311	3,556	3,360	3,334	3,315	3,268	3,239	3,181	3,020	542	11,544	3,313	2,915	2,645	2,392	278
1992	42,823	31,086	505	3,313	3,542	3,431	3,361	3,342	3,325	3,303	3,299	3,129	536	11,737	3,352	3,027	2,656	2,431	272
1993 1994 1995 1996 1997	43,465 44,111 44,840 45,611 46,127	31,502 31,896 32,338 32,762 33,071	545 603 637 670 695	3,377 3,444 3,536 3,532 3,503	3,529 3,593 3,671 3,770 3,755	3,429 3,440 3,507 3,600 3,689	3,437 3,439 3,445 3,524 3,597	3,361 3,426 3,431 3,454 3,507	3,350 3,372 3,438 3,453 3,453 3,458	3,356 3,381 3,395 3,494 3,492	3,355 3,404 3,422 3,464 3,520	3,249 3,302 3,356 3,403 3,415	513 492 500 399 440	11,963 12,215 12,502 12,849 13,056	3,487 3,604 3,704 3,801 3,819	3,050 3,131 3,237 3,323 3,376	2,751 2,748 2,826 2,930 2,972	2,424 2,488 2,487 2,586 2,673	250 244 247 208 216
1998	46,539	33,344	729	3,443	3,727	3,681	3,696	3,592	3,520	3,497	3,530	3,480	449	13,195	3,856	3,382	3,021	2,722	214
1999	46,857	33,486	751	3,397	3,684	3,656	3,691	3,686	3,604	3,564	3,541	3,497	415	13,371	3,935	3,415	3,034	2,782	205
2000	47,204	33,686	776	3,382	3,636	3,634	3,676	3,711	3,707	3,663	3,629	3,538	334	13,517	3,963	3,491	3,083	2,803	177
2001	47,672	33,936	865	3,379	3,614	3,593	3,653	3,695	3,727	3,769	3,720	3,616	304	13,736	4,012	3,528	3,174	2,863	159
2002	48,183	34,114	915	3,434	3,594	3,565	3,623	3,669	3,711	3,788	3,821	3,709	285	14,069	4,105	3,584	3,229	2,990	161
2003	48,540	34,201	950	3,503	3,613	3,544	3,611	3,619	3,685	3,772	3,841	3,809	255	14,339	4,190	3,675	3,277	3,046	150
2004	48,795	34,178	990	3,544	3,663	3,560	3,580	3,612	3,635	3,735	3,818	3,825	215	14,618	4,281	3,750	3,369	3,094	122
2005	49,113	34,204	1,036	3,619	3,691	3,606	3,586	3,578	3,633	3,670	3,777	3,802	205	14,909	4,287	3,866	3,454	3,180	121
2006	49,316	34,235	1,084	3,631	3,751	3,641	3,627	3,586	3,602	3,660	3,716	3,766	170	15,081	4,260	3,882	3,551	3,277	110
2007	49,291	34,204	1,081	3,609	3,750	3,704	3,659	3,624	3,600	3,628	3,700	3,709	139	15,086	4,200	3,863	3,557	3,375	92
2008	49,266	34,286	1,180	3,640	3,708	3,699	3,708	3,647	3,629	3,614	3,653	3,692	117	14,980	4,123	3,822	3,548	3,400	87
2009	49,361	34,409	1,223	3,678	3,729	3,665	3,707	3,701	3,652	3,644	3,641	3,651	119	14,952	4,080	3,809	3,541	3,432	90
2010	49,484	34,625	1,279	3,682	3,754	3,701	3,686	3,711	3,718	3,682	3,676	3,659	77	14,860	4,008	3,800	3,538	3,472	42
2011	49,522	34,773	1,291	3,746	3,773	3,713	3,703	3,672	3,699	3,724	3,696	3,679	77	14,749	3,957	3,751	3,546	3,452	43
2012	49,771	35,018	1,307	3,831	3,824	3,729	3,719	3,690	3,673	3,723	3,746	3,699	76	14,753	3,975	3,730	3,528	3,477	43
2013	50,045	35,251	1,328	3,834	3,885	3,791	3,738	3,708	3,697	3,684	3,748	3,753	85	14,794	3,980	3,761	3,526	3,476	52
2014	50,313	35,370	1,369	3,772	3,863	3,857	3,806	3,719	3,719	3,710	3,710	3,757	87	14,943	4,033	3,794	3,568	3,496	52
										Projected									
2015 2016 2017 2018 2019	50,485 50,625 50,710 50,759 50,843	35,414 35,514 35,562 35,593 35,657	1,373 1,378 1,372 1,373 1,384	3,783 3,797 3,781 3,783 3,812	3,754 3,765 3,778 3,762 3,764	3,836 3,727 3,738 3,750 3,735	3,870 3,848 3,739 3,750 3,763	3,798 3,861 3,840 3,731 3,742	3,727 3,806 3,870 3,848 3,739	3,735 3,742 3,822 3,886 3,864	3,734 3,760 3,767 3,848 3,912	3,717 3,742 3,768 3,775 3,856	87 87 87 87 87	15,070 15,111 15,148 15,166 15,186	4,036 3,994 4,021 4,048 4,056	3,844 3,848 3,808 3,833 3,859	3,599 3,647 3,651 3,613 3,637	3,538 3,570 3,617 3,620 3,583	52 52 52 52 52 52
2020	50,996	35,667	1,394	3,840	3,793	3,737	3,747	3,755	3,750	3,755	3,890	3,920	87	15,329	4,143	3,867	3,661	3,606	52
2021	51,152	35,639	1,404	3,867	3,821	3,766	3,749	3,739	3,762	3,766	3,780	3,898	87	15,513	4,212	3,949	3,669	3,631	52
2022	51,301	35,660	1,414	3,894	3,848	3,793	3,778	3,741	3,747	3,778	3,791	3,788	87	15,641	4,188	4,015	3,747	3,638	53
2023	51,455	35,815	1,423	3,920	3,875	3,821	3,806	3,770	3,749	3,763	3,804	3,799	87	15,640	4,070	3,993	3,809	3,716	53
2024	51,562	35,982	1,431	3,943	3,900	3,847	3,833	3,798	3,778	3,765	3,788	3,812	88	15,579	4,081	3,880	3,788	3,778	52
2025	51,632	36,156	1,439	3,964	3,924	3,872	3,860	3,825	3,805	3,794	3,790	3,796	88	15,476	4,095	3,891	3,681	3,757	52
2026	51,738	36,362	1,445	3,981	3,944	3,896	3,885	3,851	3,833	3,822	3,819	3,798	89	15,376	4,078	3,904	3,691	3,651	52

<sup>1</sup>Includes students reported as being enrolled in grade 13.

NOTE: Due to changes in reporting and imputation practices, prekindergarten enrollment for years prior to 1992 represent an undercount compared to later years. The total ungraded counts of students were prorated to the elementary and secondary levels based on prior reports. Detail may not sum to totals because of rounding. SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary School Systems, 1980–81*; Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1985–86 through 2014–15; and National Elementary and Secondary Enrollment Projection Model, 1972 through 2026. (This table was prepared December 2016.)

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# Table 3. Enrollment in public elementary and secondary schools, by region, state, and jurisdiction: Selected years, fall 1990 through fall 2026

Region, state,						Act	ual total enrolln	nent					
and jurisdiction	Fall 1990	Fall 2000	Fall 2004	Fall 2005	Fall 2006	Fall 2007	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014
1	2	3	4	5	6	7	8	9	10	11	12	13	14
United States	41,216,683	47,203,539	48,795,465	49,113,298	49,315,842	49,290,559	49,265,572	49,360,982	49,484,181	49,521,669	49,771,118	50,044,522	50,312,581
Region Northeast Midwest South West State	7,281,763 9,943,761 14,807,016 9,184,143	8,222,127 10,729,987 17,007,261 11,244,164	8,271,259 10,775,409 17,891,987 11,856,810	8,240,160 10,818,815 18,103,166 11,951,157	8,257,889 10,819,248 18,293,633 11,945,072	8,122,022 10,770,210 18,422,773 11,975,554	8,052,985 10,742,973 18,490,770 11,978,844	8,092,029 10,672,171 18,651,889 11,944,893	8,071,335 10,609,604 18,805,000 11,998,242	7,953,981 10,573,792 18,955,932 12,037,964	7,959,128 10,559,230 19,128,376 12,124,384	7,961,243 10,572,920 19,298,714 12,211,645	7,979,856 10,560,539 19,506,193 12,265,993
Alabama	721,806	739,992	730,140	741,761	743,632	742,919	745,668	748,889	755,552	744,621	744,637	746,204	744,164
Alaska	113,903	133,356	132,970	133,288	132,608	131,029	130,662	131,661	132,104	131,167	131,489	130,944	131,176
Arizona	639,853	877,696	1,043,298	1,094,454	1,068,249	1,087,447	1,087,817	1,077,831	1,071,751	1,080,319	1,089,384	1,102,445	1,111,695
Arkansas	436,286	449,959	463,115	474,206	476,409	479,016	478,965	480,559	482,114	483,114	486,157	489,979	490,917
California	4,950,474	6,140,814	6,441,557	6,437,202	6,406,750	6,343,471	6,322,528	6,263,438	6,289,578	6,287,834	6,299,451	6,312,623	6,312,161
Colorado	574,213	724,508	765,976	779,826	794,026	801,867	818,443	832,368	843,316	854,265	863,561	876,999	889,006
Connecticut	469,123	562,179	577,390	575,059	575,100	570,626	567,198	563,968	560,546	554,437	550,954	546,200	542,678
Delaware	99,658	114,676	119,091	120,937	122,254	122,574	125,430	126,801	129,403	128,946	129,026	131,687	134,042
District of Columbia	80,694	68,925	76,714	76,876	72,850	78,422	68,681	69,433	71,284	73,911	76,140	78,153	80,958
Florida	1,861,592	2,434,821	2,639,336	2,675,024	2,671,513	2,666,811	2,631,020	2,634,522	2,643,347	2,668,156	2,692,162	2,720,744	2,756,944
Georgia	1,151,687	1,444,937	1,553,437	1,598,461	1,629,157	1,649,589	1,655,792	1,667,685	1,677,067	1,685,016	1,703,332	1,723,909	1,744,437
Hawaii	171,708	184,360	183,185	182,818	180,728	179,897	179,478	180,196	179,601	182,706	184,760	186,825	182,384
Idaho	220,840	245,117	256,084	261,982	267,380	272,119	275,051	276,299	275,859	279,873	284,834	296,476	290,885
Illinois	1,821,407	2,048,792	2,097,503	2,111,706	2,118,276	2,112,805	2,119,707	2,104,175	2,091,654	2,083,097	2,072,880	2,066,990	2,050,239
Indiana	954,525	989,267	1,021,348	1,035,074	1,045,940	1,046,764	1,046,147	1,046,661	1,047,232	1,040,765	1,041,369	1,047,385	1,046,269
lowa	483,652	495,080	478,319	483,482	483,122	485,115	487,559	491,842	495,775	495,870	499,825	502,964	505,311
Kansas	437,034	470,610	469,136	467,525	469,506	468,295	471,060	474,489	483,701	486,108	489,043	496,440	497,275
Kentucky	636,401	665,850	674,796	679,878	683,152	666,225	670,030	680,089	673,128	681,987	685,167	677,389	688,640
Louisiana	784,757	743,089	724,281	654,526	675,851	681,038	684,873	690,915	696,558	703,390	710,903	711,491	716,800
Maine	215,149	207,037	198,820	195,498	193,986	196,245	192,935	189,225	189,077	188,969	185,739	183,995	182,470
Maryland	715,176	852,920	865,561	860,020	851,640	845,700	843,861	848,412	852,211	854,086	859,638	866,169	874,514
Massachusetts	834,314	975,150	975,574	971,909	968,661	962,958	958,910	957,053	955,563	953,369	954,773	955,739	955,844
Michigan	1,584,431	1,720,626	1,751,290	1,742,282	1,722,656	1,692,739	1,659,921	1,649,082	1,587,067	1,573,537	1,555,370	1,548,841	1,537,922
Minnesota	756,374	854,340	838,503	839,243	840,565	837,578	836,048	837,053	838,037	839,738	845,404	850,973	857,235
Mississippi	502,417	497,871	495,376	494,954	495,026	494,122	491,962	492,481	490,526	490,619	493,650	492,586	490,917
Missouri	816,558	912,744	905,449	917,705	920,353	917,188	917,871	917,982	918,710	916,584	917,900	918,288	917,785
Montana	152,974	154,875	146,705	145,416	144,418	142,823	141,899	141,807	141,693	142,349	142,908	144,129	144,532
Nebraska	274,081	286,199	285,761	286,646	287,580	291,244	292,590	295,368	298,500	301,296	303,505	307,677	312,635
Nevada	201,316	340,706	400,083	412,395	424,766	429,362	433,371	428,947	437,149	439,634	445,707	451,831	459,189
New Hampshire	172,785	208,461	206,852	205,767	203,572	200,772	197,934	197,140	194,711	191,900	188,974	186,310	184,670
New Jersey	1,089,646	1,313,405	1,393,347	1,395,602	1,388,850	1,382,348	1,381,420	1,396,029	1,402,548	1,356,431	1,372,203	1,370,295	1,400,579
New Mexico	301,881	320,306	326,102	326,758	328,220	329,040	330,245	334,419	338,122	337,225	338,220	339,244	340,365
New York	2,598,337	2,882,188	2,836,337	2,815,581	2,809,649	2,765,435	2,740,592	2,766,052	2,734,955	2,704,718	2,710,703	2,732,770	2,741,185
North Carolina	1,086,871	1,293,638	1,385,754	1,416,436	1,444,481	1,489,492	1,488,645	1,483,397	1,490,605	1,507,864	1,518,465	1,530,857	1,548,895
North Dakota	117,825	109,201	100,513	98,283	96,670	95,059	94,728	95,073	96,323	97,646	101,111	103,947	106,586
Ohio	1,771,089	1,835,049	1,840,032	1,839,683	1,836,722	1,827,184	1,817,163	1,764,297	1,754,191	1,740,030	1,729,916	1,724,111	1,724,810
Oklahoma	579,087	623,110	629,476	634,739	639,391	642,065	645,108	654,802	659,911	666,120	673,483	681,848	688,511
Oregon	472,394	546,231	552,505	552,194	562,574	565,586	575,393	582,839	570,720	568,208	587,564	593,000	601,318
Pennsylvania	1,667,834	1,814,311	1,828,089	1,830,684	1,871,060	1,801,971	1,775,029	1,785,993	1,793,284	1,771,395	1,763,677	1,755,236	1,743,160
Rhode Island	138,813	157,347	156,498	153,422	151,612	147,629	145,342	145,118	143,793	142,854	142,481	142,008	141,959
South Carolina	622,112	677,411	703,736	701,544	708,021	712,317	718,113	723,143	725,838	727,186	735,998	745,657	756,523
South Dakota	129,164	128,603	122,798	122,012	121,158	121,606	126,429	123,713	126,128	128,016	130,471	130,890	133,040
Tennessee	824,595	909,161	941,091	953,928	978,368	964,259	971,950	972,549	987,422	999,693	993,496	993,556	995,475
Texas	3,382,887	4,059,619	4,405,215	4,525,394	4,599,509	4,674,832	4,752,148	4,850,210	4,935,715	5,000,470	5,077,659	5,153,702	5,233,765
Utah	446,652	481,485	503,607	508,430	523,386	576,244	559,778	571,586	585,552	598,832	613,279	625,461	635,577
Vermont	95,762	102,049	98,352	96,638	95,399	94,038	93,625	91,451	96,858	89,908	89,624	88,690	87,311
Virginia	998,601	1,144,915	1,204,739	1,213,616	1,220,440	1,230,857	1,235,795	1,245,340	1,251,440	1,257,883	1,265,419	1,273,825	1,280,381
Washington	839,709	1,004,770	1,020,005	1,031,985	1,026,774	1,030,247	1,037,018	1,035,347	1,043,788	1,045,453	1,051,694	1,058,936	1,073,638
West Virginia	322,389	286,367	280,129	280,866	281,939	282,535	282,729	282,662	282,879	282,870	283,044	280,958	280,310
Wisconsin	797,621	879,476	864,757	875,174	876,700	874,633	873,750	872,436	872,286	871,105	872,436	874,414	871,432
Wyoming	98,226	89,940	84,733	84,409	85,193	86,422	87,161	88,155	89,009	90,099	91,533	92,732	94,067
Jurisdiction Bureau of Indian Education DoD, overseas DoD, domestic Other jurisdictions		46,938 73,581 34,174	45,828 68,327 29,151	50,938 62,543 28,329	60,891 26,631	57,247 27,548	40,927 56,768 28,013	41,351 	41,962 			_ _ _	
American Samoa Guam Northern Marianas Puerto Rico U.S. Virgin Islands	12,463 26,391 6,449 644,734 21,750	15,702 32,473 10,004 612,725 19,459	16,126 30,605 11,601 575,648 16,429	16,438 30,986 11,718 563,490 16,750	16,400 	 11,299 526,565 15,903		 10,961 493,393 15,493	31,618 11,105 473,735 15,495	31,243 11,011 452,740 15,711	31,186 10,646 434,609 15,192		31,144 410,950 14,241

See notes at end of table.

## Table 3. Enrollment in public elementary and secondary schools, by region, state, and jurisdiction: Selected years, fall 1990 through fall 2026—Continued

Pagian state	Percent change			Projected total	enrollment			Percent change
Region, state, and jurisdiction	in total enrollment, 2009 to 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2020	Fall 2026	in total enrollment, 2014 to 2026
1	15	16	17	18	19	20	21	22
United States	1.9	50,484,900	50,624,900	50,709,700	50,759,300	50,996,200	51,737,900	2.8
Region		7 0 47 000	7.922.300	7 007 000	7 000 500	7 011 100	7 500 500	5.0
Northeast Midwest	-1.4 -1.0	7,947,000 10,542,400	10,525,200	7,897,000 10,494,300	7,863,500 10,459,100	7,811,100 10,404,900	7,583,500 10,234,500	-5.0 -3.1
South	4.6	19,687,200	19,838,400	19,956,100	20,053,100	20,308,300	21,131,300	8.3
West	2.7	12,308,200	12,339,000	12,362,300	12,383,700	12,471,800	12,788,600	4.3
State								
Alabama	-0.6	740,200	735,900	731,900	728,500	725,900	724,800	-2.6
Alaska Arizona	-0.4 3.1	131,800 1,119,200	132,900 1,126,900	133,600 1,133,800	134,400 1,143,700	136,700 1,168,800	142,100 1,258,900	8.4 13.2
Arkansas	2.2	491,600	492,300	492,500	492,600	493,700	500,400	1.9
California	0.8	6,294,600	6,275,200	6,255,600	6,232,100	6,215,200	6,202,400	-1.7
Colorado	6.8	901,100	910,200	917,700	923,800	936,900	982,300	10.5
Connecticut	-3.8	535,800	529,500	522,400	515,200	502,100	465,000	-14.3
Delaware	5.7	135,500	137,200	138,700	139,900	142,600	146,700	9.5
District of Columbia	16.6	83,500	86,300	89,300	92,200	98,600	114,700	41.7
Florida	4.6	2,789,500	2,818,700	2,840,900	2,863,300	2,919,000	3,104,600	12.6
Georgia	4.6	1,761,200	1,774,700	1,784,400	1,793,300	1,817,000	1,912,900	9.7
Hawaii Idaho	1.2 5.3	187,000 292,100	188,500 293,100	189,800 293,400	190,900 293,500	193,300 293,900	193,900 301,600	6.3 3.7
Illinois	-2.6	2,043,700	2,038,700	2,031,000	2,022,300	2,003,100	1,938,900	-5.4
Indiana	#	1,043,500	1,040,100	1,035,400	1,030,200	1,020,800	1,012,900	-3.2
lowa	2.7	508,200	510,100	511,200	511,800	514,500	514,800	1.9
Kansas	4.8	499,200	500,500	501,200	501,400	503,400	506,400	1.8
Kentucky	1.3	692,600	696,000	699,500	702,100	708,400	718,900	4.4
Louisiana Maine	3.7 -3.6	720,800 180,700	723,700 178,700	725,600 176,900	725,400 175,000	729,100 171,800	736,300 161,200	2.7 -11.7
	3.1	882,800	891,200	899,100	905,100		926,900	6.0
Maryland Massachusetts	-0.1	953,900	950,900	947,600	905,100	917,300 937,600	926,900	-3.6
Michigan	-6.7	1,520,900	1,504,800	1,487,400	1,469,700	1,440,800	1,378,400	-10.4
Minnesota	2.4	866,200	873,100	878,700	883,700	892,500	896,500	4.6
Mississippi	-0.3	489,700	487,500	484,500	480,600	475,700	462,000	-5.9
Missouri	#	917,000	915,600	914,000	912,200	911,700	908,400	-1.0
Montana	1.9 5.8	145,500 315,400	146,500 318,300	147,400 320,500	148,600 322,100	151,100 325,200	159,200 332,900	10.2 6.5
Nebraska Nevada	7.1	464,900	471,000	476,300	481,600	492,700	526,200	14.6
New Hampshire	-6.3	182,300	179,700	177,200	174,600	170,000	159,000	-13.9
New Jersey	0.3	1,389,100	1,385,000	1,380,700	1,375,300	1,365,600	1,322,600	-5.6
New Mexico	1.8	339,900	339,700	338,900	338,500	338,300	340,700	0.1
New York	-0.9	2,746,100	2,751,900	2,755,600	2,754,000	2,757,500	2,714,600	-1.0
North Carolina North Dakota	4.4 12.1	1,562,200 109,500	1,571,600 112,600	1,577,900 115,600	1,579,400 118,800	1,589,400 124,900	1,643,300 136,700	6.1 28.3
				· · ·			,	
Ohio Oklahoma	-2.2 5.1	1,715,000 692,200	1,708,100 697,200	1,698,500 700,700	1,688,900 703.800	1,672,500 711,700	1,626,500 733,200	-5.7 6.5
Oregon	3.2	605,300	608,700	611,600	614,800	623,100	641,900	6.7
Pennsylvania	-2.4	1,731,500	1,720,500	1,711,600	1,701,000	1,684,700	1,625,700	-6.7
Rhode Island	-2.2	141,500	140,700	140,800	140,700	139,200	135,100	-4.8
South Carolina	4.6	765,500	772,400	777,800	782,300	793,900	820,700	8.5
South Dakota Tennessee	7.5 2.4	133,900 997,500	135,600 999,200	136,900 1,000,200	138,200 1,001,500	140,900 1,008,400	143,100 1,039,600	7.6 4.4
Texas	7.9	5,314,600	5,381,000	5.435.900	5,485,000	5,594,600	5,948,400	13.7
Utah	11.2	646,200	655,300	663,100	670,700	688,200	750,700	18.1
Vermont	-4.5	86,100	85,300	84,400	83,700	82,600	78,800	-9.8
Virginia	2.8	1,288,300	1,294,700	1,299,300	1,301,200	1,308,100	1,325,400	3.5
Washington West Virginia	3.7 -0.8	1,084,900 279,600	1,094,700 278,900	1,103,700 278,000	1,112,800 276,800	1,133,800 274,900	1,185,700 272,500	10.4 -2.8
Wisconsin	-0.1	869,900	867,800	863,900	859,900	854,700	838,800	-3.7
Wyoming	6.7	95,400	96,400	97,400	98,200	100,000	102,800	9.3
Jurisdiction								
Bureau of Indian Education								
DoD, overseas	_							_
DoD, domestic	_	_	_	_	_	_	_	_
Other jurisdictions								
American Samoa Guam	_	—	—		—			
Northern Marianas	_			_				_
Puerto Rico	-16.7	_	_	_	_	_	_	_
U.S. Virgin Islands	-8.1	_	_	_	_	_	_	_

-Not available.

#Rounds to zero.

NOTE: DoD = Department of Defense. Detail may not sum to totals because of rounding. 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), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1990–91 through 2014–15; and State Public Elementary and Secondary Enrollment Projection Model, 1980 through 2026. (This table was prepared November 2016.)

# Table 4. Public school enrollment in prekindergarten through grade 8, by region, state, and jurisdiction: Selected years, fall 1990 through fall 2026

						A	ctual enrollmer	nt					
Region, state, and jurisdiction	Fall 1990	Fall 2000	Fall 2004	Fall 2005	Fall 2006	Fall 2007	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014
1	2	3	4	5	6	7	8	9	10	11	12	13	14
United States	29,875,914	33,686,421	34,177,565	34,203,962	34,234,751	34,204,081	34,285,564	34,409,260	34,624,530	34,772,751	35,017,893	35,250,792	35,369,694
Region	E 100 70E	E 000 070	E 600 004	E 600 0EE	E E70 700	E E04 400	E 476 004	E 404 000	E E 40 076	E 470 174	E 400 000	E E00 01E	E E10 104
Northeast Midwest	5,188,795 7,129,501	5,839,970 7,523,246	5,689,094 7,438,674	5,622,955 7,425,308	5,573,729 7,404,578	5,504,400 7,359,028	5,476,224 7,373,391	5,494,080 7,361,959	5,540,276 7,349,334	5,479,174 7,358,792	5,493,308 7,368,484	5,502,015 7,394,141	5,519,184 7,374,598
South	10,858,800	12,314,176	12,780,160	12,881,836	12,989,696	13,085,045	13,166,980	13,300,643	13,434,553	13,578,211	13,711,284	13,830,129	13,917,451
West	6,698,818	8,009,029	8,269,637	8,273,863	8,266,748	8,255,608	8,268,969	8,252,578	8,300,367	8,356,574	8,444,817	8,524,507	8,558,461
State													
Alabama	527,097	538,634	521,757	529,347	528,664	525,978	528,078	529,394	533,612	527,006	527,434	527,499	523,096
Alaska Arizona	85,297 479,046	94,442 640,564	91,981 722,203	91,225 739,535	90,167 759,656	88,980 771,056	89,263 771,749	90,824 760,420	91,990 751,992	92,057 759,494	93,069 767,734	92,714 775,280	92,745 780,123
Arkansas	313,505	318,023	328,187	335,746	336,552	339,920	341,603	344,209	345,808	346,022	347,631	349,709	349,174
California	3,613,734	4,407,035	4,507,355	4,465,615	4,410,105	4,328,968	4,306,258	4,264,022	4,293,968	4,308,447	4,331,807	4,357,989	4,360,241
Colorado	419,910	516,566	540,695	549,875	559,041	565,726	580,304	591,378	601,077	610,854	617,510	627,619	634,363
Connecticut	347,396	406,445	404,169	399,705	398,063	394,034	392,218	389,964	387,475	383,377	380,709	377,162	374,888
Delaware	72,606	80,801	83,599	84,639	84,996	85,019	86,811	87,710	90,279	90,624	91,004	93,204	94,696
District of Columbia Florida	61,282 1,369,934	53,692 1,759,902	57,118 1,857,798	55,646 1,873,395	52,391 1,866,562	55,836 1,855,859	50,779 1,849,295	51,656 1,850,901	53,548 1,858,498	56,195 1,876,102	58,273 1,892,560	60,379 1,913,710	62,997 1,933,695
Georgia Hawaii	849,082 122,840	1,059,983 132,293	1,118,379 128,788	1,145,446 127,472	1,166,508 126,008	1,178,577 125.556	1,185,684 125,910	1,194,751 127,477	1,202,479 127,525	1,211,250 131,005	1,222,289 133.590	1,233,877 135,925	1,242,832 131,307
Idaho	160,091	170,421	178.221	182,829	120,000	123,330	193,554	194,728	194,144	198,064	202,203	209,333	205,460
Illinois	1,309,516	1,473,933	1,483,644	1,480,320	1,477,679	1,472,909	1,479,195	1,463,713	1,454,793	1,453,156	1,448,201	1,445,459	1,428,964
Indiana	675,804	703,261	720,006	724,467	730,108	729,550	730,021	730,599	729,414	724,605	725,040	731,035	729,804
lowa	344,804	333,750	324,169	326,160	326,218	329,504	335,566	341,333	348,112	350,152	355,041	357,953	359,449
Kansas	319,648	323,157	321,176	320,513	326,201	326,771	331,079	332,997	342,927	347,129	349,695	355,929	355,305
Kentucky	459,200 586,202	471,429 546,579	485,794 533,751	487,429 482,082	487,165 492,116	469,373 499,549	472,204	484,466 509,883	480,334 512.266	488,456 518,802	491,065 524,792	485,001 523,310	491,766 522,009
Louisiana Maine	155,203	145,701	136,275	133,491	132,338	130,742	504,213 129,324	128,646	128,929	130,046	127,924	127,071	126,109
	526,744	609,043	597,417	588,571	579,065	576,479	576,473	581,785	588,156	594,216	602,802	612,580	620,442
Maryland Massachusetts	604,234	702,575	682,175	675,398	670,628	666,926	666,538	666,551	666,402	666,314	667,267	668,261	666,910
Michigan	1,144,878	1,222,482	1,211,698	1,191,397	1,170,558	1,136,823	1,118,569	1,114,611	1,075,584	1,070,873	1,061,930	1,060,065	1,051,722
Minnesota	545,556	577,766	558,447	557,757	558,445	558,180	560,184	564,661	569,963	575,544	583,363	589,564	594,161
Mississippi	371,641	363,873	361,057	358,030	356,382	353,512	351,807	351,652	350,885	352,999	356,364	356,432	352,884
Missouri	588,070	644,766	628,667	635,142	634,275	631,746	635,411	638,082	642,991	645,376	647,530	649,061	648,864
Montana Nebraska	111,169 198,080	105,226 195,486	98,673 194,816	97,770 195,055	97,021 195,769	96,354 200,095	96,869 202,912	97,868 206,860	98,491 210,292	99,725 213,504	100,819 215,432	101,991 219,122	102,716 222,671
Nevada	149,881	250,720	288,753	295,989	302,953	307,573	308,328	305,512	307,297	309,360	313,730	319,240	324,518
New Hampshire	126,301	147,121	140,241	138,584	136,188	134,359	132,995	132,768	131,576	129,632	128,169	126,933	125,845
New Jersey	783,422	967,533	975,856	970,592	963,418	954,418	956,765	968,332	981,255	947,576	956,070	956,379	982,202
New Mexico	208,087	224,879	227,900	229,552	230,091	229,718	231,415	235,343	239,345	239,481	240,978	241,528	241,105
New York	1,827,418	2,028,906	1,942,575	1,909,028	1,887,284	1,856,315	1,843,080	1,847,003	1,869,150	1,857,574	1,868,561	1,884,845	1,889,428
North Carolina North Dakota	783,132 84,943	945,470 72,421	985,740 67,122	1,003,118 65,638	1,027,067 64,395	1,072,324 63,492	1,058,926 63,955	1,053,801 64,576	1,058,409 66,035	1,074,063 67,888	1,080,090 70,995	1,089,594 73,527	1,092,368 76,165
		-											
Ohio Oklahoma	1,257,580 424,899	1,293,646 445,402	1,267,088 452,942	1,261,331 456,954	1,253,193 459,944	1,241,322 462,629	1,239,494 467,960	1,225,346 476,962	1,222,808 483,464	1,217,226 490,196	1,211,299 496,144	1,208,500 501,504	1,204,872 503,846
Oregon	340,243	379,264	376,933	379,680	380,576	383,598	395,421	404,451	392,601	391,310	409,325	414,405	421,561
Pennsylvania	1,172,164	1,257,824	1,234,828	1,227,625	1,220,074	1,205,351	1,194,327	1,200,446	1,209,766	1,204,850	1,204,732	1,201,169	1,193,762
Rhode Island	101,797	113,545	107,040	103,870	101,996	99,159	97,983	98,184	97,734	97,659	97,809	98,738	99,067
South Carolina	452,033	493,226	504,264	498,030	501,273	504,566	507,602	512,124	515,581	519,389	527,350	533,822	539,800
South Dakota	95,165	87,838	83,891 670,880	83,530 676,576	83,137 691,971	83,424 681,751	87,477 684,549	85,745 686,668	87,936 701,707	90,529	93,204 711,525	94,251 709,668	95,739 707,067
Tennessee Texas	598,111 2,510,955	668,123 2,943,047	3,184,235	3,268,339	3,319,782	3,374,684	3,446,511	3,520,348	3,586,609	712,749 3,636,852	3,690,146	3,742,266	3,783,324
Utah	324,982	333,104	355,445	357,644	371,272	410,258	404,469	413,343	424,979	434,536	444,202	451,332	456,667
Vermont	70,860	70,320	65,935	64,662	63,740	63,096	62,994	62,186	67,989	62,146	62,067	61,457	60,973
Virginia	728,280	815,748	839,687	841,299	841,685	850,444	855,008	864,020	871,446	881,225	889,444	896,573	897,688
Washington	612,597	694,367	695,405	699,482	694,858	697,407	704,794	705,387	714,172	718,184	724,560	730,868	740,320
West Virginia Wisconsin	224,097 565,457	201,201 594,740	197,555 577,950	197,189 583,998	197,573 584,600	198,545 585,212	199,477 589,528	200,313 593,436	201,472 598,479	202,065 602,810	202,371 606,754	201,001 609,675	199,767 606,882
Wyoming	70,941	60,148	57,285	57,195	57,995	59,243	60,635	61,825	62,786	64,057	65,290	66,283	67,335
Jurisdiction	-,		,	,	,		-,	,	, , , ,	,	-,	-,	,>
Bureau of Indian								_					
Education		35,746	33,671	36,133	47 500	44.440	30,612	31,381	31,985	—	—	—	_
DoD, overseas DoD, domestic		59,299 30,697	53,720 26,195	48,691 25,558	47,589 24,052	44,418 24,807	43,931 25,255	-			-	_	_
Other jurisdictions		00,007	20,100	20,000	27,002	27,007	20,200						
American Samoa	9,390	11,895	11,873	11,766	11,763	—	—	—			_	—	_
Guam	19,276	23,698	21,686	21,946	0.501				21,561	21,223	21,166	23,301	21,112
Northern Marianas Puerto Rico	4,918 480,356	7,809 445,524	8,416 408,671	8,427 399,447	8,504 382,647	8,140 372,514	7,816 355,115	7,743 347,638	7,688 334,613	7,703 318,924	7,396 305,048	7,340 294,976	284,246
U.S. Virgin Islands	16,249	13,910	11,650	11,728	11,237	10,770	10,567	10,409	10,518	10,576	10,302	10,283	9,724
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See notes at end of table.

#### Table 4. Public school enrollment in prekindergarten through grade 8, by region, state, and jurisdiction: Selected years, fall 1990 through fall 2026—Continued

Region, state,	Percent change in enrollment,			Projected enro	ollment			Percent change in enrollment,
and jurisdiction	2009 to 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2020	Fall 2026	2014 to 2026
1	15	16	17	18	19	20	21	22
United States	2.8	35,414,400	35,513,900	35,561,600	35,593,500	35,667,100	36,361,700	2.8
Region	0.5	5.488.100	E 479 000	E 456 000	5.433.000	E 286 100	5.222.300	-5.4
Northeast Midwest	0.5 0.2	7,347,400	5,478,200 7,332,500	5,456,900 7,307,700	7,270,500	5,386,100 7,210,000	7,135,800	-3.2
South	4.6	13,995,500	14,095,200	14,183,400	14,273,400	14,449,700	15,026,700	8.0
West	3.7	8,583,300	8,608,000	8,613,600	8,616,600	8,621,300	8,977,000	4.9
State								
Alabama	-1.2	520,500	520,300	520,800	520,900	521,900	519,100	-0.8
Alaska Arizona	2.1 2.6	93,400 787,600	94,500 796,100	95,600 803,100	96,700 809,900	98,200 823,100	100,700 898,000	8.6 15.1
Arkansas	1.4	349,100	349,400	350,100	350,800	353,900	357,200	2.3
California	2.3	4,345,000	4,331,000	4,306,400	4,280,100	4,225,300	4,332,900	-0.6
Colorado	7.3	639,500	643,300	644.700	646,900	652,900	693.000	9.2
Connecticut	-3.9	369,200	364,700	358,600	353,200	343,100	321,500	-14.2
Delaware	8.0	95,900	97,000	97,700	98,400	99,300	101,700	7.4
District of Columbia	22.0	65,600	68,700	71,500	74,400	79,500	89,500	42.0
Florida	4.5	1,951,200	1,973,500	1,994,500	2,014,600	2,051,800	2,179,100	12.7
Georgia	4.0	1,249,200	1,257,000	1,265,000	1,273,000	1,289,900	1,365,000	9.8
Hawaii Idaho	3.0 5.5	136,300 205,200	137,300 204,900	138,200 204,300	138,700 203,800	139,200 203,600	138,300 213,600	5.3 4.0
Illinois	-2.4	1,422,000	1,414,200	1,403,400	1,388,800	1,363,000	1,342,000	-6.1
Indiana	-0.1	723,500	720,800	719,200	716,000	713,400	711,200	-2.5
lowa	5.3	361,500	363,100	363,600	364,100	364,100	362,200	0.8
Kansas	6.7	355,900	357,000	357,300	357,500	357,700	360,000	1.3
Kentucky	1.5	493,200	496,900	499,800	502,200	506,400	509,300	3.6
Louisiana	2.4	523,400	524,700	526,800	525,900	531,500	534,400	2.4
Maine	-2.0	124,800	123,800	122,600	121,100	118,200	111,500	-11.6
Maryland	6.6	628,300	634,000	637,900	641,000	644,800	642,000	3.5
Massachusetts Michigan	0.1 -5.6	663,800 1,036,400	661,900 1,025,800	658,700 1,014,800	655,500 1,001,600	651,500 982,100	644,200 958,300	-3.4 -8.9
Minnesota	5.2	599,900	604.800	607.300	608,100	608,600	607,600	2.3
Mississippi	0.4	350,500	349,200	348,300	347,000	344,100	331,600	-6.0
Missouri	1.7	648,100	648,600	648,200	647,500	645,900	644,600	-0.7
Montana	5.0	103,700	104,500	105,400	106,200	107,700	113,800	10.8
Nebraska	7.6	223,600	224,400	224,700	224,600	225,400	232,900	4.6
Nevada New Hampshire	6.2 -5.2	328,500 124,000	332,700 122,100	336,900 120,300	341,000 118,300	348,000 115,000	369,500 109,500	13.9 -13.0
		-						
New Jersey New Mexico	1.4 2.4	970,100 240,300	968,600 240,000	964,200 239,700	958,800 239,300	949,400 238,600	918,100 242,500	-6.5 0.6
New York	2.3	1,890,400	1.896,000	1.898,500	1,900,600	1,898,600	1,852,000	-2.0
North Carolina	3.7	1,092,600	1,096,000	1,098,900	1,110,700	1,119,900	1,155,300	5.8
North Dakota	17.9	78,800	81,500	83,800	85,700	89,100	94,100	23.6
Ohio	-1.7	1,196,100	1,190,900	1,185,800	1,179,900	1,168,600	1,138,100	-5.5
Oklahoma	5.6	505,100	508,500	510,800	512,900	519,900	533,900	6.0
Oregon Pennsylvania	4.2 -0.6	425,200 1,187,000	429,400 1,183,300	432,300 1,177,300	435,000 1,170,100	440,300 1,157,000	449,800 1,116,900	6.7 -6.4
Rhode Island	0.0	98,500	97,900	97,300	96,500	95,400	93,200	-6.0
South Carolina	5.4	544,500	550,300	555,400	560,100	567,400	578,900	7.2
South Dakota	11.7	96,700	98,000	99,000	99,800	100,500	100,700	5.2
Tennessee	3.0	707,300	709,400	711,600	714,000	717,800	747,300	5.7
Texas	7.5	3,821,000	3,860,500	3,892,800	3,925,500	3,996,900	4,264,300	12.7
Utah	10.5	462,200	467,000	470,600	474,400	484,800	538,200	17.9
Vermont	-2.0 3.9	60,300 899,600	59,900	59,400	58,900 906,000	57,900	55,400	-9.1
Virginia Washington	3.9 5.0	748,200	902,400 758,100	904,900 766,700	774,500	909,400 789,300	922,800 814,500	2.8 10.0
West Virginia	-0.3	198,500	197,600	196,800	196,000	195,300	195,300	-2.2
Wisconsin	2.3	605,000	603,500	600,500	596,800	591,600	584,100	-3.8
Wyoming	8.9	68,300	69,200	69,600	70,100	70,500	72,000	6.9
Jurisdiction Bureau of Indian			T					
Education	_	_	_	_	_	_	_	_
DoD, overseas	_	_	_	_	_	_	_	_
DoD, domestic	—	—	—	-	-	-	-	-
Other jurisdictions American Samoa								
Guam				_		_	_	_
Northern Marianas	_	_	_	_	_	_	_	_
Puerto Rico	-18.2	—	—	_	-	-	_	-
U.S. Virgin Islands	-6.6	—	—	-	—	—	-	_

—Not available. NOTE: DoD = Department of Defense. The total ungraded counts of students were pro-(grades 9 through 12) based on prior reports. Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. SOURCE: U.S. Department of Education, National Center for Education Statistics, Com-mon Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Educa-tion," 1990–91 through 2014–15; and State Public Elementary and Secondary Enrollment Projection Model, 1980 through 2026. (This table was prepared November 2016.)

Table 5. Public school enrollment in grades 9 through 12, by region, state, and jurisdiction: Selected years, fall 1990 through fall 2026	
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Region, state,						A	ctual enrollmer	nt					
and jurisdiction	Fall 1990	Fall 2000	Fall 2004	Fall 2005	Fall 2006	Fall 2007	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014
1	2	3	4	5	6	7	8	9	10	11	12	13	14
United States Region	11,340,769	13,517,118	14,617,900	14,909,336	15,081,091	15,086,478	14,980,008	14,951,722	14,859,651	14,748,918	14,753,225	14,793,730	14,942,887
Northeast	2,092,968	2,382,157	2,582,165	2,617,205	2,684,160	2,617,622	2,576,761	2,597,949	2,531,059	2,474,807	2,465,820	2,459,228	2,460,672
Midwest	2,814,260	3,206,741	3,336,735	3,393,507	3,414,670	3,411,182	3,369,582	3,310,212	3,260,270	3,215,000	3,190,746	3,178,779	3,185,941
South	3,948,216	4,693,085	5,111,827	5,221,330	5,303,937	5,337,728	5,323,790	5,351,246	5,370,447	5,377,721	5,417,092	5,468,585	5,588,742
West	2,485,325	3,235,135	3,587,173	3,677,294	3,678,324	3,719,946	3,709,875	3,692,315	3,697,875	3,681,390	3,679,567	3,687,138	3,707,532
State Alabama	194,709	201,358	208,383	212,414	214,968	216,941	217,590	219,495	221,940	217,615	217,203	218.705	221,068
Alaska	28,606	38,914	40,989	42,063	42,441	42,049	41,399	40,837	40,114	39,110	38,420	38,230	38,431
Arizona	160,807	237,132	321,095	354,919	308,593	316,391	316,068	317,411	319,759	320,825	321,650	327,165	331,572
Arkansas	122,781	131,936	134,928	138,460	139,857	139,096	137,362	136,350	136,306	137,092	138,526	140,270	141,743
California	1,336,740	1,733,779	1,934,202	1,971,587	1,996,645	2,014,503	2,016,270	1,999,416	1,995,610	1,979,387	1,967,644	1,954,634	1,951,920
Colorado	154,303	207,942	225,281	229,951	234,985	236,141	238,139	240,990	242,239	243,411	246,051	249,380	254,643
Connecticut	121,727	155,734	173,221	175,354	177,037	176,592	174,980	174,004	173,071	171,060	170,245	169,038	167,790
Delaware District of Columbia	27,052 19,412	33,875 15,233	35,492 19,596	36,298 21,230	37,258 20,459	37,555 22,586	38,619 17,902	39,091 17,777	39,124 17,736	38,322 17,716	38,022 17,867	38,483 17,774	39,346 17,961
Florida	491,658	674,919	781,538	801,629	804,951	810,952	781,725	783,621	784,849	792,054	799,602	807,034	823,249
Georgia	302,605	384,954	435,058	453,015	462,649	471,012	470,108	472,934	474,588	473,766	481,043	490,032	501,605
Hawaii	48,868	52,067	433,038 54,397	55,346	54,720	54,341	53,568	52,719	52,076	51,701	51,170	50,900	51,003
Idaho	60,749	74,696	77,863	79,153	80,375	80,948	81,497	81,571	81,715	81,809	82,631	87,143	85,425
Illinois	511,891	574,859	613,859	631,386	640,597	639,896	640,512	640,462	636,861	629,941	624,679	621,531	621,275
Indiana	278,721	286,006	301,342	310,607	315,832	317,214	316,126	316,062	317,818	316,160	316,329	316,350	316,465
lowa	138,848	161,330	154,150	157,322	156,904	155,611	151,993	150,509	147,663	145,718	144,784	145,011	145,862
Kansas Kentucky	117,386	147,453 194,421	147,960 189,002	147,012 192,449	143,305 195,987	141,524 196,852	139,981 197,826	141,492 195,623	140,774 192,794	138,979 193,531	139,348 194,102	140,511 192,388	141,970 196,874
Louisiana	177,201 198,555	194,421	190,530	172,449	183,735	181,489	180,660	181,032	184,292	184,588	186,111	188,181	190,074
Maine	59,946	61,336	62,545	62,007	61,648	65,503	63,611	60,579	60,148	58,923	57,815	56,924	56,361
Maryland	188,432	243,877	268,144	271,449	272,575	269,221	267,388	266,627	264,055	259,870	256,836	253,589	254,072
Massachusetts	230,080	272,575	293,399	296,511	298,033	296,032	292,372	290,502	289,161	287,055	287,506	287,478	288,934
Michigan	439,553	498,144	539,592	550,885	552,098	555,916	541,352	534,471	511,483	502,664	493,440	488,776	486,200
Minnesota	210,818	276,574	280,056	281,486	282,120	279,398	275,864	272,392	268,074	264,194	262,041	261,409	263,074
Mississippi	130,776	133,998	134,319	136,924	138,644	140,610	140,155	140,829	139,641	137,620	137,286	136,154	138,033
Missouri	228,488	267,978	276,782	282,563	286,078	285,442	282,460	279,900	275,719	271,208	270,370	269,227	268,921
Montana Nebraska	41,805 76,001	49,649 90,713	48,032 90,945	47,646 91,591	47,397 91,811	46,469 91,149	45,030 89,678	43,939 88,508	43,202 88,208	42,624 87,792	42,089 88,073	42,138 88,555	41,816 89,964
Nevada	51,435	89,986	111,330	116,406	121,813	121,789	125,043	123,435	129,852	130,274	131,977	132,591	134,671
New Hampshire	46,484	61,340	66,611	67,183	67,384	66,413	64,939	64,372	63,135	62,268	60,805	59,377	58,825
New Jersey	306.224	345,872	417,491	425,010	425,432	427,930	424,655	427,697	421,293	408,855	416,133	413,916	418,377
New Mexico	93,794	95,427	98,202	97,206	98,129	99,322	98,830	99,076	98,777	97,744	97,242	97,716	99,260
New York	770,919	853,282	893,762	906,553	922,365	909,120	897,512	919,049	865,805	847,144	842,142	847,925	851,757
North Carolina	303,739	348,168	400,014	413,318	417,414	417,168	429,719	429,596	432,196	433,801	438,375	441,263	456,527
North Dakota	32,882	36,780	33,391	32,645	32,275	31,567	30,773	30,497	30,288	29,758	30,116	30,420	30,421
Ohio	513,509	541,403	572,944	578,352	583,529	585,862	577,669	538,951	531,383	522,804	518,617	515,611	519,938
Oklahoma Oregon	154,188 132,151	177,708 166,967	176,534 175,572	177,785 172,514	179,447 181,998	179,436 181,988	177,148 179,972	177,840 178,388	176,447 178,119	175,924 176,898	177,339 178,239	180,344 178,595	184,665 179,757
Pennsylvania	495,670	556,487	593,261	603,059	650,986	596,620	580,702	585,547	583,518	566,545	558,945	554,067	549,398
Rhode Island	37,016	43,802	49,458	49,552	49,616	48,470	47,359	46,934	46,059	45,195	44,672	43,270	42,892
South Carolina	170,079	184,185	199,472	203,514	206,748	207,751	210,511	211,019	210,257	207,797	208,648	211,835	216,723
South Dakota	33,999	40,765	38,907	38,482	38,021	38,182	38,952	37,968	38,192	37,487	37,267	36,639	37,301
Tennessee	226,484	241,038	270,211	277,352	286,397	282,508	287,401	285,881	285,715	286,944	281,971	283,888	288,408
Texas Utah	871,932 121,670	1,116,572 148,381	1,220,980 148,162	1,257,055 150,786	1,279,727 152,114	1,300,148 165,986	1,305,637 155,309	1,329,862 158,243	1,349,106 160,573	1,363,618 164,296	1,387,513 169,077	1,411,436 174,129	1,450,441 178,910
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Vermont Virginia	24,902 270,321	31,729 329,167	32,417 365,052	31,976 372,317	31,659 378,755	30,942 380,413	30,631 380,787	29,265 381,320	28,869 379,994	27,762 376,658	27,557 375,975	27,233 377,252	26,338 382,693
Washington	227,112	310,403	324,600	332,503	331,916	332,840	332,224	329,960	329,616	327,269	327,134	328,068	333,318
West Virginia	98,292	85,166	82,574	83,677	84,366	83,990	83,252	82,349	81,407	80,805	80,673	79,957	80,543
Wisconsin	232,164	284,736	286,807	291,176	292,100	289,421	284,222	279,000	273,807	268,295 26,042	265,682	264,739	264,550
Wyoming	27,285	29,792	27,448	27,214	27,198	27,179	26,526	26,330	26,223	26,042	26,243	26,449	26,732
Jurisdiction Bureau of Indian													
Education	_	11,192	12,157	14,805	_		10,315	9,970	9,977	_	_	_	-
DoD, overseas	-	14,282	14,607	13,852	13,302	12,829	12,837	· -	- 1	-	-	—	
DoD, domestic	—	3,477	2,956	2,771	2,579	2,741	2,758	-	-	-	-	—	
Other jurisdictions American Samoa	3,073	3,807	4,253	4,672	4,637								<u> </u>
Guam	7,115	3,007 8,775	4,255	9,040	4,037	_		_	10.057	10,020	10,020	10,113	10.032
Northern Marianas	1,531	2,195	3,185	3,291	3,191	3,159	3,097	3,218	3,417	3,308	3,250	3,298	. 0,00E
Puerto Rico	164,378	167,201	166,977	164,043	161,491	154,051	148,520	145,755	139,122	133,816	129,561	128,958	126,704
U.S. Virgin Islands	5,501	5,549	4,779	5,022	5,047	5,133	5,201	5,084	4,977	5,135	4,890	4,670	4,517

See notes at end of table.

#### Table 5. Public school enrollment in grades 9 through 12, by region, state, and jurisdiction: Selected years, fall 1990 through fall 2026—Continued

Decion state	Percent change			Projected en	rollment			Percent change
Region, state, and jurisdiction	in enrollment, 2009 to 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2020	Fall 2026	in enrollment, 2014 to 2026
1	15	16	17	18	19	20	21	22
United States	-0.1	15,070,500	15.111.000	15,148,100	15,165,800	15,329,000	15,376,200	2.9
Region	•	10,010,000	10,111,000	10,110,100	10,100,000	10,020,000	10,010,200	2.0
Northeast	-5.3	2,458,900	2,444,100	2,440,100	2,430,500	2,424,900	2,361,200	-4.0
Midwest	-3.8	3,195,000	3,192,800	3,186,600	3,188,600	3,194,900	3,098,800	-2.7
South	4.4	5,691,700	5,743,200	5,772,600	5,779,700	5,858,700	6,104,600	9.2
West	0.4	3,724,800	3,730,900	3,748,700	3,767,100	3,850,500	3,811,600	2.8
State		-,,	-,,	-,,	-, ,	-,,	-,,	
Alabama	0.7	219,700	215,600	211,100	207,600	204,000	205,700	-7.0
Alaska	-5.9	38,500	38,400	38,000	37,800	38,500	41,400	7.7
Arizona	4.5	331,600	330,800	330,700	333,800	345,700	360,900	8.8
Arkansas	4.0	142,500	142,900	142,400	141,800	139,900	143,200	1.1
California	-2.4	1,949,600	1,944,200	1,949,100	1,952,000	1,989,900	1,869,500	-4.2
Colorado	5.7	261,600	267,000	272,900	276,900	284,000	289.300	13.6
Connecticut	-3.6	166,600	164,900	163,800	162,000	159.000	143,400	-14.5
Delaware	0.7	39,700	40,200	41,000	41,500	43,300	45,000	14.4
District of Columbia	1.0	17,900	17,600	17,700	17,800	19,100	25,200	40.5
Florida	5.1	838,300	845,200	846,500	848,600	867,200	925,500	12.4
				,	,			
Georgia	6.1	512,000	517,700	519,500	520,300	527,100	547,900	9.2
Hawaii	-3.1	50,800 86,900	51,200	51,600	52,200	54,000	55,700	9.0 3.0
Idaho	4.7		88,200	89,100	89,800 633 500	90,300	88,000	
Illinois Indiana	-3.0 0.1	621,700 320,000	624,600 319,300	627,600 316,200	633,500 314,100	640,100 307,400	597,000 301,700	-3.9 -4.7
		-		-				
lowa	-3.1	146,700	147,100	147,600	147,700	150,400	152,700	4.7
Kansas	0.3	143,400	143,400	143,900	143,900	145,700	146,500	3.2
Kentucky	0.6	199,400	199,100	199,700	199,900	202,000	209,600	6.5
Louisiana	7.6	197,400	199,000	198,800	199,500	197,600	201,800	3.6
Maine	-7.0	55,900	55,000	54,300	53,900	53,500	49,700	-11.9
Maryland	-4.7	254,500	257.200	261,200	264,100	272,500	284,900	12.2
Massachusetts	-0.5	290,000	288,900	288,900	288,300	286,000	277,400	-4.0
Michigan	-9.0	484,400	479,000	472,600	468,100	458,700	420,000	-13.6
Minnesota	-3.4	266,300	268,300	271,400	275,600	283,900	288,900	9.8
Mississippi	-2.0	139,100	138,400	136,200	133,700	131,600	130,300	-5.6
Missouri	-3.9	268.900	267,000	265,900	264,700	265,700	263.800	-1.9
Montana	-4.8	41,900	42,000	41,900	42,400	43,400	45,400	8.6
Nebraska	1.6	91,800	93,800	95.800	97,500	99,800	100,000	11.2
Nevada	9.1	136,400	138,200	139,400	140,600	144,700	156,700	16.3
New Hampshire	-8.6	58,300	57,600	56,900	56,300	55,000	49,500	-15.9
	-2.2	419,000	416,400	416,500	416,500	416,300	404,500	-3.3
New Jersey New Mexico	-2.2	99,600	99,700	99,200	99,200	99,700	98,200	-3.3
New York	-7.3	855,700	855,900	857,100	853,400	858,900	862,600	1.3
North Carolina	6.3	469,600	475,600	479,000	468,700	469,500	488,000	6.9
North Dakota	-0.2	30,700	31,100	31,800	33,000	35,800	42,600	40.1
		,	<i>.</i>	-	-		· · · ·	
Ohio	-3.5	518,900	517,200	512,700	509,000	503,800	488,400	-6.1
Oklahoma	3.8 0.8	187,200	188,700	189,900	190,900	191,800	199,300	7.9 6.8
Oregon Pennsylvania	-6.2	180,200 544,500	179,300 537,200	179,300 534,300	179,800 530,900	182,800 527,700	192,000 508,800	-7.4
Rhode Island	-0.2 -8.6	43,000	42,800	43,500	44,300	43,900	41,900	-7.4
			<i>.</i>	-	-			
South Carolina	2.7	221,000	222,100	222,400	222,200	226,500	241,800	11.6
South Dakota	-1.8	37,300	37,600	37,900	38,300	40,400	42,400	13.7
Tennessee	0.9	290,100	289,800	288,600	287,500	290,600	292,300	1.4
Texas	9.1 13.1	1,493,700 184,100	1,520,600 188,200	1,543,200 192,500	1,559,600 196,300	1,597,600 203,400	1,684,100 212,500	16.1 18.8
Utah			-	-				
Vermont	-10.0	25,900	25,400	24,900	24,800	24,600	23,400	-11.2
Virginia	0.4	388,600	392,300	394,400	395,200	398,700	402,700	5.2
Washington	1.0	336,700	336,500	337,100	338,300	344,500	371,200	11.4
West Virginia Wisconsin	-2.2	81,100 264,900	81,300 264,300	81,200 263,400	80,800 263,100	79,600 263,100	77,200 254,800	-4.2 -3.7
Wyoming	-5.2 1.5	264,900	264,300	203,400 27,800	28,100	203,100 29,600	254,800 30,800	-3.7 15.4
, ,	1.5	27,100	27,000	27,000	20,100	23,000	50,000	15.4
Jurisdiction Bureau of Indian								
Education	_	_	_	_	_	_	_	_
DoD, overseas	_			_	_	_	_	
DoD, domestic	_	_	_	_	_	_	_	_
Other jurisdictions								
American Samoa	_	_	_	_	_	_	_	_
Guam	_	_	_	_	_	—	_	_
Northern Marianas		—	—	_	—	—	_	_
Puerto Rico	-13.1	—	—	—	—	-	—	—
U.S. Virgin Islands	-11.2							_

—Not available. NOTE:  $\mbox{DoD}$  = Department of Defense. The total ungraded counts of students were prorated to the elementary level (prekindergarten through grade 8) and the secondary level (grades 9 through 12) based on prior reports. In addition to students in grades 9 through 12 and ungraded secondary students, this table includes a small number of students reported as being enrolled in grade 13. Detail may not sum to totals because of rounding. 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), "State Nonfiscal Survey of Public Elementary/Secondary Educa-tion," 1990–91 through 2014–15; and State Public Elementary and Secondary Enrollment Projection Model, 1980 through 2026. (This table was prepared November 2016.)

			Enrolli	ment (in thou	usands)					Perce	entage distrit	oution		
Region and year	Total	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaska Native	Two or more races	Total	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaska Native	Two or more races
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
United States 1995	44,840 47,204 47,672 48,183 48,540	29,044 28,878 28,735 28,618 28,442	7,551 8,100 8,177 8,299 8,349	6,072 7,726 8,169 8,594 9,011	1,668 1,950 2,028 2,088 2,145	505 550 564 583 593	 	100.0 100.0 100.0 100.0 100.0	64.8 61.2 60.3 59.4 58.6	16.8 17.2 17.2 17.2 17.2 17.2	13.5 16.4 17.1 17.8 18.6	3.7 4.1 4.3 4.3 4.4	1.1 1.2 1.2 1.2 1.2	† † † †
2004	48,795 49,113 49,316 49,291 49,266	28,318 28,005 27,801 27,454 27,057	8,386 8,445 8,422 8,392 8,358	9,317 9,787 10,166 10,454 10,563	2,143 2,279 2,332 2,396 2,451	591 598 595 594 589	 	100.0 100.0 100.0 100.0 100.0 100.0	58.0 57.0 56.4 55.7 54.9	17.2 17.2 17.1 17.0 17.0	19.1 19.9 20.6 21.2 21.4	4.5 4.6 4.7 4.9 5.0	1.2 1.2 1.2 1.2 1.2	1 1 1 0.5
2009 2010 2011 2012 2013	49,361 49,484 49,522 49,771 50,045	26,702 25,933 25,602 25,386 25,160	8,245 7,917 7,827 7,803 7,805	10,991 11,439 11,759 12,104 12,452	2,484 2,466 2,513 2,552 2,553	601 566 547 534 523	338 <sup>1</sup> 1,164 1,272 1,393 1,511	100.0 100.0 100.0 100.0 100.0	54.1 52.4 51.7 51.0 50.3	16.7 16.0 15.8 15.7 15.6	22.3 23.1 23.7 24.3 24.9	5.0 5.0 5.1 5.1 5.2	1.2 1.1 1.1 1.1 1.1	0.7 <sup>1</sup> 2.4 2.6 2.8 3.0
2014 2015 <sup>2</sup> 2016 <sup>2</sup> 2017 <sup>2</sup> 2018 <sup>2</sup>	50,313 50,485 50,625 50,710 50,759	24,923 24,814 24,613 24,398 24,189	7,807 7,848 7,916 7,953 7,950	12,805 13,178 13,382 13,574 13,778	2,646 2,685 2,718 2,756 2,783	519 516 511 506 502	1,612 1,444 1,485 1,523 1,557	100.0 100.0 100.0 100.0 100.0	49.5 49.2 48.6 48.1 47.7	15.5 15.5 15.6 15.7 15.7	25.4 26.1 26.4 26.8 27.1	5.3 5.3 5.4 5.4 5.5	1.0 1.0 1.0 1.0 1.0	3.2 2.9 2.9 3.0 3.1
2019 <sup>2</sup> 2020 <sup>2</sup> 2021 <sup>2</sup> 2022 <sup>2</sup> 2023 <sup>2</sup>	50,843 50,996 51,152 51,301 51,455	24,064 23,951 23,840 23,737 23,655	7,955 7,973 7,995 8,019 8,024	13,909 14,074 14,240 14,391 14,538	2,825 2,865 2,902 2,939 2,981	492 485 479 473 468	1,598 1,648 1,696 1,743 1,789	100.0 100.0 100.0 100.0 100.0	47.3 47.0 46.6 46.3 46.0	15.6 15.6 15.6 15.6 15.6	27.4 27.6 27.8 28.1 28.3	5.6 5.6 5.7 5.7 5.8	1.0 1.0 0.9 0.9 0.9	3.1 3.2 3.3 3.4 3.5
2024 <sup>2</sup> 2025 <sup>2</sup> 2026 <sup>2</sup>	51,562 51,632 51,738	23,565 23,465 23,387	8,001 7,962 7,917	14,671 14,791 14,931	3,028 3,078 3,128	463 459 456	1,833 1,876 1,918	100.0 100.0 100.0	45.7 45.4 45.2	15.5 15.4 15.3	28.5 28.6 28.9	5.9 6.0 6.0	0.9 0.9 0.9	3.6 3.6 3.7
Northeast 1995	7,894 8,222 8,271 8,240 8,071 7,954 7,959 7,961 7,980	5,497 5,545 5,384 5,317 4,876 4,745 4,665 4,593 4,507	1,202 1,270 1,292 1,282 1,208 1,166 1,161 1,158 1,155	878 1,023 1,155 1,189 1,364 1,394 1,444 1,492 1,566	295 361 414 425 500 510 523 533 545	21 24 27 27 27 27 28 28 28		100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	69.6 67.4 65.1 64.5 60.4 59.7 58.6 57.7 56.5	15.2 15.4 15.6 15.6 15.0 14.7 14.6 14.5 14.5	11.1 12.4 14.0 14.4 16.9 17.5 18.1 18.7 19.6	3.7 4.4 5.2 6.2 6.4 6.6 6.7 6.8	0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	† † 1.2 1.4 1.7 2.0 2.2
Midwest           1995	10,512 10,730 10,775 10,819 10,610 10,574 10,559 10,573 10,561	8,335 8,208 7,983 7,950 7,327 7,240 7,175 7,111 7,037	1,450 1,581 1,634 1,654 1,505 1,485 1,464 1,464 1,459	438 610 793 836 1,077 1,127 1,167 1,212 1,249	197 239 269 283 312 321 330 341 349	92 92 96 94 90 89 87 86	  294 311 334 358 380	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	79.3 76.5 74.1 73.5 69.1 68.5 68.0 67.3 66.6	13.8 14.7 15.2 15.3 14.2 14.0 13.9 13.8 13.8	4.2 5.7 7.4 7.7 10.2 10.7 11.1 11.5 11.8	1.9 2.2 2.5 2.6 2.9 3.0 3.1 3.2 3.3	0.9 0.9 0.9 0.9 0.9 0.9 0.8 0.8	+ 2.8 2.9 3.2 3.4 3.6
South           1995           2000           2004           2005           2010           2011           2012           2013           2014	16,118 17,007 17,892 18,103 18,805 18,956 19,128 19,299 19,506	9,565 9,501 9,410 9,381 8,869 8,830 8,780 8,780 8,722 8,681	4,236 4,516 4,704 4,738 4,545 4,535 4,545 4,545 4,561 4,577	1,890 2,468 3,155 3,334 4,206 4,353 4,513 4,671 4,846	280 352 432 456 555 577 595 614 640	148 170 191 194 207 198 191 185 184	 424 463 504 546 579	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	59.3 55.9 52.6 51.8 47.2 46.6 45.9 45.2 44.5	26.3 26.6 26.3 26.2 24.2 23.9 23.8 23.6 23.5	11.7 14.5 17.6 18.4 22.4 23.0 23.6 24.2 24.8	1.7 2.1 2.4 2.5 3.0 3.0 3.0 3.1 3.2 3.3	0.9 1.0 1.1 1.1 1.0 1.0 1.0 0.9	† 2.3 2.4 2.6 2.8 3.0
West           1995	10,316 11,244 11,857 11,951 11,998 12,038 12,124 12,212 12,266	5,648 5,624 5,541 5,356 4,861 4,787 4,766 4,733 4,698	662 733 757 771 659 642 632 632 623 616	2,866 3,625 4,213 4,428 4,792 4,886 4,978 5,077 5,144	896 998 1,069 1,115 1,100 1,105 1,104 1,105 1,112	244 264 277 281 237 233 227 224 224 221	 349 385 417 449 475	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	54.7 50.0 46.7 44.8 40.5 39.8 39.8 38.8 38.3	6.4 6.5 6.4 6.5 5.5 5.3 5.2 5.1 5.0	27.8 32.2 35.5 37.1 39.9 40.6 41.1 41.6 41.9	8.7 8.9 9.0 9.3 9.2 9.2 9.1 9.1 9.1	2.4 2.4 2.3 2.4 2.0 1.9 1.9 1.8 1.8	† 2.9 3.2 3.4 3.7 3.9

#### Table 6. Enrollment and percentage distribution of enrollment in public elementary and secondary schools, by race/ethnicity and region: Selected years, fall 1995 through fall 2026

---Not available. †Not applicable. <sup>1</sup>For this year, data on students of Two or more races were reported by only a small number of states. Therefore, the data are not comparable to figures for 2010 and later years. <sup>2</sup>Projected. NOTE: Page option or well do persons of Hippopia otheristic. Excellment data for students act

NOTE: Race categories exclude persons of Hispanic ethnicity. Enrollment data for students not reported by race/ethnicity were prorated by state and grade to match state totals. Prior to 2008,

data on students of Two or more races were not collected. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. SOURCE: U.S. Department of Education, National Center for Education Statistics, Common

Core of Data (CCD), "State Nonfiscal Survey of Public Elementary and Secondary Education," 1995–96 through 2014–15; and National Elementary and Secondary Enrollment by Race/Eth-nicity Projection Model, 1972 through 2026. (This table was prepared November 2016.) This page intentionally left blank.

	Enrollment (in thousands) Percentage distribution Asian/Pacific Islander American Asian/Pacific Islander American																	
					Asian/	Pacific Isl	ander	American Indian/	Two or					Asian	Pacific Isl	ander	American Indian/	Two or
Level of education and year	Total	White	Black	His- panic	Total	Asian	Pacific Islander	Alaska Native	more	Total	White	Black	His- panic	Total	Asian	Pacific Islander	Alaska Native	more
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Total 1999 2000	46,857 47,204 47,672 48,183 48,540	29,035 28,878 28,735 28,618 28,442	8,066 8,100 8,177 8,299 8,349	7,327 7,726 8,169 8,594 9,011	1,887 1,950 2,028 2,088 2,145			542 550 564 583 593	 	100.0 100.0 100.0 100.0 100.0	62.0 61.2 60.3 59.4 58.6	17.2 17.2 17.2 17.2 17.2 17.2	15.6 16.4 17.1 17.8 18.6	4.0 4.1 4.3 4.3 4.4	† † † †	+ + + +	1.2 1.2 1.2 1.2 1.2 1.2	+ + + +
2004 2005 2006 2007 2008	48,795 49,113 49,316 49,291 49,266	28,318 28,005 27,801 27,454 27,057	8,386 8,445 8,422 8,392 8,358	9,317 9,787 10,166 10,454 10,563	2,183 2,279 2,332 2,396 2,451	  2,405	  46	591 598 595 594 589	  247 <sup>1</sup>	100.0 100.0 100.0 100.0 100.0	58.0 57.0 56.4 55.7 54.9	17.2 17.2 17.1 17.0 17.0	19.1 19.9 20.6 21.2 21.4	4.5 4.6 4.7 4.9 5.0	† † † 4.9	† † 0.1	1.2 1.2 1.2 1.2 1.2	† † † 0.5 <sup>1</sup>
2009 2010 2011 2012 2013	49,361 49,484 49,522 49,771 50,045	26,702 25,933 25,602 25,386 25,160	8,245 7,917 7,827 7,803 7,805	10,991 11,439 11,759 12,104 12,452	2,484 2,466 2,513 2,552 2,593	2,435 2,296 2,334 2,372 2,417	49 171 179 180 176	601 566 547 534 523	338 <sup>1</sup> 1,164 1,272 1,393 1,511	100.0 100.0 100.0 100.0 100.0	54.1 52.4 51.7 51.0 50.3	16.7 16.0 15.8 15.7 15.6	22.3 23.1 23.7 24.3 24.9	5.0 5.0 5.1 5.1 5.2	4.9 4.6 4.7 4.8 4.8	0.1 0.3 0.4 0.4 0.4	1.2 1.1 1.1 1.1 1.0	0.7 <sup>1</sup> 2.4 2.6 2.8 3.0
2014 2015 <sup>2</sup> 2016 <sup>2</sup> 2017 <sup>2</sup> 2018 <sup>2</sup>	50,313 50,485 50,625 50,710 50,759	24,923 24,814 24,613 24,398 24,189	7,807 7,848 7,916 7,953 7,950	12,805 13,178 13,382 13,574 13,778	2,646 2,685 2,718 2,756 2,783	2,470 2,508 2,540 2,578 2,604	176 177 178 178 178	519 516 511 506 502	1,612 1,444 1,485 1,523 1,557	100.0 100.0 100.0 100.0 100.0	49.5 49.2 48.6 48.1 47.7	15.5 15.5 15.6 15.7 15.7	25.4 26.1 26.4 26.8 27.1	5.3 5.3 5.4 5.4 5.5	4.9 5.0 5.1 5.1	0.3 0.4 0.4 0.4 0.4	1.0 1.0 1.0 1.0 1.0	3.2 2.9 2.9 3.0 3.1
2019 <sup>2</sup> 2020 <sup>2</sup> 2021 <sup>2</sup> 2022 <sup>2</sup> 2023 <sup>2</sup>	50,843 50,996 51,152 51,301 51,455	24,064 23,951 23,840 23,737 23,655	7,955 7,973 7,995 8,019 8,024	13,909 14,074 14,240 14,391 14,538	2,825 2,865 2,902 2,939 2,981	2,648 2,689 2,726 2,764 2,808	178 177 175 174 173	492 485 479 473 468	1,598 1,648 1,696 1,743 1,789	100.0 100.0 100.0 100.0 100.0	47.3 47.0 46.6 46.3 46.0	15.6 15.6 15.6 15.6 15.6	27.4 27.6 27.8 28.1 28.3	5.6 5.6 5.7 5.7 5.8	5.2 5.3 5.3 5.4 5.5	0.3 0.3 0.3 0.3 0.3	1.0 1.0 0.9 0.9 0.9	3.1 3.2 3.3 3.4 3.5
2024 <sup>2</sup> 2025 <sup>2</sup> 2026 <sup>2</sup>	51,562 51,632 51,738	23,565 23,465 23,387	8,001 7,962 7,917	14,671 14,791 14,931	3,028 3,078 3,128	2,856 2,905 2,955	173 173 173	463 459 456	1,833 1,876 1,918	100.0 100.0 100.0	45.7 45.4 45.2	15.5 15.4 15.3	28.5 28.6 28.9	5.9 6.0 6.0	5.5 5.6 5.7	0.3 0.3 0.3	0.9 0.9 0.9	3.6 3.6 3.7
Prekindergarten through grade 8 1999	33,486 33,686 33,936 34,114 34,201	20,327 20,130 19,960 19,764 19,558	5,952 5,981 6,004 6,042 6,015	5,512 5,830 6,159 6,446 6,729	1,303 1,349 1,409 1,447 1,483	  		391 397 405 415 415	   	100.0 100.0 100.0 100.0 100.0	60.7 59.8 58.8 57.9 57.2	17.8 17.8 17.7 17.7 17.6	16.5 17.3 18.1 18.9 19.7	3.9 4.0 4.2 4.2 4.3	† † † †	† † † †	1.2 1.2 1.2 1.2 1.2	† † † †
2004 2005 2006 2007 2008	34,178 34,204 34,235 34,204 34,286	19,368 19,051 18,863 18,679 18,501	5,983 5,954 5,882 5,821 5,793	6,909 7,216 7,465 7,632 7,689	1,504 1,569 1,611 1,660 1,705	 1,674		413 412 414 412 410	  187 <sup>1</sup>	100.0 100.0 100.0 100.0 100.0	56.7 55.7 55.1 54.6 54.0	17.5 17.4 17.2 17.0 16.9	20.2 21.1 21.8 22.3 22.4	4.4 4.6 4.7 4.9 5.0	1 † † 4.9	1 † 0.1	1.2 1.2 1.2 1.2 1.2	1 1 0.5 <sup>1</sup>
2009 2010 2011 2012 2013	34,409 34,625 34,773 35,018 35,251	18,316 17,823 17,654 17,535 17,390	5,713 5,495 5,470 5,473 5,483	7,977 8,314 8,558 8,804 9,054	1,730 1,711 1,744 1,773 1,809	1,697 1,589 1,616 1,644 1,683	33 122 128 129 126	419 394 384 375 367	254 <sup>1</sup> 887 963 1,057 1,148	100.0 100.0 100.0 100.0 100.0	53.2 51.5 50.8 50.1 49.3	16.6 15.9 15.7 15.6 15.6	23.2 24.0 24.6 25.1 25.7	5.0 4.9 5.0 5.1 5.1	4.9 4.6 4.6 4.7 4.8	0.1 0.4 0.4 0.4 0.4	1.2 1.1 1.1 1.1 1.0	0.7 <sup>1</sup> 2.6 2.8 3.0 3.3
2014 2015 <sup>2</sup> 2016 <sup>2</sup> 2017 <sup>2</sup> 2018 <sup>2</sup>	35,370 35,414 35,514 35,562 35,593	17,193 17,079 16,934 16,778 16,637	5,471 5,434 5,453 5,470 5,482	9,273 9,579 9,757 9,905 10,036	1,842 1,869 1,890 1,904 1,912	1,718 1,745 1,766 1,780 1,789	124 125 124 124 123	363 361 356 351 348	1,227 1,092 1,124 1,153 1,180	100.0 100.0 100.0 100.0 100.0	48.6 48.2 47.7 47.2 46.7	15.5 15.3 15.4 15.4 15.4	26.2 27.0 27.5 27.9 28.2	5.2 5.3 5.3 5.4 5.4	4.9 4.9 5.0 5.0 5.0	0.4 0.4 0.3 0.3	1.0 1.0 1.0 1.0 1.0	3.5 3.1 3.2 3.2 3.3
2019 <sup>2</sup> 2020 <sup>2</sup> 2021 <sup>2</sup> 2022 <sup>2</sup> 2023 <sup>2</sup>	35,657 35,667 35,639 35,660 35,815	16,586 16,507 16,421 16,362 16,369	5,469 5,431 5,374 5,313 5,324	10,117 10,187 10,245 10,328 10,394	1,939 1,967 1,997 2,028 2,072	1,818 1,847 1,878 1,910 1,954	121 120 119 118 119	340 334 329 324 322	1,207 1,241 1,274 1,304 1,334	100.0 100.0 100.0 100.0 100.0	46.5 46.3 46.1 45.9 45.7	15.3 15.2 15.1 14.9 14.9	28.4 28.6 28.7 29.0 29.0	5.4 5.5 5.6 5.7 5.8	5.1 5.2 5.3 5.4 5.5	0.3 0.3 0.3 0.3 0.3	1.0 0.9 0.9 0.9 0.9	3.4 3.5 3.6 3.7 3.7
2024 <sup>2</sup> 2025 <sup>2</sup> 2026 <sup>2</sup>	35,982 36,156 36,362	16,382 16,394 16,408	5,343 5,363 5,385	10,456 10,524 10,614	2,114 2,156 2,200	1,995 2,037 2,081	119 119 119	320 318 317	1,367 1,401 1,438	100.0 100.0 100.0	45.5 45.3 45.1	14.8 14.8 14.8	29.1 29.1 29.2	5.9 6.0 6.1	5.5 5.6 5.7	0.3 0.3 0.3	0.9 0.9 0.9	3.8 3.9 4.0

# Table 7. Enrollment and percentage distribution of enrollment in public elementary and secondary schools, by race/ethnicity and level of education: Fall 1999 through fall 2026

See notes at end of table.

#### Table 7. Enrollment and percentage distribution of enrollment in public elementary and secondary schools, by race/ethnicity and level of education: Fall 1999 through fall 2026-Continued

				Enroll	ment (in th	ousands)							Perce	ntage dist	tribution			
					Asian	Pacific Isl	ander	American	Ŧ					Asian	Pacific Isl	ander	American	-
Level of education and year	Total	White	Black	His- panic	Total	Asian	Pacific Islander	Indian/ Alaska Native	Two or more races	Total	White	Black	His- panic	Total	Asian	Pacific Islander	Indian/ Alaska Native	Two or more races
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Grades 9 through 12 1999 2000	13,371 13,517 13,736 14,069 14,339	8,708 8,747 8,774 8,854 8,884	2,114 2,119 2,173 2,257 2,334	1,815 1,896 2,011 2,148 2,282	584 601 619 642 663			151 153 159 168 177		100.0 100.0 100.0 100.0 100.0	65.1 64.7 63.9 62.9 62.0	15.8 15.7 15.8 16.0 16.3	13.6 14.0 14.6 15.3 15.9	4.4 4.4 4.5 4.6 4.6	† † † †	† † † †	1.1 1.1 1.2 1.2 1.2	† † † †
2004 2005 2006 2007 2008	14,618 14,909 15,081 15,086 14,980	8,950 8,954 8,938 8,775 8,556	2,403 2,490 2,540 2,571 2,565	2,408 2,570 2,701 2,821 2,874	679 709 720 736 746			178 186 181 183 179	  59 <sup>1</sup>	100.0 100.0 100.0 100.0 100.0	61.2 60.1 59.3 58.2 57.1	16.4 16.7 16.8 17.0 17.1	16.5 17.2 17.9 18.7 19.2	4.6 4.8 4.8 4.9 5.0	† † 4.9	† † 0.1	1.2 1.2 1.2 1.2 1.2	† † 0.4 1
2009 2010 2011 2012 2013	14,952 14,860 14,749 14,753 14,794	8,385 8,109 7,948 7,851 7,770	2,532 2,422 2,357 2,330 2,322	3,014 3,125 3,202 3,300 3,398	754 755 769 779 784	738 707 719 727 733	16 49 50 51 51	182 171 163 158 156	84 <sup>1</sup> 277 309 335 363	100.0 100.0 100.0 100.0 100.0	56.1 54.6 53.9 53.2 52.5	16.9 16.3 16.0 15.8 15.7	20.2 21.0 21.7 22.4 23.0	5.0 5.1 5.2 5.3 5.3	4.9 4.8 4.9 4.9 5.0	0.1 0.3 0.3 0.3 0.3	1.2 1.2 1.1 1.1 1.1	0.6 <sup>1</sup> 1.9 2.1 2.3 2.5
2014 2015 <sup>2</sup> 2016 <sup>2</sup> 2017 <sup>2</sup> 2018 <sup>2</sup>	14,943 15,070 15,111 15,148 15,166	7,730 7,735 7,678 7,621 7,553	2,336 2,414 2,463 2,483 2,469	3,532 3,599 3,625 3,669 3,742	804 816 828 852 870	753 763 774 797 815	52 53 54 54 55	156 156 155 154 154	385 351 362 369 378	100.0 100.0 100.0 100.0 100.0	51.7 51.3 50.8 50.3 49.8	15.6 16.0 16.3 16.4 16.3	23.6 23.9 24.0 24.2 24.7	5.4 5.4 5.5 5.6 5.7	5.0 5.1 5.3 5.3	0.3 0.4 0.4 0.4 0.4	1.0 1.0 1.0 1.0 1.0	2.6 2.3 2.4 2.4 2.5
2019 <sup>2</sup> 2020 <sup>2</sup> 2021 <sup>2</sup> 2022 <sup>2</sup> 2023 <sup>2</sup>	15,186 15,329 15,513 15,641 15,640	7,478 7,444 7,420 7,375 7,286	2,486 2,542 2,621 2,706 2,700	3,792 3,887 3,995 4,062 4,144	886 898 905 910 909	829 842 848 854 854	57 57 57 56 55	152 151 150 148 146	391 406 422 439 455	100.0 100.0 100.0 100.0 100.0	49.2 48.6 47.8 47.2 46.6	16.4 16.6 16.9 17.3 17.3	25.0 25.4 25.8 26.0 26.5	5.8 5.9 5.8 5.8 5.8	5.5 5.5 5.5 5.5 5.5	0.4 0.4 0.4 0.4 0.3	1.0 1.0 1.0 0.9 0.9	2.6 2.7 2.7 2.8 2.9
2024 <sup>2</sup> 2025 <sup>2</sup> 2026 <sup>2</sup>	15,579 15,476 15,376	7,183 7,071 6,979	2,658 2,600 2,532	4,215 4,267 4,318	915 922 928	860 868 874	54 54 54	144 141 139	466 475 480	100.0 100.0 100.0	46.1 45.7 45.4	17.1 16.8 16.5	27.1 27.6 28.1	5.9 6.0 6.0	5.5 5.6 5.7	0.3 0.3 0.4	0.9 0.9 0.9	3.0 3.1 3.1

-Not available.

<sup>1</sup>For this year, data on students of Two or more races were reported by only a small number of states. Therefore, the data are not comparable to figures for 2010 and later years. <sup>2</sup>Projected.

NOTE: Race categories exclude persons of Hispanic ethnicity. Enrollment data for students not reported by race/ethnicity were prorated by state and grade to match state totals. Prior to 2008, data on students of Two or more races were not collected. Total counts of ungraded students were prorated to prekindergarten through grade 8 and grades 9 through 12 based on prior reports. Some data have been revised from previously published figures.

Detail may not sum to totals because of rounding. SOURCE: U.S. Department of Education, National Center for Education Statistics, Com-mon Core of Data (CCD), "State Nonfiscal Survey of Public Elementary and Secondary Education," 1998–99 through 2014–15; and National Elementary and Secondary Enroll-ment by Race/Ethnicity Projection Model, 1972 through 2026. (This table was prepared Numeric 2016). November 2016.)

	Teach	ners (in thousar	nds)	Enrollr	nent (in thous	sands)	P	upil/teacher ra	tio		of new teache n thousands) <sup>1</sup>	r hires
Year	Total	Public	Private	Total	Public	Private	Total	Public	Private	Total	Public	Private
1	2	3	4	5	6	7	8	9	10	11	12	13
1955	1,286	1,141	145 <sup>2</sup>	35,280	30,680	4,600 2	27.4	26.9	31.7 <sup>2</sup>	_	_	_
1960	1,600	1,408	192 <sup>2</sup>	42,181	36,281	5,900 <sup>2</sup>	26.4	25.8	30.7 <sup>2</sup>	-	_	_
1965	1,933	1,710	223	48,473	42,173	6,300	25.1	24.7	28.3	—	—	_
1970	2,292	2,059	233	51,257	45,894	5,363 5,000 <sup>2</sup>	22.4	22.3	23.0	-	-	-
1975	2,453	2,198	255 <sup>2</sup>	49,819	44,819	5,000 -	20.3	20.4	19.6 <sup>2</sup>	_	_	_
1976	2,457	2,189	268	49,478	44,311	5,167	20.1	20.2	19.3	—	_	—
1977	2,488	2,209	279	48,717	43,577	5,140	19.6	19.7	18.4	-	—	-
1978	2,479	2,207	272	47,637	42,551	5,086 5,000 <sup>2</sup>	19.2	19.3	18.7 18.1 <sup>2</sup>	—	_	_
1979 1980	2,461 2,485	2,185 2,184	276 <sup>2</sup> 301	46,651 46,208	41,651 40,877	5,331	19.0 18.6	19.1 18.7	17.7	_	_	_
				-		-		10.7				
1981	2,440	2,127	313 <sup>2</sup>	45,544	40,044	5,500 <sup>2</sup>	18.7	18.8	17.6 <sup>2</sup> 17.2 <sup>2</sup>	-	-	-
1982	2,458 2,476	2,133 2,139	325 <sup>2</sup> 337	45,166 44,967	39,566 39,252	5,600 <sup>2</sup> 5,715	18.4 18.2	18.6 18.4	17.2 - 17.0	-	_	_
1983 1984	2,470	2,139	337 340 <sup>2</sup>	44,907	39,252	5,710 <sup>2</sup>	17.9	18.1	17.0 16.8 <sup>2</sup>	_	_	_
1985	2,549	2,206	343	44,979	39,422	5,557	17.6	17.9	16.2	_	_	_
	0 500		0 10 2	15 005		= 1=0 <sup>2</sup>			1 2			
1986 1987	2,592 2,631	2,244 2,279	348 <sup>2</sup> 352	45,205 45,488	39,753 40,008	5,452 <sup>2</sup> 5,479	17.4 17.3	17.7 17.6	15.7 <sup>2</sup> 15.6	_	_	_
1988	2,668	2,279	345 <sup>2</sup>	45,488	40,008	5,242 <sup>2</sup>	17.3	17.0	15.0 <sup>2</sup>	_	_	_
1989	2,713	2,357	356	46,141	40,543	5,599	17.0	17.2	15.7	_	_	_
1990	2,759	2,398	361 <sup>2</sup>	46,864	41,217	5,648 <sup>2</sup>	17.0	17.2	15.6 <sup>2</sup>	-	_	_
1991	2,797	2,432	365	47,728	42,047	5,681	17.1	17.3	15.6			
1992	2,823	2,452	364 <sup>2</sup>	48,694	42,823	5,870 <sup>2</sup>	17.2	17.3	16.1 <sup>2</sup>	_		_
1993	2,868	2,504	364	49,532	43,465	6.067	17.3	17.4	16.7	_	_	_
1994	2,922	2,552	370 <sup>2</sup>	50,106	44,111	5,994 <sup>2</sup>	17.1	17.3	16.2 <sup>2</sup>	—	_	_
1995	2,974	2,598	376	50,759	44,840	5,918	17.1	17.3	15.7	-	_	-
1996	3,051	2,667	384 <sup>2</sup>	51,544	45,611	5,933 <sup>2</sup>	16.9	17.1	15.5 <sup>2</sup>	_	_	_
1997	3,138	2,746	391	52,071	46,127	5,944	16.6	16.8	15.2	-	_	_
1998	3,230	2,830	400 <sup>2</sup>	52,526	46,539	5,988 <sup>2</sup>	16.3	16.4	15.0 <sup>2</sup>	_	_	_
1999 2000	3,319	2,911	408 424 <sup>2</sup>	52,875	46,857	6,018 6,169 <sup>2</sup>	15.9	16.1	14.7 14.5 <sup>2</sup>	305	222	83
2000	3,366	2,941	424	53,373	47,204	0,109	15.9	16.0	14.5	_	_	_
2001	3,440	3,000	441	53,992	47,672	6,320	15.7	15.9	14.3	-	_	-
2002	3,476	3,034	442 <sup>2</sup>	54,403	48,183	6,220 <sup>2</sup>	15.7	15.9	14.1 <sup>2</sup>			
2003 2004	3,490 3,536	3,049 3,091	441 445 <sup>2</sup>	54,639 54,882	48,540 48,795	6,099 6,087 <sup>2</sup>	15.7 15.5	15.9 15.8	13.8 13.7 <sup>2</sup>	311	236	74
2005	3,593	3,143	450	55,187	49,113	6,073	15.4	15.6	13.5	_	_	_
0000			450 2	-		-	45.0	45.0	10.02			
2006 2007	3,622 3,656	3,166 3,200	456 <sup>2</sup> 456	55,307 55,201	49,316 49,291	5,991 <sup>2</sup> 5,910	15.3 15.1	15.6 15.4	13.2 <sup>2</sup> 13.0	327	246	80
2008	3,670	3,222	430 448 <sup>2</sup>	54,973	49,266	5,707 <sup>2</sup>	15.0	15.3	12.8 <sup>2</sup>		240	
2009	3,647	3,210	437	54,849	49,361	5,488	15.0	15.4	12.5	_	_	_
2010	3,529	3,099	429 <sup>2</sup>	54,867	49,484	5,382 <sup>2</sup>	15.5	16.0	12.5 <sup>2</sup>	-	_	-
2011	3,524	3,103	421	54,790	49,522	5,268	15.5	16.0	12.5	241	173	68
2012	3,540	3,109	431 <sup>2</sup>	55,104	49,771	5,333 <sup>2</sup>	15.6	16.0	12.4 <sup>2</sup>	338	247	91
2013 <sup>3</sup>	3,555	3,114	441	55,440	50,045	5,396	15.6	16.1	12.2	334	244	90
2014 <sup>3</sup>	3,568	3,132	436 <sup>2</sup>	55,635	50,313	5,323 <sup>2</sup>	15.6	16.1	12.2 <sup>2</sup>	336	259	77
2015 <sup>4</sup>	3,575	3,143	432	55,763	50,485	5,278	15.6	16.1	12.2	331	254	77
2016 <sup>4</sup>	3,580	3,152	428	55,859	50,625	5,234	15.6	16.1	12.2	328	251	76
2017 <sup>4</sup>	3,581	3,157	424	55,891	50,710	5,181	15.6	16.1	12.2	323	247	76
2018 <sup>4</sup> 2019 <sup>4</sup>	3,580 3,601	3,160 3,182	420 420	55,892 55,947	50,759 50,843	5,133 5,104	15.6 15.5	16.1 16.0	12.2 12.2	320 340	245 262	75 78
2019 2020 <sup>4</sup>	3,601	3,162	420	55,947 56,079	50,843	5,104 5,083	15.5	15.9	12.2	340	262	78
				-								
2021 <sup>4</sup> 2022 <sup>4</sup>	3,645	3,225	420	56,216	51,152	5,064	15.4	15.9	12.1	344	266	78
2022 <sup>4</sup>	3,671 3,700	3,250 3,277	421 423	56,356 56,513	51,301 51,455	5,055 5,058	15.4 15.3	15.8 15.7	12.0 11.9	347 351	268 270	80 81
2023 2024 <sup>4</sup>	3,700	3,303	423	56,632	51,455	5,058	15.3	15.7	11.9	354	270	83
2025 <sup>4</sup>	3,759	3,329	431	56,715	51,632	5,083	15.1	15.5	11.8	358	274	84
2026 <sup>4</sup>	3,783	3,349	434	56,834	51,738	5,096	15.0	15.4	11.8	353	270	84

## Table 8. Public and private elementary and secondary teachers, enrollment, pupil/teacher ratios, and new teacher hires: Selected years, fall 1955 through fall 2026

#### -Not available.

<sup>1</sup>A teacher is considered to be a new hire for a public or private school if the teacher had not taught in that control of school in the previous year. A teacher who moves from a public to private to public school is considered a new teacher hire, but a teacher who moves from one public school to another public school or one private school to another private school is not considered a new teacher hire. <sup>2</sup>Estimated.

from class size calculations. Ratios for public schools reflect totals reported by states and differ from totals reported for schools or school districts. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statis*-

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statis*tics of Public Elementary and Secondary Day Schools, 1955–56 through 1980–81; Statistics of Nonpublic Elementary and Secondary Schools, 1955 through 1980; 1983–84, 1985– 86, and 1987–88 Private School Survey; Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1981–82 through 2014–15; Private School Universe Survey (PSS), 1989–90 through 2013–14; Schools and Statfing Survey (SASS), "Public School Teacher Data File" and "Private School Teacher Data File," 1999– 2000 through 2011–12; Elementary and Secondary Teacher Projection Model, 1973 through 2026; and New Teacher Hires Projection Model, 1988 through 2026. (This table was prepared March 2017.)

<sup>3</sup>New teacher hires are estimates.

<sup>4</sup>Projected.

NOTE: Data for teachers are expressed in full-time equivalents (FTE). Counts of private school teachers and enrollment include prekindergarten through grade 12 in schools offering kindergarten or higher grades. Counts of public school teachers and enrollment include prekindergarten through grade 12. The pupil/teacher ratio includes teachers for students with disabilities and other special teachers, while these teachers are generally excluded

#### Table 9. High school graduates, by sex and control of school: Selected years, 1869-70 through 2026-27

				Averaged						
-		Sex			Cor	ntrol		freshman graduation		Graduates as
					Public <sup>2</sup>			rate for	Population	a ratio of 17-
School year	Total <sup>1</sup>	Males	Females	Total	Males	Females	Private, total	public schools <sup>3</sup>	17 years old <sup>4</sup>	year-old population
1	2	3	4	5	6	7	8	9	10	11
1869–70 1879–80 1889–90 1899–1900 1909–10 1919–20	16,000 23,634 43,731 94,883 156,429 311,266	7,064 10,605 18,549 38,075 63,676 123,684	8,936 13,029 25,182 56,808 92,753 187,582	 61,737 111,363 230,902					815,000 946,026 1,259,177 1,489,146 1,786,240 1,855,173	2.0 2.5 3.5 6.4 8.8 16.8
1929–30	666,904 1,221,475 1,199,700 1,858,023 2,888,639 3,142,120	300,376 578,718 570,700 895,000 1,430,000 1,552,000	366,528 642,757 629,000 963,000 1,459,000 1,590,000	591,719 1,143,246 1,063,444 1,627,050 2,588,639 2,837,129	538,273 505,394 791,426 1,285,895 1,401,064	604,973 558,050 835,624 1,302,744 1,436,065	75,185 5 78,229 5 136,256 5 230,973 300,000 5 304,991		2,295,822 2,403,074 2,034,450 2,672,000 3,757,000 4,272,000	29.0 50.8 59.0 69.5 76.9 73.6
1979–80	3,042,214 3,020,285 2,994,758 2,887,604 2,766,797	1,503,000 1,492,000 1,479,000 1,426,000	1,539,000 1,528,000 1,515,000 1,461,000 —	2,747,678 2,725,285 2,704,758 2,597,604 2,494,797	 	  	294,536 295,000 5 290,000 5 290,000 5 272,000 5	71.5 72.2 72.9 73.8 74.5	4,262,000 4,212,000 4,134,000 3,962,000 3,784,000	71.4 71.7 72.4 72.9 73.1
1984–85 1985–86 1986–87 1987–88 1988–89	2,676,917 2,642,616 2,693,803 2,773,020 2,743,743	 	 	2,413,917 2,382,616 2,428,803 2,500,020 2,458,800		 	263,000 5 260,000 5 265,000 5 273,000 5 284,943	74.2 74.3 74.3 74.2 73.4	3,699,000 3,670,000 3,754,000 3,849,000 3,842,000	72.4 72.0 71.8 72.0 71.4
1989–90 <sup>6</sup> 1990–91 1991–92 1992–93 1993–94	2,574,162 2,492,988 2,480,399 2,480,519 2,463,849	 	 	2,320,337 2,234,893 2,226,016 2,233,241 2,220,849	 	 	253,825 <sup>7</sup> 258,095 <sub>7</sub> 254,383 <sup>7</sup> 247,278 243,000 <sup>5</sup>	73.6 73.7 74.2 73.8 73.1	3,505,000 3,417,913 3,398,884 3,449,143 3,442,521	73.4 72.9 73.0 71.9 71.6
1994–95 1995–96 1996–97 1997–98 1998–99	2,519,084 2,518,109 2,611,988 2,704,050 2,758,655	 	 	2,273,541 2,273,109 2,358,403 2,439,050 2,485,630	 1,187,647 1,212,924	 1,251,403 1,272,706	245,543 245,000 <sup>5</sup> 253,585 265,000 <sup>5</sup> 273,025	71.8 71.0 71.3 71.3 71.3 71.1	3,635,803 3,640,132 3,792,207 4,008,416 3,917,885	69.3 69.2 68.9 67.5 70.4
1999–2000 2000–01 2001–02	2,832,844 2,847,973 2,906,534 3,015,735 3,054,438	 	 	2,553,844 2,569,200 2,621,534 2,719,947 2,753,438	1,241,631 1,251,931 1,275,813 1,330,973 1,347,800	1,312,213 1,317,269 1,345,721 1,388,974 1,405,638	279,000 <sup>5</sup> 278,773 285,000 <sup>5</sup> 295,788 301,000 <sup>5</sup>	71.7 71.7 72.6 73.9 74.3	4,056,639 4,023,686 4,023,968 4,125,087 4,113,074	69.8 70.8 72.2 73.1 74.3
2004-05 2005-06 <sup>6</sup> 2006-07 2007-08 2008-09 <sup>6</sup>	3,106,499 3,122,544 3,199,650 3,312,337 3,347,828	 	 	2,799,250 2,815,544 2,893,045 3,001,337 3,039,015	1,369,749 1,376,458 1,414,069 1,467,180 1,490,317	1,429,501 1,439,086 1,478,976 1,534,157 1,548,698	307,249 307,000 <sup>5</sup> 306,605 311,000 <sup>5</sup> 308,813	74.7 73.4 73.9 74.7 75.5	4,120,073 4,200,554 4,297,239 4,436,955 4,336,950	75.4 74.3 74.5 74.7 77.2
2009–10 2010–11 2011–12 2012–13	3,439,102 3,449,940 3,455,405 3,478,027 3,479,920	 	 	3,128,022 3,144,100 3,149,185 3,169,257 3,168,450	1,542,684 <sup>9</sup> 1,552,981 1,558,489 1,569,675 —	1,585,338 <sup>9</sup> 1,591,113 1,590,694 1,599,579 —	311,080 <sup>5</sup> 305,840 306,220 <sup>5</sup> 308,770 311,480	78.2 79.6 80.8 81.9	4,311,831 4,368,154 4,294,956 4,257,599 4,187,691	79.8 79.0 80.5 81.7 83.1
2014-15 <sup>10</sup>	3,498,350 3,538,820 3,568,400 3,612,500 3,606,230			3,187,000 3,225,160 3,253,730 3,297,050 3,299,910		 	311,360 313,660 314,670 315,450 306,330	- - - -	4,172,212 	83.8 — — —
2019–20 <sup>10</sup> 2020–21 <sup>10</sup> 2021–22 <sup>10</sup> 2022–23 <sup>10</sup>	3,566,910 3,589,040 3,604,150 3,601,740 3,664,390	 		3,265,550 3,287,230 3,309,540 3,316,280 3,386,980		 	301,370 301,810 294,610 285,470 277,410	- - - -		
2023-24 <sup>10</sup> 2024-25 <sup>10</sup> 2025-26 <sup>10</sup> 2026-27 <sup>10</sup>	3,721,920 3,701,840 3,597,370			3,443,430 3,424,140 3,327,500	 	 	278,490 277,700 269,860			

#### –Not available.

<sup>1</sup>Includes graduates of public and private schools.

<sup>2</sup>Data for 1929–30 and preceding years are from *Statistics of Public High Schools* and exclude graduates from high schools that failed to report to the Office of Education. Includes estimates for jurisdictions not reporting counts of graduates by sex. <sup>3</sup>The averaged freshman graduation rate provides an estimate of the percentage of students who

receive a regular diploma within 4 years of entering ninth grade. The rate uses aggregate student enrollment data to estimate the size of an incoming freshman class and aggregate counts of the number of diplomas awarded 4 years later. Averaged freshman graduation rates in this table are based on reported totals of enrollment by grade and high school graduates, rather than on details reported by race/ethnicity.

<sup>4</sup>Derived from Current Population Reports, Series P-25. For years 1869–70 through 1989–90, 17-year-old population is an estimate of the October 17-year-old population based on July data. Data for 1990-91 and later years are October resident population estimates prepared by the Census Bureau.

<sup>5</sup>Estimated.

<sup>6</sup>Includes imputations for nonreporting states.

<sup>7</sup>Projected by private schools responding to the Private School Universe Survey.
<sup>8</sup>Includes estimates for public schools in New York and Wisconsin. Without estimates for these two states, the averaged freshman graduation rate for the remaining 48 states and the District of Columbia is 75.0 percent.

<sup>9</sup>Includes estimate for Connecticut, which did not report graduates by sex. <sup>10</sup>Projected by NCES.

NOTE: Includes graduates of regular day school programs. Excludes graduates of other programs, when separately reported, and recipients of high school equivalency certificates. Some data have been revised from previously published figures. Detail may not sum to totals because of

rounding and adjustments to protect student privacy. SOURCE: U.S. Department of Education, National Center for Education Statistics, Annual Report of the Commissioner of Education, 1870 through 1910; Biennial Survey of Education in the United States, 1919–20 through 1949–50; Statistics of State School Systems, 1951–52 through 1957–58; Statistics of Public Elementary and Secondary School Systems, 1958–59 through 1980–81; Statistics of Nonpublic Elementary and Secondary Schools, 1959 through 1980; Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1981–82 through 2009–10; "State Dropout and Completion Data File," 2005–06 through 2012–13; Public School Graduates and Dropouts From the Common Core of Data, 2007–08 and 2008–09; Private School Universe Survey (PSS), 1989 through 2013; and National High School Graduates Projection Model, 1972-73 through 2026-27. U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved August 11, 2011, from https://www2.census.gov/ programs-surveys/popest/datasets/2000-2009/ and Population Estimates, retrieved December 18, 2015, from https://www2.census.gov/programs-surveys/popest/datasets/ 2010-2015/. (This table was prepared May 2017.)

Table 10. Public high school graduates, by region, state, and jurisdiction: Selected years, 1980–81 through 2026–27	Table	10. Public high sc	hool graduates, by re	egion, state, and	d jurisdiction: S	Selected years,	1980-81 through 2026-2	7
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Region, state, and				A	ctual data						Projecte	ed data	
jurisdiction	1980–81	1989–90	1999–2000	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
1	2	3	4	5	6	7	8	9	10	11	12	13	14
United States	2,725,285	2,320,337 1	2,553,844	3,001,337	3,039,015 <sup>1</sup>	3,128,022	3,144,100	3,149,185	3,169,257	3,168,450	3,187,000	3,225,160	3,253,730
Region Northeast Midwest South West	593,727 784,071 868,068 479,419	446,045 616,700 796,385 461,207	453,814 648,020 861,498 590,512	552,289 721,220 1,031,773 696,055	552,973 717,536 1,068,270 700,236	556,400 726,844 1,104,770 740,008	556,611 718,779 1,119,414 749,296	554,705 716,072 1,121,400 757,008	555,202 713,662 1,138,965 761,428	546,910 705,550 1,145,570 770,420	543,080 708,240 1,162,950 772,720	548,200 704,100 1,192,410 780,450	543,580 708,920 1,217,720 783,510
State Alabama Alaska Arizona Arkansas California	44,894 5,343 28,416 29,577 242,172	40,485 5,386 32,103 26,475 236,291	37,819 6,615 38,304 27,335 309,866	41,346 7,855 61,667 28,725 374,561	42,082 8,008 62,374 28,057 372,310 <sup>2</sup>	43,166 8,245 61,145 28,276 404,987	46,035 8,064 64,472 28,205 410,467	45,394 7,989 63,208 28,419 418,664	44,233 7,860 62,208 28,928 422,125	44,540 7,720 66,700 29,610 424,080	45,420 7,860 67,200 30,350 422,830	45,910 7,690 67,290 30,610 424,430	45,490 7,930 68,190 30,960 422,200
Colorado	35,897	32,967	38,924	46,082	47,459	49,321	50,122	50,087	50,968	51,310	51,450	53,470	54,630
Connecticut	38,369	27,878	31,562	38,419	34,968	34,495	38,854	38,681	38,722	37,860	37,160	36,660	36,970
Delaware	7,349	5,550	6,108	7,388	7,839	8,133	8,043	8,247	8,070	8,240	8,390	8,360	8,540
District of Columbia <sup>3</sup>	4,848	3,626	2,695	3,352	3,517	3,602	3,477	3,860	3,961	3,880	3,990	3,950	3,690
Florida	88,755	88,934	106,708	149,046	153,461	156,130	155,493	151,964	158,029	158,440	163,740	165,090	170,990
Georgia	62,963	56,605	62,563	83,505	88,003	91,561	92,338	90,582	92,416	94,380	97,420	99,770	102,660
Hawaii	11,472	10,325	10,437	11,613	11,508	10,998	10,716	11,360	10,790	11,050	10,760	10,920	10,930
Idaho	12,679	11,971	16,170	16,567	16,807	17,793	17,525	17,568	17,198	19,120	18,050	18,180	18,670
Illinois	136,795	108,119	111,835	135,143	131,670	139,035	134,956	139,575	139,228	137,640	140,520	136,820	137,340
Indiana	73,381	60,012	57,012	61,901	63,663	64,551	66,133	65,667	66,595	67,560	66,750	67,190	67,620
lowa	42,635	31,796	33,926	34,573	33,926	34,462	33,853	33,230	32,548	32,590	32,450	32,890	33,160
Kansas	29,397	25,367	29,102	30,737	30,368	31,642	31,370	31,898	31,922	32,150	31,900	32,950	33,110
Kentucky	41,714	38,005	36,830	39,339	41,851	42,664	43,031	42,642	42,888	42,400	42,530	43,850	43,510
Louisiana	46,199	36,053	38,430	34,401	35,622	36,573	35,844	36,675	37,508	38,180	37,720	39,080	39,610
Maine	15,554	13,839	12,211	14,350 <sup>4</sup>	14,093 <sup>4</sup>	14,069	13,653	13,473	13,170	12,730	12,560	12,750	12,410
Maryland	54,050	41,566	47,849	59,171	58,304	59,078	58,745	58,811	58,896	58,120	57,650	57,560	57,130
Massachusetts	74,831	55,941 <sup>5</sup>	52,950	65,197	65,258	64,462	64,724	65,157	66,360	65,200	65,790	66,980	66,600
Michigan	124,372	93,807	97,679	115,183	112,742	110,682	106,017	105,446	104,210	102,520	102,020	100,960	101,010
Minnesota	64,166	49,087	57,372	60,409	59,729	59,667	59,357	57,501	58,255	56,370	56,800	56,700	57,420
Mississippi	28,083	25,182	24,232	24,795	24,505	25,478	27,321	26,158	26,502	26,650	26,260	27,140	27,510
Missouri	60,359	48,957	52,848	61,717	62,969	63,994	62,994	61,313	61,407	60,900	60,590	61,480	61,060
Montana	11,634	9,370	10,903	10,396	10,077	10,075	9,732	9,750	9,369	9,470	9,390	9,420	9,550
Nebraska	21,411	17,664	20,149	20,035	19,501	19,370	20,331	20,464	20,442	20,580	20,650	20,960	21,420
Nevada	9,069	9,477	14,551	18,815	19,904 <sup>2</sup>	20,956	21,182	21,891	23,038	22,720	23,040	22,910	23,390
New Hampshire	11,552	10,766	11,829	14,982	14,757	15,034	14,495	14,426	14,262	13,790	13,520	13,670	13,490
New Jersey	93,168	69,824	74,420	94,994	95,085	96,225	95,186	93,819	96,490	95,220	95,250	97,300	96,150
New Mexico	17,915	14,884	18,031	18,264	17,931	18,595	19,352	20,315	19,232	18,590	19,530	19,640	19,890
New York	198,465	143,318	141,731	176,310	180,917	183,826	182,759	180,806	180,351	178,810	179,110	181,550	182,620
North Carolina	69,395	64,782	62,140	83,307	86,712	88,704	89,892	93,977	94,339	96,210	97,020	101,420	103,800
North Dakota	9,924	7,690	8,606	6,999	7,232	7,155	7,156	6,942	6,900	6,960	7,040	7,070	7,140
Ohio	143,503	114,513	111,668	120,758	122,203	123,437	124,229	123,135	122,491	119,520	120,940	118,870	120,410
Oklahoma	38,875	35,606	37,646	37,630	37,219	38,503	37,744	37,305	37,033	37,260	38,420	39,400	40,280
Oregon	28,729	25,473	30,151	34,949	35,138	34,671	34,723	34,261	33,899	34,440	34,800	35,240	35,180
Pennsylvania	144,645	110,527	113,959	130,298	130,658	131,182	130,284	131,733	129,777	127,200	123,560	122,970	120,030
Rhode Island	10,719	7,825	8,477	10,347	10,028	9,908	9,724	9,751	9,579	9,730	9,900	10,160	9,250
South Carolina	38,347	32,483	31,617	35,303	39,114	40,438	40,708	41,442	42,246	41,720	42,650	44,190	45,110
South Dakota	10,385	7,650	9,278	8,582	8,123	8,162	8,248	8,196	8,239	7,960	8,140	7,840	8,130
Tennessee	50,648	46,094	41,568	57,486	60,368	62,408	61,862	62,454	61,323	60,970	62,010	62,800	63,470
Texas	171,665	172,480	212,925	252,121	264,275	280,894	290,470	292,531	301,390	304,360	309,280	320,840	331,390
Utah	19,886	21,196	32,501	28,167	30,463	31,481	30,888	31,157	33,186	33,400	34,070	35,540	36,780
Vermont	6,424	6,127	6,675	7,392	7,209	7,199	6,932	6,859	6,491	6,360	6,240	6,170	6,080
Virginia	67,126	60,605	65,596	77,369	79,651	81,511	82,895	83,336	83,279	83,100	82,680	84,580	85,770
Washington	50,046	45,941	57,597	61,625	62,764	66,046	66,453	65,205	66,066	66,240	68,200	69,990	70,430
West Virginia	23,580	21,854	19,437	17,489	17,690	17,651	17,311	17,603	17,924	17,510	17,460	17,870	17,830
Wisconsin	67,743	52,038	58,545	65,183	65,410	64,687	64,135	62,705	61,425	60,810	60,460	60,380	61,100
Wyoming	6,161	5,823	6,462	5,494	5,493	5,695	5,600	5,553	5,489	5,590	5,550	5,740	5,750
Jurisdiction Bureau of Indian Education		_	_	_	_	_	_	_	_	_	_	_	_
DoD, overseas DoD, domestic	_		2,642 560	_			-		_	_			_
Other jurisdictions American Samoa Guam Northern Marianas . Puerto Rico U.S. Virgin Islands	 	703 1,033 227 29,049 1,260	698 1,406 360 30,856 1,060	  30,016 820	  29,286 940			 25,720 1,046	  897	- - - -	- - - -	- - - -	- - - -

See notes at end of table.

#### Table 10. Public high school graduates, by region, state, and jurisdiction: Selected years, 1980-81 through 2026-27-Continued

	Projected data										
Region, state, and jurisdiction	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24	2024–25	2025–26	2026–27	Percent change, 2012–13 to 2026–27
1	15	16	17	18	19	20	21	22	23	24	25
United States	3,297,050	3,299,910	3,265,550	3,287,230	3,309,540	3,316,280	3,386,980	3,443,430	3,424,140	3,327,500	5.0
Region Northeast Midwest South West	547,690 713,060 1,247,340 788,960	542,370 715,500 1,255,590 786,440	535,360 703,240 1,242,010 784,940	539,600 703,940 1,246,320 797,370	538,460 714,180 1,252,900 804,000	533,830 705,660 1,265,780 811,000	539,470 719,350 1,297,030 831,130	547,590 727,720 1,340,120 827,990	542,430 717,890 1,342,950 820,870	524,270 693,320 1,311,130 798,780	-5.6 -2.9 15.1 4.9
State Alabama Alaska Arizona Arkansas California	45,100 7,940 66,760 30,970 426,140	44,400 7,880 67,240 31,010 420,520	42,750 7,650 66,550 30,990 419,670	41,800 7,590 68,050 30,510 425,880	42,060 7,730 69,230 30,510 428,690	41,890 7,950 70,780 30,220 431,410	42,070 8,200 72,770 30,110 442,160	43,330 8,530 75,270 32,190 427,290	43,570 8,620 74,870 31,930 418,940	42,210 8,380 72,760 30,920 406,100	-4.6 6.6 17.0 6.9 -3.8
Colorado Connecticut Delaware District of Columbia <sup>3</sup> Florida	56,300 36,440 8,780 3,820 173,290	57,330 36,090 8,690 3,930 176,060	58,000 35,220 8,790 3,690 171,230	59,620 35,890 9,190 3,810 172,080	59,600 34,910 9,270 3,830 174,950	60,030 34,710 9,360 4,140 178,000	61,370 34,120 9,670 4,390 183,980	62,430 34,500 9,710 4,820 190,880	62,890 33,470 9,970 4,950 191,140	61,280 32,000 9,690 5,070 187,730	20.2 -17.4 20.1 28.0 18.8
Georgia Hawaii Idaho Illinois Indiana	104,820 11,060 18,940 138,320 68,200	106,090 10,580 19,340 140,550 69,730	105,030 11,190 19,330 139,380 66,680	104,480 11,290 19,390 140,030 65,120	105,380 11,430 19,540 143,440 66,400	106,740 11,710 19,660 142,830 64,530	109,140 11,740 19,520 143,090 66,050	112,230 12,110 19,720 145,890 66,940	113,150 12,120 19,460 140,460 66,590	110,210 11,830 19,040 134,620 64,500	19.3 9.6 10.7 -3.3 -3.1
lowa Kansas Kentucky Louisiana Maine	33,590 33,610 44,380 42,120 12,340	33,200 33,270 44,830 40,330 12,160	33,210 33,050 43,630 40,580 11,910	33,640 33,460 44,110 39,740 11,810	33,670 33,570 44,470 42,070 11,990	34,060 33,670 44,310 38,650 11,930	34,850 34,400 45,910 41,010 11,790	35,510 35,060 47,620 42,510 11,880	35,590 35,040 47,650 42,350 11,630	34,650 33,980 46,100 40,980 11,180	6.5 6.4 7.5 9.3 -15.1
Maryland Massachusetts Michigan Minnesota Mississippi	58,670 66,880 101,490 57,950 28,230	58,010 66,840 100,500 59,100 27,360	59,890 66,020 96,670 58,450 26,710	60,680 66,500 95,800 60,020 25,890	61,270 66,300 97,450 61,590 26,060	61,970 65,040 94,330 61,630 25,800	63,650 65,810 95,080 63,290 26,400	65,760 66,980 94,990 65,150 27,790	66,570 66,690 91,460 64,770 27,070	64,840 64,000 88,050 62,740 26,100	10.1 -3.6 -15.5 7.7 -1.5
Missouri Montana Nebraska Nevada New Hampshire	61,250 9,300 22,150 23,720 13,340	60,670 9,440 22,400 24,200 13,090	59,780 9,520 22,890 24,210 13,040	59,940 9,500 23,210 24,190 12,790	60,150 9,710 23,760 24,550 12,810	60,300 9,690 23,490 25,230 12,440	61,050 10,160 24,030 25,950 12,480	62,330 10,140 22,820 27,260 12,340	61,850 10,400 24,770 27,310 12,090	59,950 10,140 23,640 26,900 11,550	-2.4 82 15.7 16.8 -19.0
New Jersey New Mexico New York North Carolina North Dakota	96,510 19,520 186,250 108,230 7,080	96,190 19,800 183,100 109,450 7,330	94,850 19,700 182,090 107,420 7,430	96,200 19,520 183,500 107,340 7,800	96,470 19,550 182,720 99,670 8,190	94,960 19,790 183,440 106,850 8,380	96,170 19,990 186,540 109,340 8,980	97,710 20,520 190,120 112,790 9,320	97,050 20,320 188,960 113,190 9,660	93,700 19,480 183,680 109,720 9,700	-2.9 1.3 1.8 16.3 40.5
Ohio Oklahoma Oregon Pennsylvania Rhode Island	120,010 40,810 35,100 120,760 9,350	119,850 40,700 35,090 119,150 9,960	117,740 40,770 34,580 116,570 9,950	116,370 41,310 35,170 117,380 9,870	116,520 41,600 35,460 117,520 10,060	113,300 39,890 35,410 115,780 9,750	118,960 42,470 36,640 117,170 9,820	118,500 43,550 37,710 118,410 9,900	117,310 43,420 37,930 116,920 9,890	113,330 42,500 37,210 113,210 9,500	-7.5 14.7 9.8 -12.8 -0.9
South Carolina South Dakota Tennessee Texas Utah	46,180 8,180 63,720 341,620 37,680	46,340 8,090 63,590 348,740 38,220	45,420 8,140 62,630 346,410 38,890	45,450 8,360 62,430 352,070 40,180	45,900 8,530 62,670 356,260 40,730	46,650 8,910 63,530 361,470 40,800	48,250 9,080 65,190 367,620 42,070	50,770 9,320 66,290 379,470 43,170	50,690 9,350 64,780 382,770 43,290	49,710 9,110 63,320 375,520 42,340	17.7 10.6 3.3 24.6 27.6
Vermont Virginia Washington West Virginia Wisconsin Wyoming	5,810 88,470 70,640 18,140 61,230 5,870	5,790 88,100 70,930 17,970 60,820 5,870	5,720 87,990 69,800 18,070 59,810 5,870	5,670 87,710 70,800 17,740 60,200 6,190	5,680 89,090 71,650 17,840 60,910 6,130	5,790 88,710 72,110 17,620 60,230 6,430	5,570 90,460 73,980 17,410 60,510 6,580	5,760 92,650 77,060 17,790 61,880 6,790	5,720 92,160 77,940 17,630 61,050 6,780	89,500 76,700 17,030 59,040	-15.8 7.5 16.1 -5.0 -3.9 20.8
Jurisdiction Bureau of Indian Education											
DoD, overseas DoD, domestic			_				_		_		_
Other jurisdictions American Samoa	_	_	_	_	_	_	_	_	_	_	_
Guam Northern Marianas . Puerto Rico U.S. Virgin Islands	_ _ _ _	- - -	- - -	- - - -	 			- - -	 	 _ 	
3	l			L	l					l	ļ

—Not available.

<sup>1</sup>U.S. total includes estimates for nonreporting states.

<sup>2</sup>Estimated high school graduates from NCES 2011-312, Public School Graduates and Drop-

<sup>21</sup> School graduates from NCES 201-312, Public School Graduates and Drop-outs from the Common Core of Data: School Year 2008–09.
 <sup>32</sup> Beginning in 1989–90, graduates from adult programs are excluded.
 <sup>4</sup> Includes 1,161 graduates in 2007–08 and 1,169 graduates in 2008–09 from private high schools that received a majority of their funding from public sources.
 <sup>5</sup> Projected data from NCES 91-490, Projections of Education Statistics to 2002.
 NOTE: Data include regular diploma recipients, but exclude students receiving a certificate of attendance and persons receiving high school equivalency certificates. DoD = Department of

Defense. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.

Sum to totals because or rounding. SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1981–82 through 2005–06; "State Dropout and Completion Data File," 2005–06 through 2012–13; Public School Graduates and Dropouts From the Common Core of Data, 2007–08 and 2008-09; and State High School Graduates Projection Model, 1980-81 through 2026-27. (This table was prepared May 2017.)

#### Table 11. Public high school graduates, by race/ethnicity: 1998–99 through 2026–27

			Number of	f high school	graduates					Percentage	distribution	of graduates	5	
Year	Total	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaska Native	Two or more races	Total	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaska Native	Two or more races
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1998–99 1999–2000 2000–01 2001–02 2002–03	2,485,630 2,553,844 2,569,200 2,621,534 2,719,947	1,749,561 1,778,370 1,775,036 1,796,110 1,856,454	325,708 338,116 339,578 348,969 359,920	270,836 289,139 301,740 317,197 340,182	115,216 122,344 126,465 132,182 135,588	24,309 25,875 26,381 27,076 27,803		100.0 100.0 100.0 100.0 100.0	70.4 69.6 69.1 68.5 68.3	13.1 13.2 13.2 13.3 13.2	10.9 11.3 11.7 12.1 12.5	4.6 4.8 4.9 5.0 5.0	1.0 1.0 1.0 1.0 1.0	† † † †
2003-04 2004-05 2005-06 2006-07 2007-08	2,753,438 2,799,250 2,815,544 2,893,045 3,001,337	1,829,177 1,855,198 1,838,765 1,868,056 1,898,367	383,443 385,987 399,406 418,113 429,840	374,492 383,714 396,820 421,036 448,887	137,496 143,729 150,925 154,837 159,410	28,830 30,622 29,628 31,003 32,036	  32,797 <sup>1</sup>	100.0 100.0 100.0 100.0 100.0	66.4 66.3 65.3 64.6 63.3	13.9 13.8 14.2 14.5 14.3	13.6 13.7 14.1 14.6 15.0	5.0 5.1 5.4 5.4 5.3	1.0 1.1 1.1 1.1 1.1	† † † 1.1 1
2008–09 2009–10 2010–11 2011–12 2012–13	3,039,015 3,128,022 3,144,100 3,149,185 3,169,257	1,883,382 1,871,980 1,835,332 1,807,528 1,791,147	451,384 472,261 471,461 467,932 461,919	481,698 545,518 583,907 608,726 640,413	163,575 167,840 168,875 173,835 179,101	32,213 34,131 32,768 32,450 31,100	26,763 <sup>1</sup> 36,292 <sup>1</sup> 51,748 58,703 65,569	100.0 100.0 100.0 100.0 100.0	62.0 59.8 58.4 57.4 56.5	14.9 15.1 15.0 14.9 14.6	15.9 17.4 18.6 19.3 20.2	5.4 5.4 5.5 5.5 5.7	1.1 1.1 1.0 1.0 1.0	0.9 <sup>1</sup> 1.2 <sup>1</sup> 1.6 1.9 2.1
2013–14 <sup>2</sup> 2014–15 <sup>2</sup> 2015–16 <sup>2</sup> 2016–17 <sup>2</sup> 2017–18 <sup>2</sup>	3,168,450 3,187,000 3,225,160 3,253,730 3,297,050	1,771,700 1,753,050 1,765,020 1,769,620 1,771,600	453,800 458,850 483,000 511,300 543,540	657,520 682,300 691,180 687,500 686,200	183,010 186,300 188,050 185,460 194,720	30,230 30,100 30,340 29,970 29,020	72,190 76,400 67,560 69,870 71,980	100.0 100.0 100.0 100.0 100.0	55.9 55.0 54.7 54.4 53.7	14.3 14.4 15.0 15.7 16.5	20.8 21.4 21.4 21.1 20.8	5.8 5.8 5.7 5.9	1.0 0.9 0.9 0.9 0.9	2.3 2.4 2.1 2.1 2.2
2018–19 <sup>2</sup> 2019–20 <sup>2</sup> 2020–21 <sup>2</sup> 2021–22 <sup>2</sup> 2022–23 <sup>2</sup>	3,299,910 3,265,550 3,287,230 3,309,540 3,316,280	1,749,570 1,718,830 1,718,740 1,711,660 1,687,420	529,540 528,590 529,760 531,690 545,590	721,800 712,440 723,120 744,120 760,620	195,970 199,840 208,060 212,500 211,480	29,630 29,890 29,300 29,150 28,560	73,390 75,970 78,250 80,430 82,610	100.0 100.0 100.0 100.0 100.0	53.0 52.6 52.3 51.7 50.9	16.0 16.2 16.1 16.1 16.5	21.9 21.8 22.0 22.5 22.9	5.9 6.1 6.3 6.4 6.4	0.9 0.9 0.9 0.9 0.9	2.2 2.3 2.4 2.4 2.5
2023–24 <sup>2</sup> 2024–25 <sup>2</sup> 2025–26 <sup>2</sup> 2026–27 <sup>2</sup>	3,386,980 3,443,430 3,424,140 3,327,500	1,695,180 1,702,470 1,676,630 1,617,250	577,510 599,190 607,630 548,730	787,910 810,220 802,500 830,000	212,340 215,260 218,310 211,420	28,720 28,530 28,230 27,090	85,330 87,750 90,850 93,010	100.0 100.0 100.0 100.0	50.0 49.4 49.0 48.6	17.1 17.4 17.7 16.5	23.3 23.5 23.4 24.9	6.3 6.3 6.4 6.4	0.8 0.8 0.8 0.8	2.5 2.5 2.7 2.8

-Not available.

Not available.
 <sup>1</sup>Not applicable.
 <sup>1</sup>Data on students of Two or more races were not reported by all states; therefore, the data are not comparable to figures for 2010–11 and later years.
 <sup>2</sup>Projected.

NOTE: Race categories exclude persons of Hispanic ethnicity. Prior to 2007-08, data on students of Two or more races were not collected separately. Some data have been revised

from previously published figures. Detail may not sum to totals because of rounding and statistical methods used to prevent the identification of individual students. 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; "State Dropout and Completion Data File," 2005–06 through 2012–13; and National Public High School Graduates by Race/Ethnicity Projection Model, 1995–96 through 2026–27. (This table was prepared May 2017.)

Table 12. Current expenditures and current expenditures per pupil in pub	blic elementary and secondary schools: 1989–90 through 2026–27
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	Current expe	enditures in unadjus	sted dollars <sup>1</sup>		Curre	nt expenditures in co	onstant 2015–16 d	ollars <sup>2</sup>	
			Per pupil in .	Total current	expenditures	Per pupil in fa	Il enrollment	Per pupil in daily attendar	
School year	Total, in billions	Per pupil in fall enrollment	average daily attendance (ADA)	In billions	Annual percentage change		Annual percentage change	Per pupil in ADA	Annual percentage change
1	2	3	4	5	6	7	8	9	10
1989–90	\$188.2	\$4,643	\$4,980	\$353.2	3.8	\$8,712	2.9	\$9,345	2.3
1990–91	202.0	4,902	5,258	359.5	1.8	8,722	0.1	9,355	0.1
1991–92	211.2	5,023	5,421	364.1	1.3	8,660	-0.7	9,346	-0.1
1992–93	220.9	5,160	5,584	369.4	1.4	8,626	-0.4	9,335	-0.1
1993–94	231.5	5,327	5,767	377.3	2.1	8,681	0.6	9,399	0.7
1994–95	243.9	5,529	5,989	386.4	2.4	8,758	0.9	9,488	0.9
1995–96	255.1	5,689	6,147	393.4	1.8	8,774	0.2	9,480	-0.1
1996–97	270.2	5,923	6,393	405.1	3.0	8,882	1.2	9,586	1.1
1997–98	285.5	6,189	6,676	420.6	3.8	9,118	2.7	9,834	2.6
1998–99	302.9	6,508	7,013	438.6	4.3	9,424	3.4	10,156	3.3
1999–2000	323.9	6,912	7,394	455.9	3.9	9,729	3.2	10,406	2.5
2000–01	348.4	7,380	7,904	474.1	4.0	10,043	3.2	10,756	3.4
2001–02	368.4	7,727	8,259	492.6	3.9	10,333	2.9	11,043	2.7
2002–03	387.6	8,044	8,610	507.1	3.0	10,525	1.9	11,265	2.0
2003–04	403.4	8,310	8,900	516.5	1.8	10,641	1.1	11,395	1.2
2004–05	425.0	8,711	9,316	528.3	2.3	10,828	1.8	11,580	1.6
2005–06	449.1	9,145	9,778	537.8	1.8	10,950	1.1	11,709	1.1
2006–07	476.8	9,679	10,336	556.6	3.5	11,298	3.2	12,064	3.0
2007–08	506.9	10,298	10,982	570.5	2.5	11,591	2.6	12,361	2.5
2008–09	518.9	10,540	11,239	576.0	1.0	11,699	0.9	12,475	0.9
2009–10	524.7	10,636	11,427	576.9	0.1	11,693	-0.1	12,563	0.7
2010–11	527.3	10,663	11,433	568.3	-1.5	11,492	-1.7	12,322	-1.9
2011–12	527.2	10,648	11,362	552.0	-2.9	11,149	-3.0	11,897	-3.5
2012–13	535.8	10,771	11,509	551.8	#	11,093	-0.5	11,854	-0.4
2013–14	553.5	11,070	11,830	561.3	1.7	11,226	1.2	12,000	1.2
2014–15 <sup>3</sup>	565.2	11,230	12,020	569.0	1.4	11,310	0.8	12,100	0.8
2015–16 <sup>3</sup>	580.3	11,490	12,300	580.3	2.0	11,490	1.6	12,300	1.6
2016–17 <sup>3</sup>	599.6	11,840	12,670	588.5	1.4	11,630	1.1	12,430	1.1
2017–18 <sup>3</sup>	623.5	12,300	13,150	596.7	1.4	11,770	1.2	12,590	1.2
2018–19 <sup>3</sup>	647.9	12,760	13,650	605.5	1.5	11,930	1.4	12,760	1.4
2019–20 <sup>3</sup>	672.8	13,230	14,150	613.8	1.4	12,070	1.2	12,910	1.2
2020–21 <sup>3</sup>	699.1	13,710	14,660	622.4	1.4	12,200	1.1	13,050	1.1
2021–22 <sup>3</sup>	726.6	14,200	15,190	631.5	1.5	12,340	1.2	13,200	1.2
2022–23 <sup>3</sup>	755.3	14,720	15,750	640.3	1.4	12,480	1.1	13,350	1.1
2023–24 <sup>3</sup>	785.2	15,260	16,320	649.2	1.4	12,620	1.1	13,500	1.1
2024–25 <sup>3</sup>	814.7	15,800	16,900	657.5	1.3	12,750	1.1	13,640	1.1
2025–26 <sup>3</sup>	844.1	16,350	17,490	664.8	1.1	12,870	1.0	13,770	1.0
2026–27 <sup>3</sup>	865.9	16,740	17,900	669.5	0.7	12,940	0.5	13,840	0.5

#Rounds to zero.
 <sup>1</sup>Unadjusted (or "current") dollars have not been adjusted to compensate for inflation.
 <sup>2</sup>Constant dollars based on the Consumer Price Index, prepared by the Bureau of Labor Statistics, U.S. Department of Labor, adjusted to a school-year basis.
 <sup>3</sup>Projected.
 NOTE: Current expenditures include instruction, support services, food services, and enterprise operations. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Com-mon Core of Data (CCD), "National Public Education Financial Survey," 1989–90 through 2013–14; National Elementary and Secondary Enrollment Projection Model, 1972 through 2026; and Public Elementary and Secondary Education Current Expenditure Projection Model, 1973–74 through 2026–27. (This table was prepared March 2017.)

		Attendance status			5	Sex of student			Control of	rol of institution			
	Total			Percent			Percent			Private			
Year	enrollment	Full-time	Part-time	part-time	Male	Female	female	Public	Total	Nonprofit	For-profit		
1	2	3	4	5	6	7	8	9	10	11	12		
1947 <sup>1</sup>	2,338,226	_	_	_	1,659,249	678,977	29.0	1,152,377	1,185,849	_	_		
1948 <sup>1</sup> 1949 <sup>1</sup>	2,403,396 2,444,900	_	—	_	1,709,367 1,721,572	694,029 723,328	28.9 29.6	1,185,588 1,207,151	1,217,808 1,237,749	_	_		
1950 <sup>1</sup>	2,281,298	_	_	_	1,560,392	720,906	31.6	1,139,699	1,141,599	_	_		
1951 <sup>1</sup>	2,101,962	_	—	_	1,390,740	711,222	33.8	1,037,938	1,064,024	—	_		
1952 <sup>1</sup>	2,134,242	_	_	—	1,380,357	753,885	35.3	1,101,240	1,033,002	—	_		
1953 <sup>1</sup> 1954 <sup>1</sup>	2,231,054 2,446,693	_	_	_	1,422,598 1,563,382	808,456 883,311	36.2 36.1	1,185,876 1,353,531	1,045,178 1,093,162	_	_		
1955 <sup>1</sup>	2,653,034	_	_	_	1,733,184	919,850	34.7	1,476,282	1,176,752	_	_		
1956 <sup>1</sup>	2,918,212	_	—	—	1,911,458	1,006,754	34.5	1,656,402	1,261,810	—	_		
1957	3,323,783		2		2,170,765	1,153,018	34.7	1,972,673	1,351,110	—	_		
1959 1961	3,639,847 4,145,065	2,421,016 2,785,133	1,218,831 <sup>2</sup> 1,359,932 <sup>2</sup>	33.5 32.8	2,332,617 2,585,821	1,307,230 1,559,244	35.9 37.6	2,180,982 2,561,447	1,458,865 1,583,618	_	_		
1963	4,779,609	3,183,833	1.595.776 <sup>2</sup>	33.4	2,961,540	1,818,069	38.0	3,081,279	1,698,330	_	_		
1964	5,280,020	3,573,238	1,706,782 <sup>2</sup>	32.3	3,248,713	2,031,307	38.5	3,467,708	1,812,312	-	_		
1965 1966	5,920,864	4,095,728	1,825,136 <sup>2</sup> 1,951,266 <sup>2</sup>	30.8	3,630,020	2,290,844	38.7	3,969,596	1,951,268	—	-		
1966	6,389,872 6,911,748	4,438,606 4,793,128	2,118,620 <sup>-2</sup>	30.5 30.7	3,856,216 4,132,800	2,533,656 2,778,948	39.7 40.2	4,348,917 4,816,028	2,040,955 2,095,720	2,074,041	21,679		
1968	7,513,091	5,210,155	2,302,936	30.7	4,477,649	3,035,442	40.4	5,430,652	2,082,439	2,061,211	21,228		
1969	8,004,660	5,498,883	2,505,777	31.3	4,746,201	3,258,459	40.7	5,896,868	2,107,792	2,087,653	20,139		
1970 1971	8,580,887 8,948,644	5,816,290 6,077,232	2,764,597 2,871,412	32.2 32.1	5,043,642 5,207,004	3,537,245 3,741,640	41.2 41.8	6,428,134 6,804,309	2,152,753 2,144,335	2,134,420 2,121,913	18,333 22,422		
1972	9,214,860	6,072,389	3,142,471	34.1	5,207,004	3,976,103	41.0	7,070,635	2,144,335	2,121,913	20,980		
1973	9,602,123	6,189,493	3,412,630	35.5	5,371,052	4,231,071	44.1	7,419,516	2,182,607	2,148,784	33,823		
1974	10,223,729	6,370,273	3,853,456	37.7	5,622,429	4,601,300	45.0	7,988,500	2,235,229	2,200,963	34,266		
1975 1976	11,184,859 11,012,137	6,841,334 6,717,058	4,343,525 4,295,079	38.8 39.0	6,148,997 5,810,828	5,035,862 5,201,309	45.0 47.2	8,834,508 8,653,477	2,350,351 2,358,660	2,311,448 2,314,298	38,903 44,362		
1977	11,285,787	6,792,925	4,492,862	39.8	5,789,016	5,496,771	48.7	8,846,993	2,438,794	2,386,652	52,142		
1978	11,260,092	6,667,657	4,592,435	40.8	5,640,998	5,619,094	49.9	8,785,893	2,474,199	2,408,331	65,868		
1979 1980	11,569,899 12,096,895	6,794,039 7,097,958	4,775,860 4,998,937	41.3 41.3	5,682,877 5,874,374	5,887,022 6,222,521	50.9 51.4	9,036,822 9,457,394	2,533,077 2,639,501	2,461,773 2,527,787	71,304 111,714 <sup>3</sup>		
1981	12,030,035	7,181,250	4,390,937 5,190,422	41.3	5,975,056	6,396,616	51.4	9,647,032	2,039,301	2,572,405	152,235 <sup>3</sup>		
1982	12,425,780	7,220,618	5,205,162	41.9	6,031,384	6,394,396	51.5	9,696,087	2,729,693	2,552,739	176,954 <sup>3</sup>		
1983 1984	12,464,661 12,241,940	7,261,050 7,098,388	5,203,611 5,143,552	41.7 42.0	6,023,725 5,863,574	6,440,936 6,378,366	51.7 52.1	9,682,734 9,477,370	2,781,927 2,764,570	2,589,187 2,574,419	192,740 190,151		
1985	12,247,055	7,075,221	5,171,834	42.2	5,818,450	6,428,605	52.5	9,479,273	2,767,782	2,571,791	195,991		
1986	12,503,511	7,119,550	5,383,961	43.1	5,884,515	6,618,996	52.9	9,713,893	2,789,618	2,572,479	217,139 <sup>4</sup>		
1987 1988	12,766,642 13,055,337	7,231,085 7,436,768	5,535,557 5,618,569	43.4 43.0	5,932,056 6,001,896	6,834,586 7,053,441	53.5 54.0	9,973,254 10,161,388	2,793,388 2,893,949	2,602,350 2,673,567	191,038 <sup>4</sup> 220,382		
1989	13,538,560	7,660,950	5,877,610	43.4	6,190,015	7,348,545	54.3	10,577,963	2,960,597	2,073,307	229,423		
1990	13,818,637	7,820,985	5,997,652	43.4	6,283,909	7,534,728	54.5	10,844,717	2,973,920	2,760,227	213,693		
1991	14,358,953	8,115,329	6,243,624	43.5	6,501,844	7,857,109	54.7	11,309,563	3,049,390	2,819,041	230,349		
1992 1993	14,487,359 14,304,803	8,162,118 8,127,618	6,325,241 6,177,185	43.7 43.2	6,523,989 6,427,450	7,963,370 7,877,353	55.0 55.1	11,384,567 11,189,088	3,102,792 3,115,715	2,872,523 2,888,897	230,269 226,818		
1994	14,278,790	8,137,776	6,141,014	43.0	6,371,898	7,906,892	55.4	11,133,680	3,145,110	2,910,107	235,003		
1995	14,261,781	8,128,802	6,132,979	43.0	6,342,539	7,919,242	55.5	11,092,374	3,169,407	2,929,044	240,363		
1996 1997	14,367,520	8,302,953	6,064,567	42.2	6,352,825	8,014,695	55.8	11,120,499	3,247,021	2,942,556	304,465		
1997	14,502,334 14,506,967	8,438,062 8,563,338	6,064,272 5,943,629	41.8 41.0	6,396,028 6,369,265	8,106,306 8,137,702	55.9 56.1	11,196,119 11,137,769	3,306,215 3,369,198	2,977,614 3,004,925	328,601 364,273		
1999	14,849,691	8,803,139	6,046,552	40.7	6,515,164	8,334,527	56.1	11,375,739	3,473,952	3,055,029	418,923		
2000	15,312,289	9,009,600	6,302,689	41.2	6,721,769	8,590,520	56.1	11,752,786	3,559,503	3,109,419	450,084		
2001	15,927,987 16,611,711	9,447,502 9,946,359	6,480,485 6,665,352	40.7 40.1	6,960,815 7,202,116	8,967,172 9,409,595	56.3 56.6	12,233,156 12,751,993	3,694,831 3,859,718	3,167,330 3,265,476	527,501 594,242		
2003	16,911,481	10,326,133	6,585,348	38.9	7,260,264	9,651,217	57.1	12,858,698	4,052,783	3,341,048	711,735		
2004	17,272,044	10,610,177	6,661,867	38.6	7,387,262	9,884,782	57.2	12,980,112	4,291,932	3,411,685	880,247		
2005	17,487,475	10,797,011	6,690,464	38.3	7,455,925	10,031,550	57.4	13,021,834	4,465,641	3,454,692	1,010,949		
2006 2007	17,758,870 18,248,128	10,957,305 11,269,892	6,801,565 6,978,236	38.3 38.2	7,574,815 7,815,914	10,184,055 10,432,214	57.3 57.2	13,180,133 13,490,780	4,578,737 4,757,348	3,512,866 3,571,150	1,065,871 1,186,198		
2008	19,102,814	11,747,743	7,355,071	38.5	8,188,895	10,913,919	57.1	13,972,153	5,130,661	3,661,519	1,469,142		
2009	20,313,594	12,605,355	7,708,239	37.9	8,732,953	11,580,641	57.0	14,810,768	5,502,826	3,767,672	1,735,154		
2010	21,019,438	13,087,182	7,932,256	37.7	9,045,759	11,973,679	57.0	15,142,171	5,877,267	3,854,482	2,022,785		
2011 2012	21,010,590 20,644,478	13,002,531 12,734,404	8,008,059 7,910,074	38.1 38.3	9,034,256 8,919,006	11,976,334 11,725,472	57.0 56.8	15,116,303 14,884,667	5,894,287 5,759,811	3,926,819 3,951,388	1,967,468 1,808,423		
2013	20,376,677	12,596,610	7,780,067	38.2	8,861,197	11,515,480	56.5	14,746,848	5,629,829	3,971,390	1,658,439		
2014	20,207,369	12,453,975	7,753,394	38.2	8,797,061	11,410,308	57.0	14,655,015	5,552,354	3,996,089	1,556,265		

# Table 13. Total fall enrollment in degree-granting postsecondary institutions, by attendance status, sex of student, and control of institution: Selected years, 1947 through 2026

See notes at end of table.

#### Table 13. Total fall enrollment in degree-granting postsecondary institutions, by attendance status, sex of student, and control of institution: Selected years, 1947 through 2026—Continued

		A	ttendance status		:	Sex of student			Control of	finstitution		
	Total			Percent			Percent			Private		
Year	enrollment	Full-time	Part-time	part-time	Male	Female	female	Public	Total	Nonprofit	For-profit	
1	2	3	4	5	6	7	8	9	10	11	12	
2015	19,977,270 20,185,000 20,413,000 20,688,000 21,009,000 21,346,000 21,659,000 21,888,000 22,124,000 22,331,000	12,290,829 12,396,000 12,564,000 12,716,000 12,899,000 13,114,000 13,302,000 13,426,000 13,569,000 13,680,000	7,686,441 7,789,000 7,849,000 7,972,000 8,110,000 8,232,000 8,357,000 8,462,000 8,555,000 8,651,000	38.2 38.5 38.6 38.7 38.8 38.9 39.0 39.0 39.0 39.1 39.1	8,721,403 8,855,000 8,869,000 9,082,000 9,212,000 9,331,000 9,415,000 9,499,000 9,574,000	11,255,867 11,330,000 11,544,000 11,726,000 11,928,000 12,135,000 12,328,000 12,473,000 12,625,000 12,757,000	57.0 57.6 57.9 58.1 58.2 58.4 58.5 58.7 58.8 58.8	14,568,103 14,844,000 15,003,000 15,206,000 15,443,000 15,684,000 15,910,000 16,078,000 16,251,000 16,407,000	5,409,167 5,341,000 5,410,000 5,481,000 5,566,000 5,662,000 5,749,000 5,810,000 5,873,000 5,924,000	4,063,372 — — — — — — — — — — — — — —	1,345,795 — — — — — — — — — — — — — — — — —	
2025 <sup>5</sup> 2026 <sup>5</sup>	22,504,000 22,631,000	13,750,000 13,797,000	8,754,000 8,835,000	39.1 39.1	9,634,000 9,678,000	12,870,000 12,953,000	58.8 58.8	16,541,000 16,642,000	5,962,000 5,990,000	_ _		

-Not available.

<sup>1</sup>Degree-credit enrollment only.

<sup>2</sup>Includes part-time resident students and all extension students (students attending courses at sites separate from the primary reporting campus). In later years, part-time student enrollment was collected as a distinct category.

<sup>3</sup>Large increases are due to the addition of schools accredited by the Accrediting Commission of Career Schools and Colleges of Technology.

<sup>4</sup>Because of imputation techniques, data are not consistent with figures for other years. <sup>5</sup>Projected.

NOTE: Data through 1995 are for institutions of higher education, while later data are for degreegranting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Biennial Survey of Education in the United States; Opening Fall Enrollment in Higher Education*, 1963 through 1965; Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1966 through 1985; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:86–99); IPEDS Spring 2001 through Spring 2016, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. (This table was prepared February 2017.)

1         2         3         4         5         6         7         8         9         10         11         12         13	14 2015 14 15 369 19,977,270
	60 10 077 070
Total	19,911,210
Full-time	
Males         3,504,095         3,926,753         3,689,244         3,607,720         3,807,392         4,111,093         4,803,388         5,838,383         5,792,818         5,708,406         5,682,322         5,619           Females         2,312,195         2,914,581         3,408,714         3,467,501         4,013,233         4,321,410         4,898,507         5,993,623         7,248,799         7,209,713         7,025,998         6,914,288         6,834	
Part-time	
Males	
Females	
4-year         6,261,502         7,214,740         7,570,608         7,715,978         8,578,554         8,769,252         9,363,858         10,999,420         13,335,641         13,499,440         13,476,638         13,406,033         13,492           Full-time         4,587,379         5,080,256         5,344,163         5,384,614         5,937,023         6,151,755         6,792,551         8,150,209         9,721,803         9,832,324         9,792,607         9,760,336         9,793	
Males	
Females 1,854,583 2,189,064 2,534,635 2,603,202 3,010,663 3,222,578 3,677,299 4,500,587 5,366,650 5,430,689 5,389,858 5,357,808 5,37	
Part-time	
Females	
Public 4-year	
Full-time	
Females 1,272,907 1,521,998 1,718,796 1,759,652 2,051,285 2,133,571 2,362,600 2,726,289 3,103,907 3,146,916 3,152,983 3,162,372 3,202	3,247,159
Part-time         1,146,231         1,528,321         1,536,419         1,586,199         1,814,588         1,729,834         1,684,180         1,815,860         2,112,894         2,157,456         2,182,734         2,185,551         2,24           Males	, -,-
Females         536,809         767,852         851,368         893,084         1,050,340         1,009,432         1,001,080         1,091,485         1,251,926         1,272,411         1,281,522         1,274,528         1,303	1,313,845
Private 4-year	
Full-time	
Females	
Part-time	
Females         201,125         274,171         357,264         403,476         466,411         523,312         522,310         631,791         937,391         937,887         932,345         910,940         91	903,146
Nonprofit 4-year	
Males 914,020 930,842 921,253 894,080 915,100 931,956 996,113 1,109,075 1,259,638 1,275,590 1,288,669 1,301,864 1,313	1,321,751
Females	
Males	383,938
Females         200,803         272,715         352,693         399,125         459,839         512,559         491,733         536,805         590,424         605,577         609,061         603,399         603           For-profit 4-year         7,659         18,147         28,303         43,438         59,243         100,817         257,885         750,645         1,589,934         1,564,331         1,470,346         1,346,397         1,266	
2-year	
Full-time	
Males         771,299         1,035,561         879,716         826,308         881,392         878,215         995,841         1,153,766         1,483,230         1,391,183         1,305,657         1,279,794         1,200           Females         457,612         725,517         874,079         864,299         1,002,570         1,098,832         1,221,208         1,493,036         1,882,149         1,779,024         1,636,140         1,556,480         1,460	
Part-time	
Males	
Females	
Public 2-year	
Males	
Females         408,725         673,920         783,622         754,232         906,179         1,021,985         1,108,726         1,331,987         1,609,204         1,520,660         1,418,030         1,354,629         1,273           Part-time         1,066,247         2,173,745         2,733,289         2,772,828         3,279,632         3,437,239         3,697,380         3,797,213         4,268,039         4,286,739         4,176,734         4,093,881         4,012	
Males	
Private 2-year	
Full-time	715 238,039
Males         50,859         46,860         67,845         83,635         70,728         59,610         104,559         98,737         142,410         130,424         108,356         101,893         92           Females         48,887         51,597         90,457         110,067         96,391         76,847         112,482         161,049         272,945         258,364         218,110         201,851         183	708 81,199 007 156,840
Part-time 24,227 35,296 39,203 67,642 76,489 78,243 34,002 44,040 50,179 54,204 49,309 40,489 4	005 37,223
	112         8,992           393         28,231
Nonprofit 2-year 113,299 112,997 114,094 108,791 89,158 75,154 58,844 43,522 32,683 39,855 37,698 32,191 34	365 50,049
Full-time	778 36,067
	066 11,985 712 24,082
Part-time 21,785 30,839 31,085 32,244 27,155 21,121 12,174 14,583 9,556 9,271 8,314 8,094	587 13,982
Females	198         2,707           389         11,275
For-profit 2-year         10,674         20,756         83,411         152,553         154,450         139,546         192,199         260,304         432,851         403,137         338,077         312,042         280	355 225,213

# Table 14. Total fall enrollment in degree-granting postsecondary institutions, by level and control of institution, attendance status, and sex of student: Selected years, 1970 through 2026

See notes at end of table.

#### Table 14. Total fall enrollment in degree-granting postsecondary institutions, by level and control of institution, attendance status, and sex of student: Selected years, 1970 through 2026-Continued

Level and control of						Projected					
institution, attendance status, and sex of student	2016	2017	2018	2019	2020	2021	2022	2023	2024	2015	2026
1	16	17	18	19	20	21	22	23	24	25	26
Total	20,185,000	20,413,000	20,688,000	21,009,000	21,346,000	21,659,000	21,888,000	22,124,000	22,331,000	22,504,000	22,631,000
Full-time	12,396,000	12,564,000	12,716,000	12,899,000	13,114,000	13,302,000	13,426,000	13,569,000	13,680,000	13,750,000	13,797,000
Males	5,679,000	5,670,000	5,725,000	5,796,000	5,882,000	5,958,000	6,009,000	6,068,000	6,116,000	6,145,000	6,163,000
Females	6,717,000	6,893,000	6,991,000	7,103,000	7,231,000	7,344,000	7,417,000	7,501,000	7,565,000	7,604,000	7,634,000
Part-time Males	7,789,000 3,176,000	7,849,000 3,199,000	7,972,000 3,237,000	8,110,000 3,285,000	8,232,000 3,329,000	8,357,000 3,373,000	8,462,000 3,406,000	8,555,000 3,431,000	8,651,000 3,458,000	8,754,000 3,489,000	8,835,000 3,515,000
Females	4,613,000	4,651,000	4,735,000	4,825,000	4,903,000	4,984,000	5,056,000	5,124,000	5,193,000	5,265,000	5,320,000
4-year	13,216,000	13,379,000	13,552,000	13,758,000	13,992,000	14,204,000	14,351,000	14,505,000	14,634,000	14,730,000	14,801,000
Full-time	9,604,000	9,734,000	9,849,000	9,990,000	10,161,000	10,309,000	10,403,000	10,513,000	10,598,000	10,649,000	10,685,000
Males Females	4,407,000 5,197,000	4,401,000 5,333,000	4,442,000 5,407,000	4,496,000 5,493,000	4,566,000 5,595,000	4,627,000 5,683,000	4,666,000 5,738,000	4,710,000 5,802,000	4,746,000 5,851,000	4,768,000 5,881,000	4,781,000 5,905,000
Part-time	3,612,000	3,645,000	3,703,000	3,769,000	3,831,000	3,895,000	3,947,000	3,993,000	4,036,000	4,081,000	4,116,000
Males	1,443,000	1,454,000	1,472,000	1,495,000	1,517,000	1,540,000	1,556,000	1,569,000	1,580,000	1,592,000	1,603,000
Females	2,168,000	2,191,000	2,231,000	2,274,000	2,313,000	2,355,000	2,391,000	2,424,000	2,456,000	2,488,000	2,513,000
Public 4-year	8,181,000	8,279,000	8,385,000	8,512,000	8,655,000	8,784,000	8,873,000	8,968,000	9,048,000	9,109,000	9,154,000
Full-time	5,972,000	6,051,000	6,122,000	6,209,000	6,314,000	6,405,000	6,463,000	6,530,000	6,584,000	6,618,000	6,641,000
Males	2,826,000	2,821,000	2,848,000	2,883,000	2,927,000	2,966,000	2,990,000	3,019,000	3,043,000	3,057,000	3,066,000
Females Part-time	3,146,000 2,209,000	3,230,000 2,228,000	3,274,000 2,263,000	3,326,000 2,303,000	3,387,000 2,340,000	3,440,000 2,379,000	3,472,000 2,411,000	3,511,000 2,438,000	3,541,000 2,464,000	3,560,000 2,491,000	3,575,000 2,512,000
Males	925,000	932,000	943,000	958,000	972,000	986,000	997,000	1,005,000	1,012,000	1,020,000	1,027,000
Females	1,283,000	1,296,000	1,320,000	1,345,000	1,368,000	1,393,000	1,414,000	1,433,000	1,452,000	1,471,000	1,486,000
Private 4-year	5,035,000	5,100,000	5,167,000	5,247,000	5,337,000	5,420,000	5,477,000	5,537,000	5,585,000	5,621,000	5,647,000
Full-time	3,632,000	3,683,000	3,727,000	3,781,000	3,847,000	3,904,000	3,941,000	3,982,000	4,013,000	4,031,000	4,044,000
Males Females	1,582,000 2,051,000	1,580,000 2,104,000	1,594,000 2,133,000	1,614,000 2,167,000	1,639,000 2,208,000	1,661,000 2,243,000	1,675,000 2,265,000	1,691,000 2,291,000	1,703,000 2,310,000	1,710,000 2,321,000	1,714,000 2,330,000
Part-time	1,403,000	1,417,000	1,440,000	1,466,000	1,490,000	1,516,000	1,537,000	1,555,000	1,572,000	1,590,000	1,603,000
Males	518,000	522,000	529,000	537,000	545,000	554,000	560,000	564,000	568,000	572,000	576,000
Females	885,000	895,000	911,000	929,000	945,000	962,000	977,000	991,000	1,004,000	1,017,000	1,027,000
Nonprofit 4-year	—	—	—	-	—	—	—	-	—	—	_
Full-time Males		_	_	_		_	_	_	_	_	_
Females	_	_	_	_	_	_	_	_	_	_	_
Part-time	—	—	—	_	—	—	—	_	—	—	_
Males Females	—	_	—	—	—	—	—	—	—	—	_
For-profit 4-year	_	_	_	_	_	_	_	_	_	_	_
2-year	6,969,000	7,034,000	7,136,000	7,251,000	7,354,000	7,455,000	7,537,000	7,619,000	7,697,000	7,774,000	7,831,000
Full-time	2,792,000	2,829,000	2,867,000	2,909,000	2,952,000	2,992,000	3,023,000	3,057,000	3,083,000	3,101,000	3,111,000
Males	1,272,000	1,269,000	1,284,000	1,300,000	1,316,000	1,331,000	1,343,000	1,358,000	1,369,000	1,378,000	1,382,000
Females	1,521,000	1,560,000	1,583,000	1,609,000	1,636,000	1,661,000	1,679,000	1,699,000	1,714,000	1,723,000	1,729,000
Part-time	4,177,000	4,204,000	4,269,000	4,342,000	4,401,000	4,463,000	4,515,000	4,562,000	4,614,000	4,673,000	4,719,000
Males Females	1,733,000 2,444,000	1,745,000 2,460,000	1,765,000 2,504,000	1,790,000 2,551,000	1,812,000 2,590,000	1,833,000 2,629,000	1,849,000 2,665,000	1,862,000 2,700,000	1,878,000 2,737,000	1,896,000 2,777,000	1,912,000 2,807,000
			, ,				, ,				
Public 2-year Full-time	6,664,000 2,527,000	6,723,000 2,560,000	6,821,000 2,594,000	6,932,000 2,632,000	7,030,000 2,671,000	7,126,000 2,707,000	7,205,000 2,735,000	7,283,000 2,765,000	7,358,000 2,789,000	7,432,000 2,805,000	7,488,000 2,815,000
Males	1,181,000	1,179,000	1,192,000	1,208,000	1,223,000	1,237,000	1,248,000	1,261,000	1,272,000	1,280,000	1,284,000
Females	1,346,000	1,381,000	1,402,000	1,425,000	1,449,000	1,470,000	1,486,000	1,504,000	1,517,000	1,525,000	1,530,000
Part-time	4,136,000	4,163,000	4,227,000	4,299,000	4,358,000	4,419,000	4,471,000	4,518,000	4,569,000 1,867,000	4,627,000	4,673,000
Males Females	1,723,000 2,413,000	1,735,000 2,429,000	1,755,000 2,473,000	1,780,000 2,519,000	1,801,000 2,557,000	1,823,000 2,596,000	1,839,000 2,632,000	1,852,000 2,666,000	2,702,000	1,886,000 2,742,000	1,901,000 2,772,000
Private 2-year	306,000	310,000	315,000	319,000	324,000	329,000	332,000	336,000	339,000	341,000	343,000
Full-time	265,000	269,000	273,000	277,000	281,000	285,000	288,000	291,000	294,000	296,000	297,000
Males	90,000	90,000	91,000	92,000	93,000	94,000	95,000	96,000	97,000	98,000	98,000
Females Part-time	175,000 41,000	179,000 41,000	182,000 42,000	185,000 42,000	188,000 43,000	191,000 44,000	193,000 44,000	195,000 45,000	197,000 45,000	198,000 46,000	199,000 46,000
Males	10,000	10,000	42,000	42,000	43,000	44,000	44,000 11,000	45,000	45,000	46,000	46,000
Females	31,000	31,000	32,000	32,000	33,000	33,000	34,000	34,000	35,000	35,000	35,000
Nonprofit 2-year	_	_	_	_	_	_	_	-	_	_	_
Full-time	-	—	—	-	—	—	-	-	-	—	-
Males Females		_	_	_				_		_	
Part-time	_	_	_	_	_	_	_	_	_	_	_
Males	-	—	—	-	_	—	_	-	_	—	_
Females For-profit 2-year		_	_	_	_	_	_	_	_	_	_
1 or pront 2-year	_	—	_			_	—	_	—	_	

-Not available.

<sup>1</sup>Large increase in private 2-year institutions in 1980 is due to the addition of schools accred-

ited by the Accrediting Commission of Career Schools and Colleges of Technology. NOTE: Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges

and excludes a few higher education institutions that did not grant degrees. Some data have been revised from previously published figures. SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1970 through 1985; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:90–99); IPEDS Spring 2001 through Spring 2016, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. (This table was prepared February 2017.)

#### Table 15. Total fall enrollment in degree-granting postsecondary institutions, by attendance status, sex, and age: Selected years, 1970 through 2026

				-	•		[	In thous	ands]					•		•	-	•
Attendance status,																	Proje	ected
sex, and age	1970	1980	1990	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2020
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
All students	8,581	12,097	13,819	15,312	17,487	17,759	18,248	19,103	20,314	21,019	21,011	20,644	20,377	20,207	19,977	20,185	20,413	21,346
14 to 17 years old	263	257	153	131	187	184	200	195	215	202	221	242	256	239	211	216	219	223
18 and 19 years old	2,579	2,852	2,777	3,258	3,444	3,561	3,690	3,813	4,009	4,057	3,956	3,782	3,720	3,720	3,691	4,029	4,091	4,237
20 and 21 years old	1,885	2,395	2,593	3,005	3,563	3,573	3,570	3,649	3,916	4,103	4,269	4,235	4,183	4,162	4,125	4,520	4,547	4,767
22 to 24 years old	1,469	1,947	2,202	2,600	3,114	3,185	3,280	3,443	3,571	3,759	3,793	3,951	3,964	3,910	3,809	3,639	3,674	3,786
25 to 29 years old	1,091	1,843	2,083	2,044	2,469	2,506	2,651	2,840	3,082	3,254	3,272	3,155	3,050	3,084	3,110	3,121	3,196	3,354
30 to 34 years old	527	1,227	1,384	1,333	1,438	1,472	1,519	1,609	1,735	1,805	1,788	1,684	1,606	1,586	1,585	1,589	1,594	1,704
35 years old and over	767	1,577	2,627	2,942	3,272	3,277	3,339	3,554	3,785	3,840	3,712	3,597	3,597	3,506	3,446	3,072	3,092	3,275
Males	5,044	5,874	6,284	6,722	7,456	7,575	7,816	8,189	8,733	9,046	9,034	8,919	8,861	8,797	8,721	8,855	8,869	9,212
14 to 17 years old	125	106	66	58	68	69	88	93	103	94	104	119	125	117	106	107	107	106
18 and 19 years old	1,355	1,368	1,298	1,464	1,523	1,604	1,669	1,704	1,795	1,820	1,782	1,707	1,661	1,673	1,657	1,858	1,859	1,919
20 and 21 years old	1,064	1,219	1,259	1,411	1,658	1,628	1,634	1,695	1,866	1,948	1,985	1,960	1,955	1,960	1,957	2,108	2,100	2,198
22 to 24 years old	1,004	1,075	1,129	1,222	1,410	1,445	1,480	1,555	1,599	1,723	1,769	1,864	1,846	1,789	1,747	1,746	1,740	1,771
25 to 29 years old 30 to 34 years old	796 333	983 564	1,024 605	908 581	1,057 591	1,040 628	1,148 638	1,222 691	1,378 707	1,410 731	1,404 700	1,353 661	1,356 634	1,378 643	1,383 650	1,371 645	1,397 645	1,461 685
35 years old and over	366	559	902	1,077	1,149	1,160	1,159	1,228	1,285	1,320	1,290	1,255	1,283	1,237	1,221	1,021	1,020	1,071
Females	3,537	6,223	7,535	8,591	10,032	10,184	10,432	10,914	11,581	11,974	11,976	11,725	11,515	11,410	11,256	11,330	11,544	12,135
14 to 17 years old	137	151	87	73	119	115	112	10,914	113	108	116	123	131	121	105	110	11,544	118
18 and 19 years old	1,224	1,484	1,479	1,794	1,920	1,956	2,021	2,109	2,214	2,237	2,173	2,074	2,059	2,047	2,034	2,170	2,231	2,318
20 and 21 years old	821	1,177	1,334	1,593	1,905	1,945	1,936	1,954	2,050	2,155	2,284	2,276	2,228	2,202	2,167	2,412	2,447	2,568
22 to 24 years old	464	871	1,073	1,378	1,704	1,740	1,800	1,888	1,972	2,036	2,024	2,087	2,118	2,121	2,063	1,892	1,934	2,015
25 to 29 years old	296	859	1,059	1,136	1,413	1,466	1,502	1,618	1,704	1,844	1,868	1,802	1,694	1,706	1,726	1,750	1,799	1,893
30 to 34 years old	194	663	779	752	847	844	881	918	1,028	1,074	1,088	1,022	972	943	935	943	949	1,018
35 years old and over	401	1,018	1,725	1,865	2,123	2,117	2,180	2,326	2,500	2,520	2,422	2,341	2,314	2,270	2,225	2,052	2,072	2,204
Full-time	5,816	7,098	7,821	9,010	10,797	10,957	11,270	11,748	12,605	13,087	13,003	12,734	12,597	12,454	12,291	12,396	12,564	13,114
14 to 17 years old	246 2,374	231 2,544	134 2,471	121 2,823	<b>152</b> 3,026	<b>148</b> 3,120	<b>169</b> 3,244	<b>168</b> 3,359	<b>179</b> 3,481	<b>170</b> 3,496	<b>185</b> 3,351	<b>207</b> 3,226	<b>210</b> 3,199	<b>200</b> 3,174	<b>177</b> 3,151	<b>183</b> 3,196	<b>186</b> 3,255	189 3,372
18 and 19 years old 20 and 21 years old	1,649	2,044	2,471	2,023	2,976	2,972	2,985	3,043	3,461	3,364	3,427	3,386	3,327	3,326	3,296	3,481	3,200	3,694
22 to 24 years old	904	1,181	1,405	1,714	2,122	2,127	2,205	2,347	2,511	2,585	2,580	2,603	2,650	2,597	2,571	2,471	2,511	2,598
25 to 29 years old	426	641	791	886	1,174	1,225	1,299	1,369	1,506	1,605	1,600	1,555	1,528	1,525	1,509	1,490	1,518	1,587
30 to 34 years old	113	272	383	418	547	571	556	571	657	745	763	711	664	626	607	632	632	677
35 years old and over	104	221	500	596	800	794	812	890	1,030	1,122	1,096	1,047	1,018	1,005	980	944	944	997
Males	3,504	3,689	3,808	4,111	4,803	4,879	5,029	5,234	5,632	5,838	5,793	5,708	5,682	5,619	5,561	5,679	5,670	5,882
14 to 17 years old	121	95	55	51	53	52	74	73	77	71	85	102	106	100	90	85	85	83
18 and 19 years old	1,261	1,219	1,171	1,252	1,339	1,404	1,465	1,516	1,570	1,574 1,586	1,510	1,461	1,423	1,402 1,549	1,380	1,466	1,462	1,510
20 and 21 years old 22 to 24 years old	955 686	1,046 717	1,035 768	1,156 834	1,398 982	1,372 992	1,366 1,043	1,407 1,105	1,536 1,169	1,215	1,586 1,217	1,537 1,254	1,542 1,270	1,549	1,569 1,222	1,630 1,196	1,625 1,193	1,704 1,218
25 to 29 years old	346	391	433	410	506	533	578	597	661	715	727	728	734	732	711	698	707	735
30 to 34 years old	77	142	171	186	225	235	231	249	279	301	299	278	257	242	236	256	254	271
35 years old and over	58	80	174	222	300	291	273	287	341	376	369	349	351	360	353	348	344	361
Females	2,312	3,409	4,013	4,899	5,994	6,078	6,240	6,513	6,973	7,249	7,210	7,026	6,914	6,835	6,730	6,717	6,893	7,231
14 to 17 years old	125	136	78	70	98	95	95	95	102	99	100	105	104	101	86	99	101	106
18 and 19 years old	1,113	1,325	1,300	1,571	1,687	1,716	1,779	1,843	1,911	1,922	1,842	1,765	1,776	1,773	1,771	1,730	1,793	1,862
20 and 21 years old	693	961	1,101 638	1,296 880	1,578	1,601	1,619	1,636	1,705 1,343	1,778 1,370	1,840	1,849 1,349	1,785 1,380	1,777 1,362	1,727	1,852	1,893 1,318	1,989 1,380
22 to 24 years old 25 to 29 years old	218 80	464 250	358	476	1,140 668	1,135 692	1,163 721	1,242 772	845	891	1,364 873	827	794	793	1,350 798	1,275 791	811	851
30 to 34 years old	37	130	212	232	322	336	324	322	378	444	464	433	408	384	370	375	377	406
35 years old and over	46	141	326	374	500	503	539	603	690	746	727	698	667	645	627	596	600	636
Part-time	2,765	4,999	5,998	6,303	6,690	6,802	6,978	7,355	7,708	7,932	8,008	7,910	7,780	7,753	7,686	7,789	7,849	8,232
14 to 17 years old	16	26	19	10	36	36	31	27	36	32	36	35	47	38	34	33	33	34
18 and 19 years old	205	308	306	435	417	440	446	453	528	561	604	556	521	545	540	833	835	864
20 and 21 years old	236	388	456	553	586	601	585	606	675	738	842	850	855	836	829	1,039	1,029	1,073
22 to 24 years old	564	765	796	886	992	1,058	1,074	1,096	1,059	1,174	1,212	1,348	1,314	1,313	1,238	1,168	1,163	1,188
25 to 29 years old	665 414	1,202 954	1,291 1,001	1,158 915	1,296 891	1,282 901	1,352 963	1,471 1,037	1,576 1,079	1,648 1,060	1,672 1,025	1,600 973	1,522 942	1,559 960	1,600 979	1,631 957	1,679 962	1,767 1,027
30 to 34 years old 35 years old and over	663	1,356	2,127	2,345	2,472	2,483	2,527	2,664	2,754	2,718	2,616	2,550	2,579	2,501	2,466	2,129	2,148	2,278
	1,540	2,185	2,476	2,611	2,653	2,696	2,786	2,955	3,101	3,207	3,241	3,211	3,179	3,178	3,161	3,176	3,199	3,329
Males 14 to 17 years old	1,540	2,105	2,470	2,011	2,055	2,090	2,700	2,955	25	3,207 23	3,241	3,211	20	3,178	3,101	3,170	3,199	23
18 and 19 years old	94	149	127	212	184	200	204	188	226	245	273	246	239	271	277	392	398	409
20 and 21 years old	100	170	004	255	260	057	260	280	220	260	200	100	/10	411	200	170	475	101

NOTE: Distributions by age are estimates based on samples of the civilian noninstitutionalized population from the U.S. Census Bureau's Current Population Survey. Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degreegranting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1970 and 1980; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:90-99); IPEDS Spring 2001 through Spring 2016, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. U.S. Department of Commerce, Census Bureau, Current Population Survey (CPS), October, selected years, 1970 through 2015. (This table was prepared April 2017.)

725

634

1,042

1.568

4,903

22,631

4 5 3 4

4,966

4.093

3,431

1,780

3 594

9,678

2.053

2,289

1,888

1,472

1,163

12,953

2,481

2,677

2,204

1,960

2,431

13,797

3 597

3.836

2,808

1,590 

1,068

6,163

1,773

1,299

387

7,634

1,981

2,062

1,509

8,835

1,130

1,284

1.841

1,079

2,526 3,515

437

743

1,098

1,750

5,320

1.616

Females

20 and 21 years old .....

35 years old and over ..

14 to 17 years old ..... 18 and 19 years old .....

20 and 21 years old .....

35 years old and over ..

22 to 24 years old

25 to 29 years old

30 to 34 years old

22 to 24 years old 25 to 29 years old

30 to 34 years old

450

1,225

592

407

2,814

591

1,399

3,521

498

З

497

1,491

3,692

551

564 745

1,623

4,038

507

605

1,614

4,106

570

1.640

4,192

625

4,401

1.723

718

629

1.810

4,607

677

1,695

4,767

695

1,774

4.725

625

738

1,643

4,699

622

738

1,647

4,601

646

760

1,625

4,576

673

713

1.598

4,526

673

618

1,456

4,613

691

615

1.473

4,651

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# Table 16. Total undergraduate fall enrollment in degree-granting postsecondary institutions, by attendance status, sex of student, and control and level of institution: Selected years, 1970 through 2026

						Ма	les	Fem	ales			Private	
Level and year	Total	Full-time	Part-time	Males	Females	Full-time	Part-time	Full-time	Part-time	Public	Total	Nonprofit	For-profit
1 Total, all levels	2	3	4	5	6	7	8	9	10	11	12	13	14
1970 1975	7,368,644 9,679,455	5,280,064 6,168,396	2,088,580 3,511,059	4,249,702 5,257,005	3,118,942 4,422,450	3,096,371 3,459,328	1,153,331 1,797,677	2,183,693 2,709,068	935,249 1,713,382	5,620,255 7,826,032	1,748,389 1,853,423	1,730,133 1,814,844	18,256 38,579
1980 1981 1982 1983 1984	10,475,055 10,754,522 10,825,062 10,845,995 10,618,071	6,361,744 6,449,068 6,483,805 6,514,034 6,347,653	4,113,311 4,305,454 4,341,257 4,331,961 4,270,418	5,000,177 5,108,271 5,170,494 5,158,300 5,006,813	5,474,878 5,646,251 5,654,568 5,687,695 5,611,258	3,226,857 3,260,473 3,299,436 3,304,247 3,194,930	1,773,320 1,847,798 1,871,058 1,854,053 1,811,883	3,134,887 3,188,595 3,184,369 3,209,787 3,152,723	2,339,991 2,457,656 2,470,199 2,477,908 2,458,535	8,441,955 8,648,363 8,713,073 8,697,118 8,493,491	2,033,100 2,106,159 2,111,989 2,148,877 2,124,580	1,926,703 1,958,848 1,939,389 1,961,076 1,940,310	106,397 147,311 172,600 187,801 184,270
1985 1986 1987 1988 1988 1989		6,319,592 6,352,073 6,462,549 6,642,428 6,840,696	4,277,082 4,445,902 4,583,686 4,674,120 4,901,835	4,962,080 5,017,505 5,068,457 5,137,644 5,310,990	5,634,594 5,780,470 5,977,778 6,178,904 6,431,541	3,156,446 3,146,330 3,163,676 3,206,442 3,278,647	1,805,634 1,871,175 1,904,781 1,931,202 2,032,343	3,163,146 3,205,743 3,298,873 3,435,986 3,562,049	2,471,448 2,574,727 2,678,905 2,742,918 2,869,492	8,477,125 8,660,716 8,918,589 9,103,146 9,487,742	2,119,549 2,137,259 2,127,646 2,213,402 2,254,789	1,928,996 1,928,294 1,939,942 — —	190,553 208,965 187,704 
1990 1991 1992 1993 1994	12,323,959 12,262,608	6,976,030 7,221,412 7,244,442 7,179,482 7,168,706	4,983,076 5,217,875 5,293,258 5,144,477 5,093,902	5,379,759 5,571,003 5,582,936 5,483,682 5,422,113	6,579,347 6,868,284 6,954,764 6,840,277 6,840,495	3,336,535 3,435,526 3,424,739 3,381,997 3,341,591	2,043,224 2,135,477 2,158,197 2,101,685 2,080,522	3,639,495 3,785,886 3,819,703 3,797,485 3,827,115	2,939,852 3,082,398 3,135,061 3,042,792 3,013,380	9,709,596 10,147,957 10,216,297 10,011,787 9,945,128	2,249,510 2,291,330 2,321,403 2,312,172 2,317,480	2,043,407 2,072,354 2,101,721 2,099,197 2,100,465	206,103 218,976 219,682 212,975 217,015
1995 1996 1997 1998 1999	12,739,445	7,145,268 7,298,839 7,418,598 7,538,711 7,753,548	5,086,451 5,028,109 5,031,989 4,898,226 4,985,897	5,401,130 5,420,672 5,468,532 5,446,133 5,584,234	6,830,589 6,906,276 6,982,055 6,990,804 7,155,211	3,296,610 3,339,108 3,379,597 3,428,161 3,524,586	2,104,520 2,081,564 2,088,935 2,017,972 2,059,648	3,848,658 3,959,731 4,039,001 4,110,550 4,228,962	2,981,931 2,946,545 2,943,054 2,880,254 2,926,249	9,903,626 9,935,283 10,007,479 9,950,212 10,174,228	2,328,093 2,391,665 2,443,108 2,486,725 2,565,217	2,104,693 2,112,318 2,139,824 2,152,655 2,185,290	223,400 279,347 303,284 334,070 379,927
2000 2001 2002 2003 2004	13,155,393 13,715,610 14,257,077 14,480,364 14,780,630	7,922,926 8,327,640 8,734,252 9,045,253 9,284,336	5,232,467 5,387,970 5,522,825 5,435,111 5,496,294	5,778,268 6,004,431 6,192,390 6,227,372 6,340,048	7,377,125 7,711,179 8,064,687 8,252,992 8,440,582	3,588,246 3,768,630 3,934,168 4,048,682 4,140,628	2,190,022 2,235,801 2,258,222 2,178,690 2,199,420	4,334,680 4,559,010 4,800,084 4,996,571 5,143,708	3,042,445 3,152,169 3,264,603 3,256,421 3,296,874	10,539,322 10,985,871 11,432,855 11,523,103 11,650,580	2,616,071 2,729,739 2,824,222 2,957,261 3,130,050	2,213,180 2,257,718 2,306,091 2,346,673 2,389,366	402,891 472,021 518,131 610,588 740,684
2005 2006 2007 2008 2009		9,446,430 9,571,079 9,840,978 10,254,930 11,038,275	5,517,534 5,613,223 5,762,793 6,110,808 6,425,904	6,408,871 6,513,756 6,727,600 7,066,623 7,563,176	8,555,093 8,670,546 8,876,171 9,299,115 9,901,003	4,200,863 4,264,606 4,396,868 4,577,431 4,942,120	2,208,008 2,249,150 2,330,732 2,489,192 2,621,056	5,245,567 5,306,473 5,444,110 5,677,499 6,096,155	3,309,526 3,364,073 3,432,061 3,621,616 3,804,848	11,697,730 11,847,426 12,137,583 12,591,217 13,386,375	3,266,234 3,336,876 3,466,188 3,774,521 4,077,804	2,418,368 2,448,240 2,470,327 2,536,532 2,595,171	847,866 888,636 995,861 1,237,989 1,482,633
2010 2011 2012. 2013. 2014	17,292,787	11,457,040 11,365,175 11,097,092 10,939,276 10,783,802	6,625,387 6,712,128 6,638,546 6,537,028 6,508,985	7,836,282 7,822,992 7,714,938 7,660,140 7,585,910	10,246,145 10,254,311 10,020,700 9,816,164 9,706,877	5,118,975 5,070,553 4,984,389 4,950,210 4,876,952	2,717,307 2,752,439 2,730,549 2,709,930 2,708,958	6,338,065 6,294,622 6,112,703 5,989,066 5,906,850	3,908,080 3,959,689 3,907,997 3,827,098 3,800,027	13,703,000 13,694,899 13,478,100 13,348,292 13,244,837	4,379,427 4,382,404 4,257,538 4,128,012 4,047,950	2,652,993 2,718,923 2,744,400 2,755,463 2,771,341	1,726,434 1,663,481 1,513,138 1,372,549 1,276,609
2015 2016 <sup>1</sup> 2017 <sup>1</sup> 2018 <sup>1</sup> 2019 <sup>1</sup>	17,036,778 17,269,000 17,462,000 17,696,000 17,967,000	10,604,992 10,723,000 10,870,000 11,004,000 11,161,000	6,431,786 6,546,000 6,591,000 6,692,000 6,806,000	7,499,837 7,619,000 7,628,000 7,708,000 7,810,000	9,536,941 9,650,000 9,834,000 9,988,000 10,157,000	4,810,564 4,911,000 4,901,000 4,950,000 5,012,000	2,689,273 2,708,000 2,727,000 2,758,000 2,798,000	5,794,428 5,813,000 5,969,000 6,054,000 6,149,000	3,742,513 3,838,000 3,865,000 3,934,000 4,008,000	13,145,720 13,433,000 13,575,000 13,759,000 13,971,000	3,891,058 3,836,000 3,887,000 3,937,000 3,996,000	2,819,174 — — — —	1,071,884 
2020 <sup>1</sup> 2021 <sup>1</sup> 2022 <sup>1</sup> 2023 <sup>1</sup> 2024 <sup>1</sup>		11,341,000 11,498,000 11,601,000 11,725,000 11,829,000	6,904,000 7,005,000 7,090,000 7,166,000 7,246,000	7,918,000 8,017,000 8,086,000 8,160,000 8,229,000	10,604,000 10,731,000 10,846,000	5,084,000 5,147,000 5,190,000 5,243,000 5,289,000	2,834,000 2,869,000 2,896,000 2,917,000 2,940,000	6,257,000 6,350,000 6,410,000 6,482,000 6,540,000	4,070,000 4,136,000 4,194,000 4,249,000 4,306,000	14,184,000 14,383,000 14,531,000 14,687,000 14,832,000	4,061,000 4,119,000 4,159,000 4,204,000 4,243,000	 	 
2025 <sup>1</sup> 2026 <sup>1</sup>	19,232,000 19,349,000	11,898,000 11,945,000	7,334,000 7,404,000	8,286,000 8,328,000	10,946,000 11,021,000	5,319,000 5,338,000	2,967,000 2,990,000	6,579,000 6,607,000	4,367,000 4,414,000	14,959,000 15,054,000	4,273,000 4,295,000	_	_
<b>2-year institutions<sup>2</sup></b> 1970 1975	2,318,956	1,228,909 1,761,009	1,090,047 2,204,717	1,374,426 2,163,604	944,530	771,298	603,128 1,128,073	457,611	486,919 1,076,644	2,194,983	123,973 133,753	113,299	10,674
1975	3,965,726 4,525,097 4,715,403 4,770,712 4,723,466 4,530,337	1,753,637 1,795,858 1,839,704 1,826,801 1,703,786	2,204,717 2,771,460 2,919,545 2,931,008 2,896,665 2,826,551	2,163,604 2,046,642 2,124,136 2,169,802 2,131,109 2,016,463	1,802,122 2,478,455 2,591,267 2,600,910 2,592,357 2,513,874	1,035,531 879,619 897,657 930,606 914,704 841,347	1,128,073 1,167,023 1,226,479 1,239,196 1,216,405 1,175,116	725,478 874,018 898,201 909,098 912,097 862,439	1,076,644 1,604,437 1,693,066 1,691,812 1,680,260 1,651,435	3,831,973 4,327,592 4,479,900 4,518,659 4,459,330 4,278,661	133,753 197,505 235,503 252,053 264,136 251,676	112,997 114,094 119,166 114,976 116,293 108,247	20,756 83,411 116,337 137,077 147,843 143,429
1985 1986 1987 1988 1988	4,531,077 4,679,548 4,776,222 4,875,155 5,150,889	1,690,607 1,696,261 1,708,669 1,743,592 1,855,701	2,840,470 2,983,287 3,067,553 3,131,563 3,295,188	2,002,234 2,060,932 2,072,823 2,089,689 2,216,800	2,528,843 2,618,616 2,703,399 2,785,466 2,934,089	826,308 824,551 820,167 818,593 869,688	1,175,926 1,236,381 1,252,656 1,271,096 1,347,112	864,299 871,710 888,502 924,999 986,013	1,664,544 1,746,906 1,814,897 1,860,467 1,948,076	4,269,733 4,413,691 4,541,054 4,615,487 4,883,660	261,344 265,857 235,168 259,668 267,229	108,791 101,498 90,102 —	152,553 164,359 145,066 
1990 1991 1992 1993 1994	5,240,083 5,651,900 5,722,349 5,565,561 5,529,609	1,883,962 2,074,530 2,080,005 2,043,319 2,031,713	3,356,121 3,577,370 3,642,344 3,522,242 3,497,896	2,232,769 2,401,910 2,413,266 2,345,396 2,323,161	3,007,314 3,249,990 3,309,083 3,220,165 3,206,448	881,392 961,397 951,816 928,216 911,589	1,351,377 1,440,513 1,461,450 1,417,180 1,411,572	1,002,570 1,113,133 1,128,189 1,115,103 1,120,124	2,004,744 2,136,857 2,180,894 2,105,062 2,086,324	4,996,475 5,404,815 5,484,514 5,337,022 5,308,366	243,608 247,085 237,835 228,539 221,243	89,158 89,289 83,288 86,357 85,607	154,450 157,796 154,547 142,182 135,636
1995 1996 1997 1998 1999	5,492,098 5,562,780 5,605,569 5,489,314 5,653,256	1,977,046 2,072,215 2,095,171 2,085,906 2,167,242	3,515,052 3,490,565 3,510,398 3,403,408 3,486,014	2,328,500 2,358,792 2,389,711 2,333,334 2,413,322	3,163,598 3,203,988 3,215,858 3,155,980 3,239,934	878,215 916,452 931,394 936,421 979,203	1,450,285 1,442,340 1,458,317 1,396,913 1,434,119	1,098,831 1,155,763 1,163,777 1,149,485 1,188,039	2,064,767 2,048,225 2,052,081 2,006,495 2,051,895	5,277,398 5,314,038 5,360,686 5,245,963 5,397,786	214,700 248,742 244,883 243,351 255,470	75,154 75,253 71,794 65,870 63,301	139,546 173,489 173,089 177,481 192,169
2000	5,948,104 6,250,529 6,529,198 6,493,862 6,545,570	2,217,044 2,374,490 2,556,032 2,650,337 2,683,489	3,731,060 3,876,039 3,973,166 3,843,525 3,862,081	2,558,520 2,675,193 2,753,405 2,689,928 2,697,507	3,389,584 3,575,336 3,775,793 3,803,934 3,848,063	995,839 1,066,281 1,135,669 1,162,555 1,166,554	1,562,681 1,608,912 1,617,736 1,527,373 1,530,953	1,221,205 1,308,209 1,420,363 1,487,782 1,516,935	2,168,379 2,267,127 2,355,430 2,316,152 2,331,128	5,697,061 5,996,651 6,270,199 6,208,885 6,243,344	251,043 253,878 258,999 284,977 302,226	58,844 47,549 47,087 43,868 42,250	192,199 206,329 211,912 241,109 259,976

See notes at end of table.

#### Table 16. Total undergraduate fall enrollment in degree-granting postsecondary institutions, by attendance status, sex of student, and control and level of institution: Selected years, 1970 through 2026-Continued

						Ма	les	Fema	ales			Private	
Level and year	Total	Full-time	Part-time	Males	Females	Full-time	Part-time	Full-time	Part-time	Public	Total	Nonprofit	For-profit
1	2	3	4	5	6	7	8	9	10	11	12	13	14
2005 2006 2007 2008 2009	6,487,826 6,518,291 6,617,621 6,971,105 7,522,581	2,646,763 2,643,222 2,692,491 2,832,110 3,243,952	3,841,063 3,875,069 3,925,130 4,138,995 4,278,629	2,680,299 2,704,654 2,770,457 2,935,793 3,197,338	3,807,527 3,813,637 3,847,164 4,035,312 4,325,243	1,153,759 1,159,800 1,190,067 1,249,832 1,446,372	1,526,540 1,544,854 1,580,390 1,685,961 1,750,966	1,493,004 1,483,422 1,502,424 1,582,278 1,797,580	2,314,523 2,330,215 2,344,740 2,453,034 2,527,663	6,184,000 6,224,871 6,323,810 6,640,071 7,101,569	303,826 293,420 293,811 331,034 421,012	43,522 39,156 33,486 35,351 34,772	260,304 254,264 260,325 295,683 386,240
2010 2011 2012 2013 2014	7,683,597 7,511,150 7,167,840 6,970,644 6,714,485	3,365,379 3,170,207 2,941,797 2,836,274 2,660,728	4,318,218 4,340,943 4,226,043 4,134,370 4,053,757	3,265,885 3,175,803 3,046,093 2,998,440 2,893,779	4,417,712 4,335,347 4,121,747 3,972,204 3,820,706	1,483,230 1,391,183 1,305,657 1,279,794 1,200,105	1,782,655 1,784,620 1,740,436 1,718,646 1,693,674	1,882,149 1,779,024 1,636,140 1,556,480 1,460,623	2,535,563 2,556,323 2,485,607 2,415,724 2,360,083	7,218,063 7,068,158 6,792,065 6,626,411 6,397,765	465,534 442,992 375,775 344,233 316,720	32,683 39,855 37,698 32,191 30,365	432,851 403,137 338,077 312,042 286,355
2015 2016 <sup>1</sup> 2017 <sup>1</sup> 2018 <sup>1</sup> 2019 <sup>1</sup>	6,490,928 6,969,000 7,034,000 7,136,000 7,251,000	2,511,221 2,792,000 2,829,000 2,867,000 2,909,000	3,979,707 4,177,000 4,204,000 4,269,000 4,342,000	2,816,166 3,005,000 3,014,000 3,048,000 3,090,000	3,674,762 3,965,000 4,020,000 4,088,000 4,161,000	1,145,041 1,272,000 1,269,000 1,284,000 1,300,000	1,671,125 1,733,000 1,745,000 1,765,000 1,790,000	1,366,180 1,521,000 1,560,000 1,583,000 1,609,000	2,308,582 2,444,000 2,460,000 2,504,000 2,551,000	6,215,666 6,664,000 6,723,000 6,821,000 6,932,000	275,262 306,000 310,000 315,000 319,000	50,049 	225,213 
2020 <sup>1</sup> 2021 <sup>1</sup> 2022 <sup>1</sup> 2023 <sup>1</sup> 2024 <sup>1</sup>	7,354,000 7,455,000 7,537,000 7,619,000 7,697,000	2,952,000 2,992,000 3,023,000 3,057,000 3,083,000	4,401,000 4,463,000 4,515,000 4,562,000 4,614,000	3,128,000 3,164,000 3,193,000 3,220,000 3,247,000	4,226,000 4,291,000 4,345,000 4,399,000 4,450,000	1,316,000 1,331,000 1,343,000 1,358,000 1,369,000	1,812,000 1,833,000 1,849,000 1,863,000 1,878,000	1,636,000 1,661,000 1,679,000 1,699,000 1,714,000	2,590,000 2,629,000 2,665,000 2,700,000 2,737,000	7,030,000 7,126,000 7,205,000 7,283,000 7,358,000	324,000 329,000 332,000 336,000 339,000	 	
2025 <sup>1</sup> 2026 <sup>1</sup>	7,774,000 7,831,000	3,101,000 3,111,000	4,673,000 4,719,000	3,274,000 3,295,000	4,500,000 4,536,000	1,378,000 1,382,000	1,896,000 1,912,000	1,723,000 1,729,000	2,777,000 2,807,000	7,432,000 7,488,000	341,000 343,000	_	_
4-year institutions	5 0 40 000		000 500	0.075.070	0 174 410	0.005.070	FF0 000	1 700 000	440.000	0 405 070	1 004 410	1 010 004	7 500
1970 1975	5,049,688 5,713,729	4,051,155 4,407,387	998,533 1,306,342	2,875,276 3,093,401	2,174,412 2,620,328	2,325,073 2,423,797	550,203 669,604	1,726,082 1,983,590	448,330 636,738	3,425,272 3,994,059	1,624,416 1,719,670	1,616,834 1,701,847	7,582 17,823
1980 1981 1982 1983 1984	5,949,958 6,039,119 6,054,350 6,122,529 6,087,734	4,608,107 4,653,210 4,644,101 4,687,233 4,643,867	1,341,851 1,385,909 1,410,249 1,435,296 1,443,867	2,953,535 2,984,135 3,000,692 3,027,191 2,990,350	2,996,423 3,054,984 3,053,658 3,095,338 3,097,384	2,347,238 2,362,816 2,368,830 2,389,543 2,353,583	606,297 621,319 631,862 637,648 636,767	2,260,869 2,290,394 2,275,271 2,297,690 2,290,284	735,554 764,590 778,387 797,648 807,100	4,114,363 4,168,463 4,194,414 4,237,788 4,214,830	1,835,595 1,870,656 1,859,936 1,884,741 1,872,904	1,812,609 1,839,682 1,824,413 1,844,783 1,832,063	22,986 30,974 35,523 39,958 40,841
1985 1986 1987 1988 1988	6,065,597 6,118,427 6,270,013 6,441,393 6,591,642	4,628,985 4,655,812 4,753,880 4,898,836 4,984,995	1,436,612 1,462,615 1,516,133 1,542,557 1,606,647	2,959,846 2,956,573 2,995,634 3,047,955 3,094,190	3,105,751 3,161,854 3,274,379 3,393,438 3,497,452	2,330,138 2,321,779 2,343,509 2,387,849 2,408,959	629,708 634,794 652,125 660,106 685,231	2,298,847 2,334,033 2,410,371 2,510,987 2,576,036	806,904 827,821 864,008 882,451 921,416	4,207,392 4,247,025 4,377,535 4,487,659 4,604,082	1,858,205 1,871,402 1,892,478 1,953,734 1,987,560	1,820,205 1,826,796 1,849,840 	38,000 44,606 42,638 
1990 1991 1992 1993 1994	6,719,023 6,787,387 6,815,351 6,758,398 6,732,999	5,092,068 5,146,882 5,164,437 5,136,163 5,136,993	1,626,955 1,640,505 1,650,914 1,622,235 1,596,006	3,146,990 3,169,093 3,169,670 3,138,286 3,098,952	3,572,033 3,618,294 3,645,681 3,620,112 3,634,047	2,455,143 2,474,129 2,472,923 2,453,781 2,430,002	691,847 694,964 696,747 684,505 668,950	2,636,925 2,672,753 2,691,514 2,682,382 2,706,991	935,108 945,541 954,167 937,730 927,056	4,713,121 4,743,142 4,731,783 4,674,765 4,636,762	2,005,902 2,044,245 2,083,568 2,083,633 2,096,237	1,954,249 1,983,065 2,018,433 2,012,840 2,014,858	51,653 61,180 65,135 70,793 81,379
1995 1996 1997 1998 1999	6,739,621 6,764,168 6,845,018 6,947,623 7,086,189	5,168,222 5,226,624 5,323,427 5,452,805 5,586,306	1,571,399 1,537,544 1,521,591 1,494,818 1,499,883	3,072,630 3,061,880 3,078,821 3,112,799 3,170,912	3,666,991 3,702,288 3,766,197 3,834,824 3,915,277	2,418,395 2,422,656 2,448,203 2,491,740 2,545,383	654,235 639,224 630,618 621,059 625,529	2,749,827 2,803,968 2,875,224 2,961,065 3,040,923	917,164 898,320 890,973 873,759 874,354	4,626,228 4,621,245 4,646,793 4,704,249 4,776,442	2,113,393 2,142,923 2,198,225 2,243,374 2,309,747	2,029,539 2,037,065 2,068,030 2,086,785 2,121,989	83,854 105,858 130,195 156,589 187,758
2000 2001 2002	7,207,289 7,465,081 7,727,879 7,986,502 8,235,060	5,705,882 5,953,150 6,178,220 6,394,916 6,600,847	1,501,407 1,511,931 1,549,659 1,591,586 1,634,213	3,219,748 3,329,238 3,438,985 3,537,444 3,642,541	3,987,541 4,135,843 4,288,894 4,449,058 4,592,519	2,592,407 2,702,349 2,798,499 2,886,127 2,974,074	627,341 626,889 640,486 651,317 668,467	3,113,475 3,250,801 3,379,721 3,508,789 3,626,773	874,066 885,042 909,173 940,269 965,746	4,842,261 4,989,220 5,162,656 5,314,218 5,407,236	2,365,028 2,475,861 2,565,223 2,672,284 2,827,824	2,154,336 2,210,169 2,259,004 2,302,805 2,347,116	210,692 265,692 306,219 369,479 480,708
2005 2006 2007 2008 2009	8,476,138 8,666,011 8,986,150 9,394,633 9,941,598	6,799,667 6,927,857 7,148,487 7,422,820 7,794,323	1,676,471 1,738,154 1,837,663 1,971,813 2,147,275	3,728,572 3,809,102 3,957,143 4,130,830 4,365,838	4,747,566 4,856,909 5,029,007 5,263,803 5,575,760	3,047,104 3,104,806 3,206,801 3,327,599 3,495,748	681,468 704,296 750,342 803,231 870,090	3,752,563 3,823,051 3,941,686 4,095,221 4,298,575	995,003 1,033,858 1,087,321 1,168,582 1,277,185	5,513,730 5,622,555 5,813,773 5,951,146 6,284,806	2,962,408 3,043,456 3,172,377 3,443,487 3,656,792	2,374,846 2,409,084 2,436,841 2,501,181 2,560,399	587,562 634,372 735,536 942,306 1,096,393
2010 2011 2012 2013 2014	10,398,830 10,566,153 10,567,798 10,505,660 10,578,302	8,091,661 8,194,968 8,155,295 8,103,002 8,123,074	2,307,169 2,371,185 2,412,503 2,402,658 2,455,228	4,570,397 4,647,189 4,668,845 4,661,700 4,692,131	5,828,433 5,918,964 5,898,953 5,843,960 5,886,171	3,635,745 3,679,370 3,678,732 3,670,416 3,676,847	934,652 967,819 990,113 991,284 1,015,284	4,455,916 4,515,598 4,476,563 4,432,586 4,446,227	1,372,517 1,403,366 1,422,390 1,411,374 1,439,944	6,484,937 6,626,741 6,686,035 6,721,881 6,847,072	3,913,893 3,939,412 3,881,763 3,783,779 3,731,230	2,620,310 2,679,068 2,706,702 2,723,272 2,740,976	1,293,583 1,260,344 1,175,061 1,060,507 990,254
2015, 2016 <sup>1</sup> 2017 <sup>1</sup> 2018 <sup>1</sup> 2019 <sup>1</sup>	10,545,850 10,300,000 10,428,000 10,560,000 10,716,000	8,093,771 7,931,000 8,041,000 8,137,000 8,252,000	2,452,079 2,369,000 2,387,000 2,423,000 2,464,000	4,683,671 4,615,000 4,614,000 4,660,000 4,719,000	5,862,179 5,685,000 5,814,000 5,900,000 5,997,000	3,665,523 3,639,000 3,632,000 3,667,000 3,712,000	1,018,148 975,000 982,000 993,000 1,008,000	4,428,248 4,292,000 4,409,000 4,470,000 4,540,000	1,433,931 1,394,000 1,405,000 1,430,000 1,456,000	6,930,054 6,769,000 6,851,000 6,937,000 7,040,000	3,615,796 3,531,000 3,577,000 3,623,000 3,676,000	2,769,125	846,671 
2020 <sup>1</sup> 2021 <sup>1</sup> 2022 <sup>1</sup> 2023 <sup>1</sup> 2024 <sup>1</sup>	10,891,000 11,048,000 11,153,000 11,272,000 11,378,000	8,389,000 8,506,000 8,578,000 8,668,000 8,746,000	2,503,000 2,542,000 2,575,000 2,604,000 2,632,000	4,790,000 4,853,000 4,894,000 4,940,000 4,981,000	6,101,000 6,195,000 6,259,000 6,332,000 6,396,000	3,768,000 3,816,000 3,847,000 3,885,000 3,919,000	1,022,000 1,036,000 1,047,000 1,054,000 1,062,000	4,621,000 4,689,000 4,731,000 4,783,000 4,827,000	1,481,000 1,506,000 1,528,000 1,549,000 1,569,000	7,154,000 7,257,000 7,326,000 7,404,000 7,473,000	3,737,000 3,791,000 3,827,000 3,868,000 3,904,000	_ _ _ _	 
2025 <sup>1</sup> 2026 <sup>1</sup>	11,458,000 11,519,000	8,797,000 8,834,000	2,661,000 2,685,000	5,012,000 5,034,000	6,446,000 6,485,000	3,941,000 3,956,000	1,071,000 1,078,000	4,856,000 4,878,000	1,590,000 1,606,000	7,526,000 7,566,000	3,932,000 3,953,000		

-Not available. Projected.

Beginning in 1980, 2-year institutions include schools accredited by the Accrediting Com-mission of Career Schools and Colleges of Technology. NOTE: Data include unclassified undergraduate students. Data through 1995 are for insti-

tutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few

higher education institutions that did not grant degrees. Some data have been revised from previously published figures.

previously published figures. SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universi-ties" surveys, 1970 through 1985; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:86–99); IPEDS Spring 2001 through Spring 2016, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projec-tion Model, 2000 through 2026. (This table was prepared February 2017.)

# Table 17. Total postbaccalaureate fall enrollment in degree-granting postsecondary institutions, by attendance status, sex of student, and control of institution: 1967 through 2026

						Mal	es	Fem	ales			Private	
Year	Total	Full-time	Part-time	Males	Females	Full-time	Part-time	Full-time	Part-time	Public	Total	Nonprofit	For-profit
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1967	896,065	448,238	447,827	630,701	265,364	354,628	276,073	93,610	171,754	522,623	373,442	373,336	106
1968	1,037,377	469,747	567,630	696,649	340,728	358,686	337,963	111,061	229,667	648,657	388,720	388,681	39
1969	1,120,175	506,833	613,342	738,673	381,502	383,630	355,043	123,203	258,299	738,551	381,624	381,558	66
1970	1,212,243	536,226	676,017	793,940	418,303	407,724	386,216	128,502	289,801	807,879	404,364	404,287	77
1971	1,204,390	564,236	640,154	789,131	415,259	428,167	360,964	136,069	279,190	796,516	407,874	407,804	70
1972	1,272,421	583,299	689,122	810,164	462,257	436,533	373,631	146,766	315,491	848,031	424,390	424,278	112
1973	1,342,452	610,935	731,517	833,453	508,999	444,219	389,234	166,716	342,283	897,104	445,348	445,205	143
1974	1,425,001	643,927	781,074	856,847	568,154	454,706	402,141	189,221	378,933	956,770	468,231	467,950	281
1975	1,505,404	672,938	832,466	891,992	613,412	467,425	424,567	205,513	407,899	1,008,476	496,928	496,604	324
1976	1,577,546	683,825	893,721	904,551	672,995	459,286	445,265	224,539	448,456	1,033,115	544,431	541,064	3,367
1977	1,569,084	698,902	870,182	891,819	677,265	462,038	429,781	236,864	440,401	1,004,013	565,071	561,384	3,687
1978	1,575,693	704,831	870,862	879,931	695,762	458,865	421,066	245,966	449,796	998,608	577,085	573,563	3,522
1979	1,571,922	714,624	857,298	862,754	709,168	456,197	406,557	258,427	450,741	989,991	581,931	578,425	3,506
1980	1,621,840	736,214	885,626	874,197	747,643	462,387	411,810	273,827	473,816	1,015,439	606,401	601,084	5,317
1981	1,617,150	732,182	884,968	866,785	750,365	452,364	414,421	279,818	470,547	998,669	618,481	613,557	4,924
1982	1,600,718	736,813	863,905	860,890	739,828	453,519	407,371	283,294	456,534	983,014	617,704	613,350	4,354
1983	1,618,666	747,016	871,650	865,425	753,241	455,540	409,885	291,476	461,765	985,616	633,050	628,111	4,939
1984	1,623,869	750,735	873,134	856,761	767,108	452,579	404,182	298,156	468,952	983,879	639,990	634,109	5,881
1985 1986 1987 1988 1988 1989	1,650,381 1,705,536 1,720,407 1,738,789 1,796,029	755,629 767,477 768,536 794,340 820,254	894,752 938,059 951,871 944,449 975,775	856,370 867,010 863,599 864,252 879,025	794,011 838,526 856,808 874,537 917,004	451,274 452,717 447,212 455,337 461,596	405,096 414,293 416,387 408,915 417,429	304,355 314,760 321,324 339,003 358,658	489,656 523,766 535,484 535,534 558,346	1,002,148 1,053,177 1,054,665 1,058,242 1,090,221	648,233 652,359 665,742 680,547 705,808	642,795 644,185 662,408 —	5,438 8,174 3,334 
1990	1,859,531	844,955	1,014,576	904,150	955,381	471,217	432,933	373,738	581,643	1,135,121	724,410	716,820	7,590
1991	1,919,666	893,917	1,025,749	930,841	988,825	493,849	436,992	400,068	588,757	1,161,606	758,060	746,687	11,373
1992	1,949,659	917,676	1,031,983	941,053	1,008,606	502,166	438,887	415,510	593,096	1,168,270	781,389	770,802	10,587
1993.	1,980,844	948,136	1,032,708	943,768	1,037,076	508,574	435,194	439,562	597,514	1,177,301	803,543	789,700	13,843
1994.	2,016,182	969,070	1,047,112	949,785	1,066,397	513,592	436,193	455,478	610,919	1,188,552	827,630	809,642	17,988
1995	2,030,062	983,534	1,046,528	941,409	1,088,653	510,782	430,627	472,752	615,901	1,188,748	841,314	824,351	16,963
1996	2,040,572	1,004,114	1,036,458	932,153	1,108,419	512,100	420,053	492,014	616,405	1,185,216	855,356	830,238	25,118
1997	2,051,747	1,019,464	1,032,283	927,496	1,124,251	510,845	416,651	508,619	615,632	1,188,640	863,107	837,790	25,317
1998.	2,070,030	1,024,627	1,045,403	923,132	1,146,898	505,492	417,640	519,135	627,763	1,187,557	882,473	852,270	30,203
1999.	2,110,246	1,049,591	1,060,655	930,930	1,179,316	508,930	422,000	540,661	638,655	1,201,511	908,735	869,739	38,996
2000	2,156,896	1,086,674	1,070,222	943,501	1,213,395	522,847	420,654	563,827	649,568	1,213,464	943,432	896,239	47,193
2001	2,212,377	1,119,862	1,092,515	956,384	1,255,993	531,260	425,124	588,602	667,391	1,247,285	965,092	909,612	55,480
2002	2,354,634	1,212,107	1,142,527	1,009,726	1,344,908	566,930	442,796	645,177	699,731	1,319,138	1,035,496	959,385	76,111
2003	2,431,117	1,280,880	1,150,237	1,032,892	1,398,225	589,190	443,702	691,690	706,535	1,335,595	1,095,522	994,375	101,147
2004	2,491,414	1,325,841	1,165,573	1,047,214	1,444,200	598,727	448,487	727,114	717,086	1,329,532	1,161,882	1,022,319	139,563
2005	2,523,511	1,350,581	1,172,930	1,047,054	1,476,457	602,525	444,529	748,056	728,401	1,324,104	1,199,407	1,036,324	163,083
2006	2,574,568	1,386,226	1,188,342	1,061,059	1,513,509	614,709	446,350	771,517	741,992	1,332,707	1,241,861	1,064,626	177,235
2007.	2,644,357	1,428,914	1,215,443	1,088,314	1,556,043	632,576	455,738	796,338	759,705	1,353,197	1,291,160	1,100,823	190,337
2008.	2,737,076	1,492,813	1,244,263	1,122,272	1,614,804	656,926	465,346	835,887	778,917	1,380,936	1,356,140	1,124,987	231,153
2009.	2,849,415	1,567,080	1,282,335	1,169,777	1,679,638	689,977	479,800	877,103	802,535	1,424,393	1,425,022	1,172,501	252,521
2010	2,937,011	1,630,142	1,306,869	1,209,477	1,727,534	719,408	490,069	910,734	816,800	1,439,171	1,497,840	1,201,489	296,351
2011	2,933,287	1,637,356	1,295,931	1,211,264	1,722,023	722,265	488,999	915,091	806,932	1,421,404	1,511,883	1,207,896	303,987
2012	2,908,840	1,637,312	1,271,528	1,204,068	1,704,772	724,017	480,051	913,295	791,477	1,406,567	1,502,273	1,206,988	295,285
2013	2,900,373	1,657,334	1,243,039	1,201,057	1,699,316	732,112	468,945	925,222	774,094	1,398,556	1,501,817	1,215,927	285,890
2014	2,914,582	1,670,173	1,244,409	1,211,151	1,703,431	742,439	468,712	927,734	775,697	1,410,178	1,504,404	1,224,748	279,656
2015 2016 <sup>1</sup> 2017 <sup>1</sup> 2018 <sup>1</sup> 2019 <sup>1</sup>	2,940,492 2,916,000 2,951,000 2,992,000 3,042,000	1,685,837 1,673,000 1,693,000 1,712,000 1,738,000	1,254,655 1,243,000 1,258,000 1,280,000 1,304,000	1,221,566 1,236,000 1,241,000 1,254,000 1,272,000	1,718,926 1,680,000 1,710,000 1,738,000 1,770,000	749,971 768,000 769,000 775,000 785,000	471,595 468,000 472,000 479,000 487,000	935,866 905,000 924,000 937,000 953,000	783,060 775,000 786,000 801,000 817,000	1,422,383 1,411,000 1,428,000 1,448,000 1,472,000	1,518,109 1,504,000 1,523,000 1,544,000 1,570,000	1,244,198 — — — —	273,911 
2020 <sup>1</sup> 2021 <sup>1</sup> 2022 <sup>1</sup> 2023 <sup>1</sup> 2024 <sup>1</sup>	3,101,000 3,157,000 3,198,000 3,234,000 3,256,000	1,773,000 1,804,000 1,825,000 1,845,000 1,852,000	1,328,000 1,353,000 1,372,000 1,389,000 1,404,000	1,294,000 1,314,000 1,328,000 1,339,000 1,345,000	1,807,000 1,842,000 1,869,000 1,894,000 1,911,000	798,000 810,000 819,000 825,000 827,000	496,000 504,000 510,000 514,000 518,000	974,000 994,000 1,007,000 1,019,000 1,024,000	833,000 849,000 863,000 875,000 887,000	1,500,000 1,527,000 1,547,000 1,564,000 1,575,000	1,601,000 1,629,000 1,651,000 1,670,000 1,681,000	 	  
2025 <sup>1</sup> 2026 <sup>1</sup>	3,271,000 3,282,000	1,852,000 1,852,000	1,420,000 1,431,000	1,348,000 1,350,000	1,923,000 1,933,000	826,000 825,000	522,000 525,000	1,025,000 1,026,000	898,000 906,000	1,583,000 1,588,000	1,689,000 1,694,000		

-Not available.

<sup>1</sup>Projected.

NOTE: Data include unclassified graduate students. Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Some data have been revised from previously published figures. SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1967 through 1985; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:86–99); IPEDS Spring 2001 through Spring 2016, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. (This table was prepared February 2017.)

					Males			Females		4-y	ear	2-у	ear
Year	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Public	Private	Public	Private
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1955 <sup>1</sup> 1956 <sup>1</sup>	670,013 717,504			415,604 442,903	_		254,409 274,601			283,084 <sup>2</sup> 292,743 <sup>2</sup>	246,960 <sup>2</sup> 261,951 <sup>2</sup>	117,288 <sup>2</sup> 137,406 <sup>2</sup>	22,681 <sup>2</sup> 25,404 <sup>2</sup> 27,118 <sup>2</sup>
1957 <sup>1</sup> 1958 <sup>1</sup> 1959 <sup>1</sup>	723,879 775,308	_	_	441,969 465,422	_	_	281,910 309,886	_	_	293,544 <sup>2</sup> 328,242 <sup>2</sup>	262,695 2	140,522 <sup>2</sup> 146,379 <sup>2</sup>	
1958	821,520	-	_	487,890	_	_	333,630	-	_	348,150 <sup>2</sup>	291,691 <sup>2</sup>	153,393 -	28,286 -
1960 <sup>1</sup>	923,069 1,018,361	_	_	539,512 591,913	_	_	383,557 426,448	_	_	395,884 <sup>2</sup> 438,135 <sup>2</sup>	313,209 <sup>2</sup> 336,449 <sup>2</sup>	181,860 <sup>2</sup> 210,101 <sup>2</sup>	32,116 <sup>2</sup> 33,676 <sup>2</sup>
1962 <sup>1</sup>	1,030,554	_	_	598,099 604,282	—	_	432,455 442,142	_	-	445,191 <sup>2</sup>	324,923 <sup>2</sup>	224,537 <sup>2</sup>	35,903 <sup>2</sup>
1960 <sup>1</sup> 1961 <sup>1</sup> 1962 <sup>1</sup> 1963 <sup>1</sup> 1964 <sup>1</sup>	1,224,840	-	_	701,524	_	_	523,316	-	_	539,251 <sup>2</sup>	363,348 <sup>2</sup>	275,413 <sup>2</sup>	46,828 <sup>2</sup>
1965 <sup>1</sup> 1966	1,441,822 1,554,337	_	_	829,215 889,516	_	_	612,607 664,821	_	_	642,233 <sup>2</sup> 626,472 <sup>2</sup>	398,792 <sup>2</sup> 382,889 <sup>2</sup>	347,788 <sup>2</sup> 478,459 <sup>2</sup>	53,009 <sup>2</sup> 66,517 <sup>2</sup>
1967 1968 1969	1,640,936 1,892,849	1,335,512 1,470,653	305,424 422,196	931,127 1,082,367	761,299 847,005	169,828 235,362	709,809	574,213 623,648	135,596 186,834	644,525 724,377	368,300 378,052	561,488 718,562	66,623 71,858
		1,525,290	422,190	1,118,269	876,280	235,302 241,989	810,482 848,835	649,010	199,825	699,167	391,508	814,132	62,297
1970	2,063,397 2,119,018	1,587,072 1,606,036	476,325 512,982	1,151,960 1,170,518	896,281 895,715	255,679 274,803	911,437 948,500	690,791 710,321	220,646 238,179	717,449 704,052	395,886 384,695	890,703 971,295	59,359 58,976
1972	2,152,778 2,226,041	1,574,197	578,581 618,772	1.157.501	858,254	299.247	995.277	715,943 739,955	279.334	680,337 698,777	380,982 378,994	1.036.616	54.843
1970 1971 1972 1973 1974	2,365,761	1,607,269 1,673,333	692,428	1,182,173 1,243,790	867,314 896,077	314,859 347,713	1,043,868 1,121,971	739,955 777,256	303,913 344,715	745,637	386,391	1,089,182 1,175,759	59,088 57,974
1975 1976	2,515,155 2,347,014	1,763,296 1,662,333	751,859 684,681	1,327,935 1,170,326	942,198 854,597	385,737 315,729	1,187,220 1,176,688	821,098 807,736	366,122 368,952	771,725 717,373	395,440 413,961	1,283,523 1,152,944	64,467 62,736
1977	2,394,426 2,389,627	1,680,916	713,510 738,779	1,155,856	839,848	316,008 324,483	1,238,570	841,068	397,502	737,497 736,703	404,631	1,185,648 1,173,544	66,650
1975 1976 1977 1978 1979	2,389,627 2,502,896	1,650,848 1,706,732	796,164	1,141,777 1,179,846	817,294 840,315	324,483 339,531	1,247,850 1,323,050	833,554 866,417	414,296 456,633	760,119	406,669 415,126	1,253,854	72,711 73,797
1980 1981 1982 1983 1984	2,587,644 2,595,421	1,749,928 1,737,714	837,716 857,707	1,218,961 1,217,680	862,458 851,833	356,503 365,847	1,368,683 1,377,741	887,470 885,881	481,213 491,860	765,395 754,007	417,937 419,257	1,313,591 1,318,436	90,721 <sup>3</sup> 103,721 <sup>3</sup> 116,246 <sup>3</sup>
1982	2,505,466	1,688,620	816,846 765,632	1,199,237	837,223	362,014	1,306,229	851,397	454,832	730,775	404,252 403,882	1,254,193	116,246 <sup>3</sup>
1983	2,443,703 2,356,898	1,678,071 1,613,185	765,632 743,713	1,159,049 1,112,303	824,609 786,099	334,440 326,204	1,284,654 1,244,595	853,462 827,086	431,192 417,509	728,244 713,790	403,882 402,959	1,189,869 1,130,311	121,708 109,838
1985	2,292,222 2,219,208	1,602,038 1,589,451	690,184 629,757	1,075,736 1,046,527	774,858 768,856	300,878 277,671	1,216,486 1,172,681	827,180 820,595	389,306 352,086	717,199 719,974	398,556 391,673	1,060,275	116,192
1987	2,246,359	1,626,719	619,640	1,046,615	779,226	267,389	1,199,744	847,493	352,251	757,833	405,113	990,973 979,820	116,588 103,593
1985 1986 1987 1988 1989	2,378,803 2,341,035	1,698,927 1,656,594	679,876 684,441	1,100,026 1,094,750	807,319 791,295	292,707 303,455	1,278,777 1,246,285	891,608 865,299	387,169 380,986	783,358 762,217	425,907 413,836	1,048,914 1,048,529	120,624 116,453
1990 1991 1992 1993 1994	2,256,624	1,617,118	639,506	1,045,191	771,372	273,819	1,211,433	845,746	365,687	727,264	400,120	1,041,097	88,143
1991	2,277,920 2,184,113	1,652,983 1,603,737	624,937 580,376	1,068,433 1,013,058	798,043 760,290	270,390 252,768	1,209,487 1,171,055	854,940 843,447	354,547 327,608	717,697 697,393 702,273	392,904 408,306	1,070,048 993,074	97,271 85,340
1993 1994	2,160,710 2,133,205	1,608,274 1,603,106	552,436 530,099	1,007,647 984,558	762,240 751,081	245,407 233,477	1,153,063 1,148,647	846,034 852,025	307,029 296,622	702,273 709,042	410,688 405,917	973,545 952,468	74,204 65,778
1995 1996 1997 1998 1999	2,168,831	1,646,812 1,739,852	522,019 534,467	1,001,052 1,046,662	767,185 805,982	233,867	1,167,779 1,227,657	879,627 933,870	288,152 293,787	731,836 741,164	419,025 427,442	954,595 989,536	63,375 116,177
1990	2,168,831 2,274,319 2,219,255	1.733.512	485,743	1 026 058	806.054	233,867 240,680 220,004	1 193 197	927,458	265,739	755,362	442,397	923,954	97.542
1998 1999	2,212,593 2,357,590	1,775,412 1,849,741	437,181 507,849	1,022,656 1,094,539	825,577 865,545	197,079 228,994	1,189,937 1,263,051	949,835 984,196	240,102 278,855	792,772 819,503	460,948 474,223	858,417 955,499	100,456 108,365
2000 2001	2,427,551 2,497,078	1,918,093	509,458 507,899	1,123,948 1,152,837	894,432 926,393	229,516 226,444	1,303,603 1,344,241	1,023,661	279,942 281,455	842,228 866,619	498,532 508,030	952,175 988,726	134,616 133,703
2001	2,497,078	1,989,179 2,053,065	517 546	1,170,609	945,938	224,671	1,400,002 1,415,898	1,062,786	292,875	886,297	517,621	1,037,267	129.426
2002 2003 2004	2,591,754 2,630,243	2,102,394 2,147,546	489,360 482,697	1,175,856 1,190,268	965,075 981,591	210,781 208,677	1,415,898	1,137,319 1,165,955	278,579 274,020	918,602 925,249	537,726 562,485	1,004,428 1,009,082	130,998 133,427
2005 2006 2007	2,657,338 2,707,213	2,189,884 2,219,853	467,454 487,360	1,200,055 1,228,665	995,610 1,015,585	204,445 213,080	1,457,283 1,478,548	1,194,274 1,204,268	263,009 274,280	953,903 990,262	606,712 598,412	977,224 1,013,080	119,499 105,459
2000	2,776,168	2,293,855	482,313	1,267,030	1,052,600	214,430	1,509,138	1,241,255	267,883	1,023,543	633,296	1,016,262	103,067
2008 2009	3,024,723 3,156,882	2,427,740 2,534,440	596,983 622,442	1,389,302 1,464,424	1,115,500 1,177,119	273,802 287,305	1,635,421 1,692,458	1,312,240 1,357,321	323,181 335,137	1,053,838 1,090,980	673,581 658,808	1,186,576 1,275,974	110,728 131,120
2010 2011	3,156,727 3,091,496	2,533,636 2,479,155	623,091 612,341	1,461,016 1,424,140	1,171,090 1,140,843	289,926 283,297	1,695,711 1,667,356	1,362,546	333,165 329.044	1,110,601 1,131,091	674,573 656,864	1,238,491 1,195,083	133,062 108,458
2012	2,994,187	2,408,063	586,124	1,387,316	1,115,266	272,050	1,606,871	1,338,312 1,292,797	314,074	1,128,344	642,716	1,137,927	85,200
2013 2014	2,985,366 2,925,026	2,415,969 2,381,676	569,397 543,350	1,383,852 1,354,494	1,117,525 1,099,039	266,327 255,455	1,601,514 1,570,532	1,298,444 1,282,637	303,070 287,895	1,144,102 1,170,274	633,184 612,106	1,126,978 1,070,700	81,102 71,946
2015 2016 <sup>4</sup>	2,880,966 2,921,000	2,366,068	514,898	1,337,696 1,359,000	1,095,783	241,913	1,543,270 1,562,000	1,270,285	272,985	1,190,426	599,202	1,029,032	62,306
2016 2017 <sup>4</sup> 2018 <sup>4</sup> 2019 <sup>4</sup>	2,921,000 2,952,000 2,991,000	-	_	1,361,000	_	_	1,591,000	-	_	_	_	_	_
2019 <sup>4</sup>	3,037,000	-	_	1,375,000 1,393,000	_	=	1,616,000 1,644,000	_	_	_	_	_	_
2020 <sup>4</sup> 2021 <sup>4</sup> 2022 <sup>4</sup> 2023 <sup>4</sup> 2024 <sup>4</sup>	3,084,000 3,127,000	_	_	1,413,000 1,430,000	_	_	1,671,000 1,697,000	_	_	_		_	_
2022 <sup>4</sup>	3,159,000	-	_	1,443,000	_	_	1,716,000	-	-	_	_	_	_
2023 <sup>4</sup>	3,192,000 3,223,000	_	_	1,456,000 1,468,000	_	_	1,736,000 1,755,000	_	_	_	_	_	_
2025 <sup>4</sup> 2026 <sup>4</sup>	3,250,000	—	—	1,478,000	—	_	1,771,000	—	—	_	_	_	_
2020	3,269,000	—	—	1,486,000	—	_	1,783,000	—		_	_	—	—

#### Table 18. Total fall enrollment of first-time degree/certificate-seeking students in degree-granting postsecondary institutions, by attendance status, sex of student, and level and control of institution: 1955 through 2026

-Not available.

<sup>1</sup>Excludes first-time degree/certificate-seeking students in occupational programs not creditable

towards a bachelor's degree. <sup>2</sup>Data for 2-year branches of 4-year college systems are aggregated with the 4-year institutions. <sup>3</sup>Large increases are due to the addition of schools accredited by the Accrediting Commission of Career Schools and Colleges of Technology. <sup>4</sup>Projected.

NOTE: Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is

very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Alaska and Hawaii are included in all years. Some data have been revised from previously published figures. SOURCE: U.S. Department of Education, National Center for Education Statistics, *Biennial* 

Survey of Education in the United States; Opening Fall Enrollment in Higher Education, 1963 through 1965; Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1966 through 1985; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:86-99); IPEDS Spring 2001 through Spring 2016, Fall Enrollment component; and First-Time Freshmen Projection Model, 1980 through 2026. (This table was prepared February 2017.)

		Enrollment (in thousands)											Percer	ntage distr	ibution			
					Asian	/Pacific Isl	ander	American Indian/	Two or				-	Asian	/Pacific Isl	ander	American Indian/	Two or
Year	Total	White	Black	Hispanic	Total	Asian	Pacific Islander	Alaska Native	more races	Total	White	Black	Hispanic	Total	Asian	Pacific Islander	Alaska Native	more races
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1976 1980 1990 1994 1995	10,767 11,782 13,427 13,823 13,807	9,076 9,833 10,722 10,427 10,311	1,033 1,107 1,247 1,449 1,474	384 472 782 1,046 1,094	198 286 572 774 797			76 84 103 127 131		100.0 100.0 100.0 100.0 100.0	84.3 83.5 79.9 75.4 74.7	9.6 9.4 9.3 10.5 10.7	3.6 4.0 5.8 7.6 7.9	1.8 2.4 4.3 5.6 5.8			0.7 0.7 0.8 0.9 1.0	-
1996 1997 1998 1999 2000	13,901 14,037 14,063 14,361 14,784	10,264 10,266 10,179 10,329 10,462	1,506 1,551 1,583 1,649 1,730	1,166 1,218 1,257 1,324 1,462	828 859 900 914 978	 		138 142 144 146 151	 	100.0 100.0 100.0 100.0 100.0	73.8 73.1 72.4 71.9 70.8	10.8 11.0 11.3 11.5 11.7	8.4 8.7 8.9 9.2 9.9	6.0 6.1 6.4 6.4 6.6		  	1.0 1.0 1.0 1.0 1.0	- - - -
2001 2002 2003 2004 2005	15,363 16,021 16,314 16,682 16,903	10,775 11,140 11,281 11,423 11,495	1,850 1,979 2,068 2,165 2,215	1,561 1,662 1,716 1,810 1,882	1,019 1,074 1,076 1,109 1,134	 		158 166 173 176 176	 	100.0 100.0 100.0 100.0 100.0	70.1 69.5 69.1 68.5 68.0	12.0 12.4 12.7 13.0 13.1	10.2 10.4 10.5 10.8 11.1	6.6 6.7 6.6 6.6 6.7			1.0 1.0 1.1 1.1 1.0	- - - -
2006 2007 2008 2009 2010	17,163 17,624 18,442 19,631 20,312	11,572 11,756 12,089 12,669 12,721	2,280 2,383 2,584 2,884 3,039	1,964 2,076 2,273 2,537 2,749	1,165 1,218 1,303 1,335 1,282	  1,218		181 190 193 206 196	  325	100.0 100.0 100.0 100.0 100.0	67.4 66.7 65.5 64.5 62.6	13.3 13.5 14.0 14.7 15.0	11.4 11.8 12.3 12.9 13.5	6.8 6.9 7.1 6.8 6.3	  6.0	  0.3	1.1 1.1 1.0 1.0 1.0	  1.6
2011 2012 2013 2014 2015	20,270 19,861 19,537 19,288 18,994	12,402 11,982 11,589 11,237 10,937	3,079 2,962 2,872 2,792 2,675	2,893 2,980 3,093 3,192 3,292	1,277 1,258 1,260 1,272 1,284	1,211 1,195 1,199 1,214 1,228	66 64 61 59 56	186 173 162 153 146	433 505 560 642 660	100.0 100.0 100.0 100.0 100.0	61.2 60.3 59.3 58.3 57.6	15.2 14.9 14.7 14.5 14.1	14.3 15.0 15.8 16.5 17.3	6.3 6.3 6.4 6.6 6.8	6.0 6.0 6.1 6.3 6.5	0.3 0.3 0.3 0.3 0.3	0.9 0.9 0.8 0.8 0.8	2.1 2.5 2.9 3.3 3.5
2016 <sup>1</sup> 2017 <sup>1</sup> 2018 <sup>1</sup> 2019 <sup>1</sup> 2020 <sup>1</sup>	19,160 19,334 19,550 19,803 20,059	10,992 10,995 11,033 11,093 11,151	2,752 2,808 2,859 2,913 2,970	3,475	1,282 1,296 1,312 1,333 1,356	 		145 145 145 146 146	683 705 726 748 768	100.0 100.0 100.0 100.0 100.0	57.4 56.9 56.4 56.0 55.6	14.4 14.5 14.6 14.7 14.8	17.3 17.5 17.8 18.0 18.3	6.7 6.7 6.7 6.7 6.8		 	0.8 0.8 0.7 0.7 0.7	3.6 3.6 3.7 3.8 3.8
2021 <sup>1</sup> 2022 <sup>1</sup> 2023 <sup>1</sup> 2024 <sup>1</sup> 2025 <sup>1</sup> 2026 <sup>1</sup>	20,286 20,435 20,589 20,712 20,799 20,841	11,192 11,185 11,170 11,137 11,084 11,007	3,024 3,065 3,113 3,152 3,185 3,210	3,921 4,002 4,079	1,379 1,395 1,410 1,423 1,430 1,436			147 146 146 145 144 143	786 806 829 853 877 904	100.0 100.0 100.0 100.0 100.0 100.0	55.2 54.7 54.3 53.8 53.3 52.8	14.9 15.0 15.1 15.2 15.3 15.4	18.5 18.8 19.0 19.3 19.6 19.9	6.8 6.8 6.9 6.9 6.9			0.7 0.7 0.7 0.7 0.7 0.7	3.9 3.9 4.0 4.1 4.2 4.3

#### Table 19. Fall enrollment of U.S. residents in degree-granting postsecondary institutions, by race/ethnicity: Selected years, 1976 through 2026

#### -Not available.

<sup>1</sup>Projected.

NOTE: Race categories exclude persons of Hispanic ethnicity. Prior to 2010, institutions were not required to report separate data on Asians, Pacific Islanders, and students of Two or more races. Projections for Asian and Pacific Islander enrollment are not available due to the limited amount of historical data available upon which to base a projection model. Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1976 and 1980; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:90–99); IPEDS Spring 2001 through Spring 2016, Fall Enrollment component; and Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, 1980 through 2026. (This table was prepared March 2017.)

#### Table 20. Full-time-equivalent fall enrollment in degree-granting postsecondary institutions, by control and level of institution: 1967 through 2026

								Pr	ivate institutio	ins			
		All institutions	i	Pu	blic institutior	IS			4-year			2-year	
Year	Total	4-year	2-year	Total	4-year	2-year	Total	Total	Nonprofit	For-profit	Total	Nonprofit	For-profit
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1967 1968 1969	5,499,360 5,977,768 6,333,357	4,448,302 4,729,522 4,899,034	1,051,058 1,248,246 1,434,323	3,777,701 4,248,639 4,577,353	2,850,432 3,128,057 3,259,323	927,269 1,120,582 1,318,030	1,721,659 1,729,129 1,756,004	1,597,870 1,601,465 1,639,711			123,789 127,664 116,293		
1970 1971 1972 1973 1974	6,737,819 7,148,558 7,253,757 7,453,463 7,805,452	5,145,422 5,357,647 5,406,833 5,439,230 5,606,247	1,592,397 1,790,911 1,846,924 2,014,233 2,199,205	4,953,144 5,344,402 5,452,854 5,629,563 5,944,799	3,468,569 3,660,626 3,706,238 3,721,037 3,847,543	1,484,575 1,683,776 1,746,616 1,908,526 2,097,256	1,784,675 1,804,156 1,800,903 1,823,900 1,860,653	1,676,853 1,697,021 1,700,595 1,718,193 1,758,704		 	107,822 107,135 100,308 105,707 101,949	 	
1975 1976 1977 1978 1979	8,479,698 8,312,502 8,415,339 8,348,482 8,487,317	5,900,408 5,848,001 5,935,076 5,932,357 6,016,072	2,579,290 2,464,501 2,480,263 2,416,125 2,471,245	6,522,319 6,349,903 6,396,476 6,279,199 6,392,617	4,056,502 3,998,450 4,039,071 3,996,126 4,059,304	2,465,817 2,351,453 2,357,405 2,283,073 2,333,313	1,957,379 1,962,599 2,018,863 2,069,283 2,094,700	1,843,906 1,849,551 1,896,005 1,936,231 1,956,768		 	113,473 113,048 122,858 133,052 137,932	 	
1980 1981 1982 1983 1984	8,819,013 9,014,521 9,091,648 9,166,398 8,951,695	6,161,372 6,249,847 6,248,923 6,325,222 6,292,711	2,657,641 2,764,674 2,842,725 2,841,176 2,658,984	6,642,294 6,781,300 6,850,589 6,881,479 6,684,664	4,158,267 4,208,506 4,220,648 4,265,807 4,237,895	2,484,027 2,572,794 2,629,941 2,615,672 2,446,769	2,176,719 2,233,221 2,241,059 2,284,919 2,267,031	2,003,105 2,041,341 2,028,275 2,059,415 2,054,816	     	 	173,614 <sup>1</sup> 191,880 <sup>1</sup> 212,784 <sup>1</sup> 225,504 212,215	 	
1985 1986 1987 1988 1989	8,943,433 9,064,165 9,229,736 9,464,271 9,780,881	6,294,339 6,360,325 6,486,504 6,664,146 6,813,602	2,649,094 2,703,842 2,743,230 2,800,125 2,967,279	6,667,781 6,778,045 6,937,690 7,096,905 7,371,590	4,239,622 4,295,494 4,395,728 4,505,774 4,619,828	2,428,159 2,482,551 2,541,961 2,591,131 2,751,762	2,275,652 2,286,122 2,292,045 2,367,366 2,409,291	2,054,717 2,064,831 2,090,776 2,158,372 2,193,774	- - - -	 	220,935 221,291 <sup>2</sup> 201,269 <sup>2</sup> 208,994 215,517	 	 
1990 1991 1992 1993 1994	9,983,436 10,360,606 10,436,776 10,351,415 10,348,072	6,968,008 7,081,454 7,129,379 7,120,921 7,137,341	3,015,428 3,279,152 3,307,397 3,230,494 3,210,731	7,557,982 7,862,845 7,911,701 7,812,394 7,784,396	4,740,049 4,795,704 4,797,884 4,765,983 4,749,524	2,817,933 3,067,141 3,113,817 3,046,411 3,034,872	2,425,454 2,497,761 2,525,075 2,539,021 2,563,676	2,227,959 2,285,750 2,331,495 2,354,938 2,387,817	2,177,668 2,223,463 2,267,373 2,282,643 2,301,063	50,291 62,287 64,122 72,295 86,754	197,495 212,011 193,580 184,083 175,859	72,785 72,545 66,647 70,469 69,578	124,710 139,466 126,933 113,614 106,281
1995 1996 1997 1998 1999	10,334,956 10,481,886 10,615,028 10,698,775 10,974,519	7,172,844 7,234,541 7,338,794 7,467,828 7,634,247	3,162,112 3,247,345 3,276,234 3,230,947 3,340,272	7,751,815 7,794,895 7,869,764 7,880,135 8,059,240	4,757,223 4,767,117 4,813,849 4,868,857 4,949,851	2,994,592 3,027,778 3,055,915 3,011,278 3,109,389	2,583,141 2,686,991 2,745,264 2,818,640 2,915,279	2,415,621 2,467,424 2,524,945 2,598,971 2,684,396	2,328,730 2,353,561 2,389,627 2,436,188 2,488,140	86,891 113,863 135,318 162,783 196,256	167,520 219,567 220,319 219,669 230,883	62,416 63,954 61,761 56,834 53,956	105,104 155,613 158,558 162,835 176,927
2000 2001 2002 2003 2004	11,267,025 11,765,945 12,331,319 12,687,597 13,000,994	7,795,139 8,087,980 8,439,064 8,744,188 9,018,024	3,471,886 3,677,965 3,892,255 3,943,409 3,982,970	8,266,932 8,639,154 9,061,411 9,240,724 9,348,081	5,025,588 5,194,035 5,406,283 5,557,680 5,640,650	3,241,344 3,445,119 3,655,128 3,683,044 3,707,431	3,000,093 3,126,791 3,269,908 3,446,873 3,652,913	2,769,551 2,893,945 3,032,781 3,186,508 3,377,374	2,549,676 2,612,833 2,699,702 2,776,850 2,837,251	219,875 281,112 333,079 409,658 540,123	230,542 232,846 237,127 260,365 275,539	51,503 41,037 40,110 36,815 34,202	179,039 191,809 197,017 223,550 241,337
2005 2006 2007 2008 2009	13,200,790 13,403,097 13,782,702 14,394,238 15,379,473	9,261,634 9,456,166 9,769,560 10,169,454 10,695,816	3,939,156 3,946,931 4,013,142 4,224,784 4,683,657	9,390,216 9,503,558 9,739,709 10,061,812 10,746,637	5,728,327 5,824,768 5,994,230 6,139,525 6,452,414	3,661,889 3,678,790 3,745,479 3,922,287 4,294,223	3,810,574 3,899,539 4,042,993 4,332,426 4,632,836	3,533,307 3,631,398 3,775,330 4,029,929 4,243,402	2,878,354 2,936,172 2,993,729 3,060,308 3,153,294	654,953 695,226 781,601 969,621 1,090,108	277,267 268,141 267,663 302,497 389,434	34,729 31,203 26,134 28,065 27,964	242,538 236,938 241,529 274,432 361,470
2010 2011 2012. 2013. 2014.	15,892,792 15,593,434	11,183,239	4,818,235 4,630,947 4,363,660 4,226,819 4,024,243	11,018,756 10,954,754 10,781,798 10,697,939 10,624,769	6,635,799 6,734,116 6,764,184 6,790,930 6,892,523	4,382,957 4,220,638 4,017,614 3,907,009 3,732,246	4,928,718 4,938,038 4,811,636 4,712,119 4,637,427	4,493,440 4,527,729 4,465,590 4,392,309 4,345,430	3,235,149 3,285,711 3,309,242 3,337,799 3,362,197	1,258,291 1,242,018 1,156,348 1,054,510 983,233	435,278 410,309 346,046 319,810 291,997	26,920 34,267 32,684 27,313 25,797	408,358 376,042 313,362 292,497 266,200
2015 2016 <sup>3</sup> 2017 <sup>3</sup> 2018 <sup>3</sup> 2019 <sup>3</sup>	15,401,000 15,598,000	11,227,177 11,015,000 11,158,000 11,295,000 11,461,000	3,849,642 4,197,000 4,243,000 4,302,000 4,369,000	10,568,724 10,754,000 10,882,000 11,022,000 11,187,000	6,971,897 6,838,000 6,924,000 7,009,000 7,111,000	3,596,827 3,916,000 3,958,000 4,013,000 4,075,000	4,508,095 4,458,000 4,519,000 4,575,000 4,644,000	4,255,280 4,177,000 4,233,000 4,286,000 4,350,000	3,400,612 — — — —	854,668 — — — —	252,815 281,000 285,000 289,000 294,000	41,619 — — — —	211,196 
2020 <sup>3</sup> 2021 <sup>3</sup> 2022 <sup>3</sup> 2023 <sup>3</sup> 2024 <sup>3</sup>	16,485,000 16,662,000	11,657,000 11,830,000 11,945,000 12,072,000 12,173,000			7,232,000 7,338,000 7,407,000 7,486,000 7,550,000	4,134,000 4,190,000 4,235,000 4,282,000 4,323,000	4,724,000 4,795,000 4,843,000 4,895,000 4,935,000	4,426,000 4,493,000 4,537,000 4,586,000 4,623,000	 	 	298,000 302,000 306,000 309,000 312,000	 	 
2025 <sup>3</sup> 2026 <sup>3</sup>		12,242,000 12,292,000	4,672,000 4,698,000	11,953,000 12,009,000	7,594,000 7,626,000	4,358,000 4,383,000	4,962,000 4,981,000	4,648,000 4,666,000	_ _	_ _	314,000 315,000	_ _	

-Not available.

<sup>3</sup>Projected.

NOTE: Full-time-equivalent enrollment is the number of full-time students enrolled, plus the full-time equivalent of the part-time students. Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification,

but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universi-ties" surveys, 1967 through 1985; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:86–99); IPEDS Spring 2001 through Spring 2016, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. (This table was prepared February 2017.)

<sup>—</sup>Not available.
1 Large increases are due to the addition of schools accredited by the Accrediting Commission of Career Schools and Colleges of Technology.
2 Because of imputation techniques, data are not consistent with figures for other years.
2-

		Associate's	degrees			Bachelor's	degrees			Master's	degrees			Doctor's c	legrees <sup>1</sup>	
Year	Total	Males	Females	Percent female	Total	Males	Females	Percent female	Total	Males	Females	Percent female	Total	Males	Females	Percent female
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1869–70 1879–80 1889–90 1899–1900 1909–10					9,371 <sup>2</sup> 12,896 <sup>2</sup> 15,539 <sup>2</sup> 27,410 <sup>2</sup> 37,199 <sup>2</sup>	7,993 <sup>2</sup> 10,411 <sup>2</sup> 12,857 <sup>2</sup> 22,173 <sup>2</sup> 28,762 <sup>2</sup>	1,378 <sup>2</sup> 2,485 <sup>2</sup> 2,682 <sup>2</sup> 5,237 <sup>2</sup> 8,437 <sup>2</sup>	14.7 19.3 17.3 19.1 22.7	0 879 1,015 1,583 2,113	0 868 821 1,280 1,555	0 11 194 303 558	1.3 19.1 19.1 26.4	1 54 149 382 443	1 51 147 359 399	0 3 2 23 44	0.0 5.6 1.3 6.0 9.9
1919–20 1929–30 1939–40 1949–50 1959–60 1969–70	  206,023	  117,432	  88,591	  43.0	48,622 <sup>2</sup> 122,484 <sup>2</sup> 186,500 <sup>2</sup> 432,058 <sup>2</sup> 392,440 <sup>2</sup> 792,316	31,980 <sup>2</sup> 73,615 <sup>2</sup> 109,546 <sup>2</sup> 328,841 <sup>2</sup> 254,063 <sup>2</sup> 451,097	16,642 <sup>2</sup> 48,869 <sup>2</sup> 76,954 <sup>2</sup> 103,217 <sup>2</sup> 138,377 <sup>2</sup> 341,219	34.2 39.9 41.3 23.9 35.3 43.1	4,279 14,969 26,731 58,183 74,435 213,589	2,985 8,925 16,508 41,220 50,898 130,799	1,294 6,044 10,223 16,963 23,537 82,790	30.2 40.4 38.2 29.2 31.6 38.8	615 2,299 3,290 6,420 9,829 59,486	522 1,946 2,861 5,804 8,801 53,792	93 353 429 616 1,028 5,694	15.1 15.4 13.0 9.6 10.5 9.6
1970–71	252,311	144,144	108,167	42.9	839,730	475,594	364,136	43.4	235,564	143,083	92,481	39.3	64,998	58,137	6,861	10.6
1971–72	292,014	166,227	125,787	43.1	887,273	500,590	386,683	43.6	257,201	155,010	102,191	39.7	71,206	63,353	7,853	11.0
1972–73	316,174	175,413	140,761	44.5	922,362	518,191	404,171	43.8	268,654	159,569	109,085	40.6	79,512	69,959	9,553	12.0
1973–74	343,924	188,591	155,333	45.2	945,776	527,313	418,463	44.2	282,074	162,606	119,468	42.4	82,591	71,131	11,460	13.9
1974–75	360,171	191,017	169,154	47.0	922,933	504,841	418,092	45.3	297,545	166,318	131,227	44.1	84,904	71,025	13,879	16.3
1975–76	391,454	209,996	181,458	46.4	925,746	504,925	420,821	45.5	317,477	172,519	144,958	45.7	91,007	73,888	17,119	18.8
1976–77	406,377	210,842	195,535	48.1	919,549	495,545	424,004	46.1	323,025	173,090	149,935	46.4	91,730	72,209	19,521	21.3
1977–78	412,246	204,718	207,528	50.3	921,204	487,347	433,857	47.1	317,987	166,857	151,130	47.5	92,345	70,283	22,062	23.9
1978–79	402,702	192,091	210,611	52.3	921,390	477,344	444,046	48.2	307,686	159,111	148,575	48.3	94,971	70,452	24,519	25.8
1979–80	400,910	183,737	217,173	54.2	929,417	473,611	455,806	49.0	305,196	156,882	148,314	48.6	95,631	69,526	26,105	27.3
1980–81 1981–82 1982–83 1983–84 1984–85	416,377 434,526 449,620 452,240 454,712	188,638 196,944 203,991 202,704 202,932	227,739 237,582 245,629 249,536 251,780	54.7 54.7 55.2 55.4	935,140 952,998 969,510 974,309 979,477	469,883 473,364 479,140 482,319 482,528	465,257 479,634 490,370 491,990 496,949	49.8 50.3 50.6 50.5 50.7	302,637 302,447 296,415 291,141 293,472	152,979 151,349 150,092 149,268 149,276	149,658 151,098 146,323 141,873 144,196	49.5 50.0 49.4 48.7 49.1	98,016 97,838 99,335 100,799 100,785	69,567 68,630 67,757 67,769 66,269	28,449 29,208 31,578 33,030 34,516	29.0 29.9 31.8 32.8 34.2
1985–86	446,047	196,166	249,881	56.0	987,823	485,923	501,900	50.8	295,850	149,373	146,477	49.5	100,280	65,215	35,065	35.0
1986–87	436,304	190,839	245,465	56.3	991,264	480,782	510,482	51.5	296,530	147,063	149,467	50.4	98,477	62,790	35,687	36.2
1987–88	435,085	190,047	245,038	56.3	994,829	477,203	517,626	52.0	305,783	150,243	155,540	50.9	99,139	63,019	36,120	36.4
1988–89	436,764	186,316	250,448	57.3	1,018,755	483,346	535,409	52.6	316,626	153,993	162,633	51.4	100,571	63,055	37,516	37.3
1989–90	455,102	191,195	263,907	58.0	1,051,344	491,696	559,648	53.2	330,152	158,052	172,100	52.1	103,508	63,963	39,545	38.2
1990–91	481,720	198,634	283,086	58.8	1,094,538	504,045	590,493	53.9	342,863	160,842	182,021	53.1	105,547	64,242	41,305	39.1
1991–92	504,231	207,481	296,750	58.9	1,136,553	520,811	615,742	54.2	358,089	165,867	192,222	53.7	109,554	66,603	42,951	39.2
1992–93	514,756	211,964	302,792	58.8	1,165,178	532,881	632,297	54.3	375,032	173,354	201,678	53.8	112,072	67,130	44,942	40.1
1993–94	530,632	215,261	315,371	59.4	1,169,275	532,422	636,853	54.5	393,037	180,571	212,466	54.1	112,636	66,773	45,863	40.7
1994–95	539,691	218,352	321,339	59.5	1,160,134	526,131	634,003	54.6	403,609	183,043	220,566	54.6	114,266	67,324	46,942	41.1
1995–96	555,216	219,514	335,702	60.5	1,164,792	522,454	642,338	55.1	412,180	183,481	228,699	55.5	115,507	67,189	48,318	41.8
1996–97	571,226	223,948	347,278	60.8	1,172,879	520,515	652,364	55.6	425,260	185,270	239,990	56.4	118,747	68,387	50,360	42.4
1997–98	558,555	217,613	340,942	61.0	1,184,406	519,956	664,450	56.1	436,037	188,718	247,319	56.7	118,735	67,232	51,503	43.4
1998–99	564,984	220,508	344,476	61.0	1,202,239	519,961	682,278	56.8	446,038	190,230	255,808	57.4	116,700	65,340	51,360	44.0
1999–2000	564,933	224,721	340,212	60.2	1,237,875	530,367	707,508	57.2	463,185	196,129	267,056	57.7	118,736	64,930	53,806	45.3
2000–01 2001–02 2002–03 2003–04 2004–05	578,865 595,133 634,016 665,301 696,660	231,645 238,109 253,451 260,033 267,536	347,220 357,024 380,565 405,268 429,124	60.0 60.0 60.9 61.6	1,244,171 1,291,900 1,348,811 1,399,542 1,439,264	531,840 549,816 573,258 595,425 613,000	712,331 742,084 775,553 804,117 826,264	57.3 57.4 57.5 57.5 57.5 57.4	473,502 487,313 518,699 564,272 580,151	197,770 202,604 215,172 233,056 237,155	275,732 284,709 303,527 331,216 342,996	58.2 58.4 58.5 58.7 59.1	119,585 119,663 121,579 126,087 134,387	64,171 62,731 62,730 63,981 67,257	55,414 56,932 58,849 62,106 67,130	46.3 47.6 48.4 49.3 50.0
2005–06	713,066	270,095	442,971	62.1	1,485,242	630,600	854,642	57.5	599,731	241,656	358,075	59.7	138,056	68,912	69,144	50.1
2006–07	728,114	275,187	452,927	62.2	1,524,092	649,570	874,522	57.4	610,597	242,189	368,408	60.3	144,690	71,308	73,382	50.7
2007–08	750,164	282,521	467,643	62.3	1,563,069	667,928	895,141	57.3	630,666	250,169	380,497	60.3	149,378	73,453	75,925	50.8
2008–09	787,243	298,066	489,177	62.1	1,601,399	685,422	915,977	57.2	662,082	263,515	398,567	60.2	154,564	75,674	78,890	51.0
2009–10	848,856	322,747	526,109	62.0	1,649,919	706,660	943,259	57.2	693,313	275,317	417,996	60.3	158,590	76,610	81,980	51.7
2010–11	943,506	361,408	582,098	61.7	1,716,053	734,159	981,894	57.2	730,922	291,680	439,242	60.1	163,827	79,672	84,155	51.4
2011–12	1,021,718	393,479	628,239	61.5	1,792,163	765,772	1,026,391	57.3	755,967	302,484	453,483	60.0	170,217	82,670	87,547	51.4
2012–13	1,007,427	389,195	618,232	61.4	1,840,381	787,408	1,052,973	57.2	751,718	301,552	450,166	59.9	175,026	85,080	89,946	51.4
2013–14	1,005,155	391,474	613,681	61.1	1,870,150	801,905	1,068,245	57.1	754,582	302,846	451,736	59.9	177,587	85,585	92,002	51.8
2014–15	1,013,971	396,613	617,358	61.3	1,894,934	812,669	1,082,265	57.1	758,708	306,590	452,118	59.9	178,547	84,921	93,626	51.9
2015–16 <sup>3</sup>	999,000	394,000	605,000	60.6	1,892,000	812,000	1,081,000	57.1	769,000	312,000	457,000	59.4	180,000	85,000	95,000	52.8
2016–17 <sup>3</sup>	1,011,000	400,000	611,000	60.4	1,895,000	812,000	1,083,000	57.2	773,000	319,000	454,000	58.7	181,000	86,000	95,000	52.7
2017–18 <sup>3</sup>	1,032,000	399,000	632,000	61.3	1,900,000	811,000	1,090,000	57.3	790,000	325,000	465,000	58.8	183,000	86,000	97,000	52.9
2018–19 <sup>3</sup>	1,083,000	415,000	668,000	61.7	1,887,000	810,000	1,077,000	57.1	802,000	328,000	474,000	59.1	184,000	87,000	97,000	52.5
2019–20 <sup>3</sup>	1,110,000	420,000	690,000	62.2	1,913,000	812,000	1,101,000	57.6	818,000	333,000	485,000	59.3	186,000	88,000	98,000	52.8
2020–21 <sup>3</sup>	1,136,000	426,000	710,000	62.5	1,939,000	821,000	1,118,000	57.6	837,000	340,000	497,000	59.4	188,000	88,000	100,000	53.2
2021–22 <sup>3</sup>	1,164,000	433,000	731,000	62.8	1,966,000	831,000	1,135,000	57.7	857,000	347,000	509,000	59.4	190,000	88,000	102,000	53.5
2022–23 <sup>3</sup>	1,191,000	439,000	752,000	63.2	1,995,000	842,000	1,152,000	57.8	874,000	354,000	520,000	59.5	193,000	89,000	104,000	53.7
2023–24 <sup>3</sup>	1,217,000	445,000	772,000	63.4	2,022,000	853,000	1,169,000	57.8	890,000	359,000	531,000	59.7	196,000	90,000	106,000	53.9
2024–25 <sup>3</sup>	1,242,000	451,000	791,000	63.7	2,041,000	860,000	1,181,000	57.9	903,000	363,000	540,000	59.8	198,000	91,000	107,000	54.0
2025–26 <sup>3</sup>	1,266,000	456,000	810,000		2,062,000	868,000	1,195,000	57.9	913,000	364,000	548,000	60.1	200,000	92,000	108,000	54.2
2026–27 <sup>3</sup>	1,289,000	462,000	827,000		2,081,000	875,000	1,207,000	58.0	922,000	365,000	557,000	60.4	201,000	92,000	109,000	54.4

#### Table 21. Degrees conferred by postsecondary institutions, by level of degree and sex of student: Selected years, 1869–70 through 2026–27

-Not available.

<sup>1</sup>Includes Ph.D., Ed.D., and comparable degrees at the doctoral level. Includes most degrees formerly classified as first-professional, such as M.D., D.D.S., and law degrees. <sup>2</sup>Includes some degrees classified as master's or doctor's degrees in later years.

<sup>3</sup>Projected. NOTE: Data through 1994–95 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees

and participate in Title IV federal financial aid programs. Some data have been revised from previously published figures. Detail may not sum to talk because of rounding. SOURCE: U.S. Department of Education, National Center for Education Statistics, *Earned* 

Degrees Conferred, 1869-70 through 1964-65; Higher Education General Information Survey (HEGIS), "Degrees and Other Formal Awards Conferred" surveys, 1965–66 through 1985–86; Integrated Postsecondary Education Data System (IPEDS), "Completions Survey" (IPEDS-C:87–99); IPEDS Fall 2000 through Fall 2015, Completions component; and Degrees Conferred Projection Model, 1980–81 through 2026–27. (This table was prepared March 2017.)

# **Technical Appendixes**

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# **Appendix A**

# Introduction to Projection Methodology

# A.O. INTRODUCTION TO PROJECTION METHODOLOGY

# **Content of appendix A**

Since its inception in 1964, the *Projections of Education Statistics* series has been providing projections of key education statistics to policymakers, educators, researchers, the press, and the general public. This edition of *Projections of Education Statistics* is the 45th in the series.

Appendix A contains this introduction, which provides a general overview of the projection methodology, as well as six additional sections that discuss the specific methodology for the different statistics projected:

- » A.O. Introduction to Projection Methodology;
- » A.1. Elementary and Secondary Enrollment;
- » A.2. Elementary and Secondary Teachers;
- » A.3. High School Graduates;
- » A.4. Expenditures for Public Elementary and Secondary Education;
- » A.5. Enrollment in Degree-Granting Postsecondary Institutions; and
- » A.6. Postsecondary Degrees Conferred.

#### This introduction

- » outlines the two major techniques used to make the projections;
- » summarizes key demographic and economic assumptions underlying the projections;
- » examines the accuracy of the projections; and
- » introduces the subsequent sections of appendix A.

## **Projection techniques**

Two main projection techniques were used to develop the projections presented in this publication:

- » Exponential smoothing was the technique used in the projections of elementary and secondary enrollments and high school graduates. This technique also played a role in the projections of teachers at the elementary and secondary level, as well as enrollments and degrees conferred at the postsecondary level.
- » Multiple linear regression was the primary technique used in the projections of teachers and expenditures at the elementary and secondary level, as well as enrollments and degrees conferred at the postsecondary level.

#### Exponential smoothing

Two different types of exponential smoothing, single exponential smoothing and double exponential smoothing, were used in producing the projections presented in this publication.

Single exponential smoothing was used when the historical data had a basically horizontal pattern. Single exponential smoothing produces a single forecast for all years in the forecast period. In developing projections of elementary and secondary enrollments, for example, the rate at which students progress from one particular grade to the next (e.g., from grade 2 to grade 3) was projected using single exponential smoothing. Thus, this percentage was assumed to be constant over the forecast period.

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 the projections. The rate at which the weights of older observations decrease is determined by the smoothing constant.

When using single exponential smoothing for a time series,  $P_t$ , a smoothed series,  $\hat{P}_t$  is computed recursively by evaluating

$$\hat{P}_t = \propto P_t + (1 - \alpha) \hat{P}_{t-1}$$

where  $0 < \alpha \le 1$  is the smoothing constant.

By repeated substitution, we can rewrite the equation as

$$\hat{P}_t = \propto \sum_{s=0}^{t-1} (1 - \alpha)^s P_{t-s}$$

where time, *s*, goes from the first period in the time series, 0, to time period *t*-1.

The forecasts are constant for all years in the forecast period. The constant equals

$$\hat{P}_{T+k} = \hat{P}_T$$

where *T* is the last year of actual data and *k* is the kth year in the forecast period where k > 0.

These equations illustrate that the projection is a weighted average based on exponentially decreasing weights. For higher smoothing constants, weights for earlier observations decrease more rapidly than for lower smoothing constants.

For each of the approximately 1,200 single exponential smoothing equations in this edition of *Projections of Education Statistics*, a smoothing constant was individually chosen to minimize the sum of squared forecast errors for that equation. The smoothing constants used to produce the projections in this report ranged from 0.001 to 0.999.

Double exponential smoothing is an extension of single exponential smoothing that allows the forecasting of data with trends. It produces different forecasts for different years in the forecast period. Double exponential smoothing with two smoothing constants was used to forecast the number of doctor's degrees awarded to men and women.

The smoothing forecast using double exponential smoothing is found using the three equations:

$$\hat{P}_{t+k} = a_t + b_t k$$

$$a_t = \propto P_t + (1 - \propto) (a_{t-1} + b_{t-1})$$

$$b_t = \beta (a_t - a_{t-1}) + (1 - \beta) b_{t-1}$$

where  $a_t$  denotes an estimate of the level of the series at time t,  $b_t$  denotes an estimate of the level of the series at time t, and  $0 < \alpha$ ,  $\beta < 1$  are the smoothing constants.

Forecasts from double smoothing are computed as

$$\hat{P}_{T+k} = a_T + b_T k$$

where *T* is the last year of actual data and *k* is the *k*th year in the forecast period where k > 0. The last expression shows that forecasts from double smoothing lie on a linear trend with intercept  $a_T$  and slope  $b_T$ . Single exponential smoothing can be viewed as a special case of double exponential smoothing where the impact that time has on the forecasts has been eliminated (i.e., requiring the slope term  $b_t$  to equal 0.0).

The smoothing constants for each of the two double exponential smoothing equations used for this report were selected using a search algorithm that finds the pair of smoothing constants that together minimize the sum of forecast errors for their equation.

Beginning with the *Projections of Education Statistics to 2020*, each smoothing constant was chosen separately. In earlier editions, all the smoothing constants had been set to 0.4. Also beginning with that edition, two smoothing constants, rather than one, were used for double exponential smoothing.

#### Multiple linear regression

Multiple linear regression was used in cases where a strong relationship exists between the variable being projected (the dependent variable) and independent variables. This technique can be used only when accurate data and reliable projections of the independent variables are available. Key independent variables for this publication include demographic and economic factors. For example, current expenditures for public elementary and secondary education are related to economic factors such as disposable income and education revenues from state sources. The sources of the demographic and economic projections used for this publication are discussed below, under "Assumptions."

The equations in this appendix should be viewed as forecasting rather than structural equations. That is, the equations are intended only to project values for the dependent variables, not to reflect all elements of underlying social, political, and economic structures. Lack of 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 ( $R^{2s}$ ), the *t*-statistics of the coefficients, the Durbin-Watson statistic, the Breusch-Godfrey Serial Correlation LM test statistic, and residual plots.

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

$$Y = a \cdot X_1^{b_1} \cdot X_2^{b_2}$$

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

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

One property of this model is that the coefficient of an independent variable shows how responsive in percentage terms the dependent variable is to a one percent change in that independent variable (also called the elasticity). For example, a 1 percent change in  $X_1$  in the above equation would lead to a  $b_1$  percent change in Y.

### 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. All the projections in this publication are to some extent dependent on demographic and/or economic assumptions.

#### Demographic assumptions

Many of the projections in this publication are demographically based on the 2014 National Population Projections (December 2014) produced by the U.S. Census Bureau and the IHS U.S. Regional Economic Service, Population Projections, Novenber 2016 produced by the economic consulting firm IHS Global Inc.

The two sets of population projections are produced using cohort-component models. In order for the national-level population projections by age, sex, and race/ethnicity to be consistent with the most recent historical estimates released by the Census Bureau, the projections were ratio-adjusted by applying the ratio of the last historical estimate to the corresponding projections year to the projections for each age, sex, and race/ethnicity combination. This allows for a consistent set of historical estimates and projections. For more information on the methodology used for Census Bureau population projections, see appendix C, Data Sources.

The enrollment projections in this publication depend on population projections for the various age groups that attend school. The future fertility rate assumption (along with corresponding projections of female populations) determines projections of the number of births, a key factor for population projections. The fertility rate 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 forecast period, while immigration assumptions affect all years. For enrollments in secondary grades and college, the fertility rate assumption is of no consequence, since all the population cohorts for these enrollment ranges have already been born.

### **Economic assumptions**

Various economic variables are used in the forecasting models for numbers of elementary and secondary teachers, public elementary and secondary school expenditures, and postsecondary enrollment.

Projections of the economic variables were from the trend scenario of the "U.S. Quarterly Macroeconomic Model November 2016 Short-Term Baseline Projections" developed by the IHS Global Inc. This set of projections was IHS Global Inc.'s most recent set at the time the education projections in this report were produced. The 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.

### More information about specific assumptions

For details about the primary assumptions used in this edition of *Projections of Education Statistics*, see table A-1 on page 75.

## Accuracy of the 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.

The mean absolute percentage error (MAPE) is one way to express the forecast accuracy of past projections. This measure expresses the average absolute value of errors over past projections in percentage terms. For example, an analysis of projection errors over the past 33 editions of *Projections of Education Statistics* indicates that the MAPEs for public school enrollment in grades preK–12 for lead times of 1, 2, 5, and 10 years were 0.3, 0.5, 1.2, and 2.4 percent, respectively. For the 1-year-out projection, this means that one would expect the projection to be within 0.3 percent of the actual value, on average.

For a list of MAPEs for selected national statistics in this publication, see table A-2 on page 76. Sections A.1 through A.6 each contain at least one text table (tables A through J) that presents the MAPEs for the key national statistics of that section. Each text table appears directly after the discussion of accuracy of that section's national projections. For a list of MAPEs by state and region for public elementary and secondary enrollment, see tables A-7 through A-9 on pages 85–87 and for a list of MAPEs by state and region for the number of high school graduates in public schools, see table A-10 on page 93.

Tables A-3 and A-4 present an example of how the MAPEs were constructed using actual values for total enrollment in degreegranting postsecondary institutions projections for schools years 2012–13 through 2015–16 and enrollment projections from the last four editions of *Projections of Education Statistics*. The top two panels of table A-3 shows the actual values for school years 2012–13 through 2015–16 and enrollment projections for each year from *Projections of Education Statistics to 2022* with the number of projections generally decreasing by one for each subsequent edition. The bottom panel of table A-3 shows the percentage differences between the actual values and the projected values. For example, the projected value for 2012–13 presented in *Projections of Education Statistics to 2022* was 1.6 percent higher than the actual value for that year.

The top panel of table A-4 shows the absolute value of the percent differences from table A-3 arranged by lead time rather than year. For example, in the *Projections of Education Statistics to 2022*, the last year of actual data reported was 2012–13 and thus the lead time for the projection of 2012–13 data was 1 year. Thus, the 1.6 appearing in the 2012–13 column of Table A-3 for *Projections of Education Statistics to 2022* appears in the column for lead times of 1 year in Table A-4, indicating that projection of the one-year-out forecast from *Projections of Education Statistics to 2022* appears in the bottom panel of table A-4 were calculated by computing the average of the absolute values of the percentage differences for that lead time. For example, actual values are available to calculate the absolute values of the percentage differences for a lead time of 2 years for the first three editions of the *Projections of Education Statistics* listed in table A-4. These absolute values are 4.1, 4.0, and 1.3. The MAPE for a lead time of 2 years was then calculated by taking the average of these numbers, or 3.1. This matches the MAPE that appears in the bottom panel for a lead time of 2 years. (Calculations for table A-3 are based on unrounded numbers.) These MAPEs are different from the MAPEs for public elementary and secondary enrollment projections *elevation Statistics*.

The number of years used in the analyses of the projection errors differ both because projections of additional education statistics have been added to the report over time and because, in some cases, there have been substantial changes in the methodology used to produce the projections such that the MAPEs for the earlier projections are no longer relevant. MAPEs are presented for a statistic only after it has been produced using substantially the same methodology in five previous editions of *Projections of Education Statistics* and there are at least 5 years of historical data for use in calculating the MAPEs.

#### Table A-1. Summary of forecast assumptions to 2026

Variable	Assumption
1	2
Demographic assumptions         Population         18 to 24-year-old population         25 to 29-year-old population         30 to 34-year-old population         35 to 44-year-old population	Projections are consistent with the Census Bureau estimates <sup>1</sup> Census Bureau projection: average annual growth rate of -0.1% Census Bureau projection: average annual growth rate of 0.3% Census Bureau projection: average annual growth rate of 1.0% Census Bureau projection: average annual growth rate of 1.3%
Economic assumptions Disposable income per capita in constant dollars Education revenue receipts from state sources per capita in constant dollars Inflation rate	Annual percent changes range between 0.9% and 2.0% with an annual growth rate of 1.6% Annual percent changes range between 0.2% and 2.2% with an annual growth rate of 1.1% Inflation rate ranges between 1.9% and 2.6%
Unemployment rate (males)           Ages 18 and 19           Ages 20 to 24           Age 25 and over	Remains between 14.5% and 15.1% Remains between 9.0% and 9.5% Remains between 3.7% and 3.8%
Unemployment rate (females)           Ages 18 and 19           Ages 20 to 24           Age 25 and over	Remains between 13.2% and 13.8% Remains between 7.5% and 7.8% Remains between 3.8% and 4.1%

<sup>1</sup>As the Census Bureau projections were not updated to reflect the most recent 2016 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 2016 to the total Census Bureau projection for 2016.

SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved September 21, 2016 from <u>https://www2.census.gov/programs-surveys/popest/datasets/</u> 2010-2014/national/asrh/; and Population Projections, retrieved August 4, 2015, from <u>https://www.census.gov/programs-surveys/popproj.html</u>; and IHS Global Inc., "U.S. Quarterly Macroeconomic Model, November 2016 Short-Term Baseline Projections." (This table was prepared March 2017.)

# Table A-2. Mean absolute percentage errors (MAPEs), by lead time for selected statistics in all elementary and secondary schools and degree-granting postsecondary institutions: MAPEs constructed using projections from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2025*

					Lead tim	e (years)				
Statistic	1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10	11
Public elementary and secondary schools         Prekindergarten–12 enrollment <sup>1</sup> Prekindergarten–8 enrollment <sup>1</sup> 9–12 enrollment <sup>1</sup> White <sup>2</sup> Black <sup>2</sup> Hispanic <sup>2</sup> Asian/Pacific Islander <sup>2</sup> American Indian/Alaska Native <sup>2</sup> High school graduates <sup>4</sup> White <sup>2</sup> Black <sup>2</sup> Hispanic <sup>2</sup> American Indian/Alaska Native <sup>2</sup> Mite <sup>2</sup> Black <sup>2</sup> Hispanic <sup>2</sup> Asian/Pacific Islander <sup>2</sup> American Indian/Alaska Native <sup>2</sup>	0.3 0.3 0.4 0.4 0.9 0.8 1.4 0.7 1.0 1.0 2.3 3.6 1.5	0.5 0.6 0.7 1.0 1.5 1.3 2.2 3.1 1.4 1.1 0.5 3.00 4.5 2.6	0.8 0.9 1.0 2.4 1.7 3.7 5.7 5.7 1.8 1.8 0.8 3.5 5 6.6 2.8	1.0 1.2 1.1 3.6 3.3 3.2 5.8 12.5 2.5 2.5 2.2 1.3 5.8 13.2 1.6	16.9 2.3	1.4 1.7 1.4 5.7 4.3 4.5 9.4 19.3 3.9 2.9 3.5 9.3 3.5 9.3 16.2 0.5	1.7 2.1 1.6 5.4 2.6 1.0 8.2 20.2 20.2 20.2 20.2 20.2 20.2 20.	 	2.2 2.8 2.1 — — — 5.7 4.8 — — —	2.4 3.0 2.4 — — 6.1 5.1 — —
American Indian/Alaska Native <sup>2</sup> Total current expenditures <sup>5</sup> Current expenditures per pupil in fall enrollment <sup>5</sup>	1.9 1.7 1.7	1.8 2.5 2.4	3.7 2.7 2.6	6.9 2.6 2.6	8.8 2.8 2.9	7.8 3.8 3.7	5.0 4.9		6.2 6.7	6.2 6.9
Private elementary and secondary schools <sup>5</sup> Prekindergarten–12 enrollment Prekindergarten–8 enrollment 9–12 enrollment High school graduates	2.8 3.1 2.9 1.8	5.5 5.8 4.2 1.5	3.6 3.8 3.7 1.6	8.4 9.6 4.5 3.7	7.3 8.3 4.1 4.9	11.5 14.0 3.7 4.2	10.8 13.7 3.4 2.8	14.6 17.9 7.3 4.7	16.3 20.7 5.4 4.5	18.6 22.2 7.2 4.9
Degree-granting postsecondary institutions         Total enrollment'         Males7         Females7         4-year institutions7         2-year institutions7         White8         Black8         Hispanic8         Asian/Pacific Islander8         American Indian/Alaska Native8         Total first-time freshman enrollment9         Males9         Females9         Associate's degrees9         Mater's degrees10         Doctor's degrees10	1.5 1.5 1.7 1.6 2.9 2.2 3.5 3.8 3.3 5.4 3.0 2.9 3.3 2.8 0.6 0.9 0.2	2.6 2.7 2.6 4.1 4.2 7.9 6.3 5.6 7.7 5.3 5.0 5.6 5.5 0.6 6.3 4 0.1	4.0 4.3 3.9 5.7 6.2 11.7 8.7 6.4 12.0 7.2 6.6 7.8 8.1 1.1 1.1 5.3 0.1	5.1 5.3 5.1 5.2 6.0 7.4 11.6 8.0 15.7 8.4 9.2 11.5 2.4 6.6 1.3	14.6 8.7 19.1 8.2 7.2 9.4 12.9 3.6 5.8	5.9 6.7 5.3 7.3 4.4 16.5 9.4 24.8 7.2 6.0 9.7 13.9 5.1 	6.6 7.8 5.8 8.4 5.0 6.1 9.8 9.6 31.3 6.2 3.1 8.9 14.6 5.8 	8.9 6.7 9.8 6.3 5.7 6.3 20.2 9.4 40.6 5.7 1.2 9.6 15.1	9.0 10.3 8.6 11.6 8.5 7.4 3.8 20.4 9.9 44.1 — — — — — — — — — — — — —	10.3 11.8 10.3 12.9 9.4 9.1 1.7 19.7 11.8 49.2 — — — — — — — — — — —

#### - Not available.

<sup>1</sup>MAPEs for public prekindergarten–12 enrollments were calculated using the last 33 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to* 1984–1985 through *Projections of Education Statistics to* 2025.

<sup>2</sup>MAPEs for public prekindergarten–12 enrollments and high school graduates by race/ethnicity were calculated using the last 7 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2019* through *Projections of Education Statistics to 2025*.
<sup>3</sup>Data for teachers expressed in full-time equivalents. MAPEs for teachers were calculated

<sup>3</sup>Data for teachers expressed in full-time equivalents. MAPEs for teachers were calculated from the past 27 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1997–98* through *Projections of Education Statistics to 2025*, excluding *Projections of Education Statistics to 2012* which did not include projections of teachers.

<sup>4</sup>MAPEs for public high school graduates were calculated from the past 26 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2000* through *Projections of Education Statistics to 2025*.

<sup>5</sup>In constant dollars based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor. MAPEs for current expenditures were calculated using projections from the last 26 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1997–98* through *Projections of Education Statistics* to 2025, excluding *Projections of Education Statistics to 2012* which did not include projections of current expenditures. <sup>6</sup>MAPEs for private prekindergarten–12 enrollments and high school graduates were calcu-

<sup>o</sup>MAPEs for private prekindergarten–12 enrollments and high school graduates were calculated from the past 15 editions of *Projections of Education Statistics*, from *Projections of Education Statistics 2011* through *Projections of Education Statistics to 2025*. <sup>7</sup>MAPEs for total degree-granting postsecondary institution enrollment and degree-granting postsecondary institution enrollment by sex and level of institution were calculated using the last 19 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2007* through *Projections of Education Statistics to 2025*.

<sup>8</sup>MAPEs for degree-granting postsecondary institution enrollment by race/ethnicity were calculated using the last 11 editions of *Projections of Education Statistics*, from *Projections* of *Education Statistics to 2015* through *Projections of Education Statistics to 2025*.
<sup>9</sup>MAPEs for degree-granting postsecondary institution first-time freshmen enrollment by

<sup>3</sup>MAPEs for degree-granting postsecondary institution first-time freshmen enrollment by sex, associate's degrees, and bachelor's degrees were calculated using the last eight editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2018* through *Projections of Education Statistics to 2025*. <sup>10</sup>MAPEs for master's degrees, and doctor's degrees were calculated using the last five

<sup>10</sup>MAPEs for master's degrees, and doctor's degrees were calculated using the last five editions of *Projections of Education Statistics*, from *Projections of Education Statistics to* 2021 through Projections of Education Statistics to 2025.

NOTE: Mean absolute percentage error is the average value over past projections of the absolute values of errors expressed in percentage terms. No MAPEs are presented for certain degrees conferred as the current models used for producing these projections have only been used for four other editions of *Projections of Education Statistics*. 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, *Projections of Education Statistics*, various issues. (This table was prepared February 2017.)

#### Table A-3. Example of constructing mean absolute percentage errors (MAPEs) on fall enrollment in degree-granting institutions, part 1

		Year of	of data	
Source	2012–13	2013–14	2014–15	2015–16
1	2	3	4	5
		Enrollment i	n thousands	
Actual	20,644	20,377	20,207	19,977
		Projected enrollm	nent in thousands	
Projections of Education Statistics to 2022 Projections of Education Statistics to 2023 Projections of Education Statistics to 2024 Projections of Education Statistics to 2025	20,968 † † †	21,216 20,597 † †	21,575 21,011 20,254 †	21,805 21,266 20,233 20,264
		Percentage difference betwee	n actual and projected values	
Projections of Education Statistics to 2022 Projections of Education Statistics to 2023 Projections of Education Statistics to 2024 Projections of Education Statistics to 2025	1.6 † † †	4.1 1.1 † †	6.8 4.0 0.2 †	9.1 6.5 1.3 1.4

#### † Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), IPEDS Spring 2012 through Spring 2016, Fall Enrollment component; and *Projections of Education Statistics*, various editions. (This exhibit was prepared February 2017.)

#### Table A-4. Example of constructing mean absolute percentage errors (MAPEs) on fall enrollment in degree-granting institutions, part 2

	Lead time (years)										
Source	1	2	3	4							
1	2	3	4	5							
	Abs	solute value of percentage differenc	e between actual and projected val	ues							
Projections of Education Statistics to 2022	1.6	4.1	6.8	9.1							
Projections of Education Statistics to 2023	1.1	4.0	6.5	ţ.							
Projections of Education Statistics to 2024	0.2	1.3	Ť	Ť							
Projections of Education Statistics to 2025	1.4	t	Ť	Ť							
		Mean absolute p	percentage error								
Example	1.1	3.1	6.6	9.1							

† Not applicable.

NOTE: The mean absolute percentage errors presented in this table are for illustrative purpose only.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), IPEDS Spring 2012 through Spring 2016, Fall Enrollment component; and *Projections of Education Statistics*, various editions. (This exhibit was prepared February 2017.)

# A.1. ELEMENTARY AND SECONDARY ENROLLMENT

# **Projections in this edition**

This edition of *Projections of Education Statistics* presents projected trends in elementary and secondary enrollment from 2015 to 2026. These projections were made using three models:

- » The *National Elementary and Secondary Enrollment Projection Model* was used to project total, public, and private school enrollments for the nation by grade level and for ungraded elementary and ungraded secondary programs.
- » The *State Public Elementary and Secondary Enrollment Projection Model* was used to project total public school enrollments by grade level for individual states and regions.
- » The *National Public Elementary and Secondary Enrollment by Race/Ethnicity Projection Model* was used to project public school enrollments for the nation by race/ethnicity and grade level.

All three elementary and secondary enrollment models used the following same methods.

# **Overview of approach**

Two methods were used in all the elementary and secondary enrollment models:

- » The *grade progression rate method* was used to project enrollments in grades 2 through 12. In this method, a rate of progression from each grade (1 through 11) to the next grade (2 through 12) was projected using single exponential smoothing. (For example, the rate of progression from grade 2 to grade 3 is the current year's grade 3 enrollment expressed as a percentage of the previous year's grade 2 enrollment.) To calculate enrollment for each year in the forecast period, the progression rate for each grade was applied to the previous year's enrollment in the previous grade.
- » The *enrollment rate method* was used to project prekindergarten, kindergarten, and first-grade enrollments as well as elementary special and ungraded and secondary special and ungraded enrollments. For each of these enrollment categories, the enrollment rate for the last year of actual data was used as the projected enrollment rate. To calculate enrollment for each year in the forecast period, the enrollment rate for each category was applied to the projected population in the appropriate age group.

#### Assumptions underlying these methods

The grade progression and enrollment rate methods assume that past trends in factors affecting public and private elementary and secondary school enrollments will continue over the forecast 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 between public and private schools.

# Procedures and equations used in all three elementary and secondary enrollment projection models

The notation and equations that follow describe the basic procedures used to project elementary and secondary enrollments in each of the three elementary and secondary enrollment projection models.

Let:

- *i* = Subscript denoting age
- *j* = Subscript denoting grade
- t = Subscript denoting time
- T = Subscript of the first year in the forecast period
- $N_t$  = Enrollment at the prekindergarten (nursery) level
- $K_t$  = Enrollment at the kindergarten level
- $G_{j,t}$  = Enrollment in grade j
- $E_t$  = Enrollment in elementary special and ungraded programs
- $S_t$  = Enrollment in secondary special and ungraded programs
- $P_{i,t}$  = Population age *i*
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 $R_{j,t}$  = Progression rate for grade *j* 

- $RN_t$  = Enrollment rate for prekindergarten (nursery school)
- $RK_t$  = Enrollment rate for kindergarten
- $RG_{1,t}$  = Enrollment rate for grade 1
- RE<sub>t</sub> = Enrollment rate for elementary special and ungraded programs
- $RS_t$  = Enrollment rate for secondary special and ungraded programs.

**Step 1.** Calculate historical grade progression rates for each of grades 2 through 12. The first step in projecting the enrollments for grades 2 through 12 using the grade progression method was to calculate, for each grade, a progression rate for each year of actual data used to produce the projections except for the first year. The progression rate for grade *j* in year *t* equals

$$R_{j,t} = G_{j,t}/G_{j-1,t-1}$$

**Step 2.** Produce a projected progression rate for each of grades 2 through 12. Projections for each grade's progression rate were then produced for the forecast period using single exponential smoothing. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used to calculate the projected progression rate for each grade. Single exponential smoothing produces a single forecast for all years in the forecast period. Therefore, for each grade *j*, the projected progression rate,  $\hat{R}_j$ , is the same for each year in the forecast period.

**Step 3.** Calculate enrollment projections for each of grades 2 through 12. For the first year in the forecast period, *T*, enrollment projections,  $\hat{G}_{j,t}$ , for grades 2 through 12, were produced using the projected progression rates and the enrollments of grades 1 through 11 from the last year of actual data, *T*–1. Specifically,

This same procedure was then used to produce the projections for the following year, T+1, except that enrollment projections

$$\hat{G}_{j,T} = \hat{R}_j \cdot G_{j-1,T-1}$$

for year *T* were used rather than actual numbers:

$$\hat{G}_{j,T+1} = \hat{R}_j \cdot \hat{G}_{j,T}$$

The enrollment projections for grades 2 through 11 for year T were those just produced using the grade progression method. The projection for grade 1 for year T was produced using the enrollment rate method, as outlined in steps 4 and 5 below.

The same procedure was used for the remaining years in the projections period.

**Step 4.** For the last year of actual data, calculate enrollment rates for prekindergarten, kindergarten, grade 1, elementary special and ungraded, and secondary special and ungraded. The first step in projecting prekindergarten, kindergarten, first-grade, elementary special and ungraded, and secondary special and ungraded enrollments using the enrollment rate method was to calculate enrollment rates for each enrollment category for the last year of actual data, *T*–1, where:

$$RN_{T-1} = N_{T-1}/P_{5,T-1}$$

$$RK_{T-1} = K_{T-1}/P_{5,T-1}$$

$$RG_{1,T-1} = G_{1,T-1}/P_{6,T-1}$$

$$RE_{T-1} = E_{T-1}/\Sigma_{i=5}^{13}P_{i,T-1}$$

$$RS_{T-1} = S_{T-1}/\Sigma_{i=14}^{17}P_{i,T-1}$$

These enrollment rates were then used as the projected enrollment rates for each year in the forecast period ( $\widehat{RN}$ ,  $\widehat{RK}$ ,  $\widehat{RG}_1$ ,  $\widehat{RE}$ , and  $\widehat{RS}$ ).

**Step 5.** Using the rates for the last year of actual data as the projected enrollment rates, calculate enrollment projections for prekindergarten through grade 1 and the ungraded categories. For each year in the forecast period, the enrollment rates were then multiplied by the appropriate population projections from the U.S. Census Bureau ( $\hat{P}_{i,t}$ ) to calculate enrollment projections for prekindergarten (nursery school) ( $\hat{N}_t$ ), kindergarten ( $\hat{K}_t$ ), first grade ( $\hat{G}_{1,t}$ ), elementary ungraded ( $\hat{E}_t$ ), and secondary ungraded ( $\hat{S}_t$ )

$$\begin{split} \hat{N}_{t} &= \widehat{RN} \cdot \hat{P}_{5,t} \\ \hat{K}_{t} &= \widehat{RK} \cdot \hat{P}_{5,t} \\ \hat{G}_{1,t} &= \widehat{RG}_{1} \cdot \hat{P}_{5,t} \\ \hat{E}_{t} &= \widehat{RE} \cdot (\sum_{i=5}^{13} \hat{P}_{i,t}) \\ \hat{S}_{t} &= \widehat{RS} \cdot (\sum_{i=14}^{17} \hat{P}_{i,t}) \end{split}$$

**Step 6.** Calculate total elementary and secondary enrollments by summing the projections for each grade and the ungraded categories. To obtain projections of total enrollment, projections of enrollments for the individual grades (prekindergarten through 12), elementary ungraded, and secondary ungraded were summed.

# National Elementary and Secondary Enrollment Projection Model

This model was used to project national total, public, and private school enrollments by grade level and for ungraded elementary and ungraded secondary programs. National enrollment projections for public and private schools were developed separately, then added together to yield total elementary and secondary enrollment projections for the nation. To develop these projections, enrollment data from NCES were used, along with population estimates and projections from the U.S. Census Bureau. Below is information about the specific data used to develop the public school projections and the private school projections, as well as information about the grade progression rates and enrollment rates specific to public schools and private schools.

For details on procedures used to develop the projections, see "Procedures and equations used in all three elementary and secondary enrollment projection models," earlier in this section of appendix A.

### Data used to develop national elementary and secondary enrollment projections

**Public school enrollment data.** Public school enrollment data from the NCES *Statistics of Public Elementary and Secondary School Systems* for 1972 to 1980 and the NCES Common Core of Data (CCD) for 1981 to 2014 were used to develop the national public school enrollment projections.

**Private school enrollment data.** Private school enrollment data from the NCES Private School Universe Survey (PSS) for 1989–90, 1991–92, 1993–94, 1995–96, 1997–98, 1999–2000, 2001–02, 2003–04, 2005–06, 2007–08, 2009–10, 2011–12, and 2013–14 were used to develop the national private school enrollment projections. Since the PSS is collected in the fall of odd-numbered years, data for even-numbered years without a PSS collection were estimated by interpolating grade-by-grade progression data from PSS.

**Population estimates and projections used for public school enrollment projections.** Population estimates for 1972 to 2015 and population projections for 2016 to 2026 from the U.S. Census Bureau were also used to develop the public school enrollment projections. (See table B-1 on page 129 and table B-2 on page 130.) The set of population projections used in this year's *Projections of Education Statistics* are the Census Bureau's 2014 National Population Projections by age and sex (December 2014), adjusted to line up with the most recent historical estimates. This was done through the use of ratio adjustments in which, for each combination of state, age, and sex, the population projections from 2016 to 2026 were multiplied by the ratio of the population estimate for 2015 to the population projection for 2015.

**Population estimates and projections used for private school enrollment projections.** Population estimates for 1989 to 2015 and population projections for 2016 to 2026 from the U.S. Census Bureau were used to develop the private school enrollment projections. The population projections were ratio-adjusted to line up with the most recent historical estimates.

# Grade progression and enrollment rates for national elementary and secondary enrollment projections

**Public school grade progression and enrollment rates.** Table A-5 on page 84 shows the public school grade progression rates for 2014 and projections for 2015 through 2026. Table A-6 on page 84 shows the public school enrollment rates for 2014 and projections for 2015 through 2026.

### Accuracy of national elementary and secondary enrollment projections

Mean absolute percentage errors (MAPEs) for projections of public school enrollment were calculated using the last 33 editions of *Projections of Education Statistics*, while MAPEs for projections of private school enrollment were calculated using the last 15 editions. Table A, below, shows MAPEs for both public and private school enrollment projections.

# Table A.Mean absolute percentage errors (MAPEs) of enrollment projections, by lead time, control of school, and grade<br/>in elementary and secondary schools: MAPEs constructed using projections from Projections of Education<br/>Statistics to 1984–85 through Projections of Education Statistics to 2025

				L	_ead tim	ne (years	)			
Statistic	1	2	3	4	5	6	7	8	9	10
Public elementary and secondary schools										
Prekindergarten-12 enrollment	0.3	0.5	0.8	1.0	1.2	1.4	1.7	2.0	2.2	2.4
Prekindergarten–8 enrollment	0.3	0.6	0.9	1.2	1.4	1.7	2.1	2.5	2.8	3.0
9–12 enrollment	0.4	0.7	1.0	1.1	1.2	1.4	1.6	1.9	2.1	2.4
Private elementary and secondary schools										
Prekindergarten-12 enrollment	2.8	5.5	3.6	8.4	7.3	11.5	10.8	14.6	16.3	18.6
Prekindergarten-8 enrollment	3.1	5.8	3.8	9.6	8.3	14.0	13.7	17.9	20.7	22.2
9–12 enrollment	2.9	4.2	3.7	4.5	4.1	3.7	3.4	7.3	5.4	7.2

NOTE: Mean absolute percentage error (MAPE) is the average value over past projections of the absolute values of errors expressed in percentage terms. MAPEs for public prekindergarten–12 enrollments were calculated using the last 33 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2025*. MAPEs for private prekindergarten-12 enrollments were calculated using the last 30 editions of *Projections of Education Statistics* to 2025. MAPEs for private prekindergarten-12 enrollments were calculated from the past 15 editions, from *Projections of Education Statistics to 2011* through *Projections of Education Statistics to 2025*. 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, *Projections of Education Statistics*, various issues. (This table was prepared February 2017.)

For more information about MAPEs, see Section A.O. Introduction, earlier in appendix A.

## State Public Elementary and Secondary Enrollment Projection Model

This edition of *Projections of Education Statistics* contains projected trends in public elementary and secondary enrollment by grade level from 2015 to 2026 for each of the 50 states and the District of Columbia, as well as for each region of the country. The state enrollment projections were produced in two stages:

- » first, an initial set of projections for each state was produced; and
- » second, these initial projections were adjusted to sum to the national public enrollment totals produced by the National Elementary and Secondary Enrollment Projection Model.

For each region, the enrollment projections equaled the sum of enrollment projections for the states within that region. The states within each geographic region can be found in appendix F.

#### Initial set of state projections

The same methods used to produce the national enrollment projections—namely, the grade progression rate method and the enrollment rate method—were used to produce the initial sets of public school enrollment projections for each state and the District of Columbia. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used to calculate the projected progression rate for each combination of jurisdiction and grade.

For details on the procedures used to develop the initial sets of projections, see "Procedures and equations used in all three elementary and secondary enrollment projection models," earlier in this section of appendix A.

#### Limitations of the grade progression method for state projections

The grade progression rate method assumes that past trends in factors affecting public school enrollments will continue over the forecast 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.

### Adjustments to the state projections

The initial projections of state public school enrollments were adjusted to sum to the national projections of public school prekindergarten (preK)–12, preK–8, and 9–12 enrollments shown in table 1 on page 37. This was done through the use of ratio adjustments in which all the states' initial 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.

### Data used to develop state elementary and secondary enrollment projections

**Public school enrollment data.** Public school enrollment data from the NCES *Statistics of Public Elementary and Secondary School Systems* for 1980 and from the NCES Common Core of Data (CCD) for 1981 to 2014 were used to develop these projections.

**Population estimates and projections.** Population estimates for 1980 to 2015 from the U.S. Census Bureau and population projections for 2015 to 2026 from IHS Global Inc. were used to develop the state-level enrollment projections. This is the second edition of *Projections of Education Statistics* to use population projections from IHS Global Inc. rather than from the Census Bureau. The change was made because it had been many years since the Census Bureau had produced population projections at the state level. Unlike the old state-level Census population projections, the IHS Global Inc. state-level population projections were by age groups rather than individual ages. For each year, age-specific population projections for each state were produced for each age from 5 through 17 by applying that age's share of national projection for its age-group to the state-level projections for its age group.

#### Accuracy of state elementary and secondary enrollment projections

Mean absolute percentage errors (MAPEs) for projections of public school enrollment by state were calculated using the last 21 editions of *Projections of Education Statistics*. Tables A-7 through A-9 on pages 85–87 show MAPEs for preK–12, preK–8, and 9–12 enrollment in public elementary and secondary schools by state.

# National Public Elementary and Secondary Enrollment by Race/Ethnicity Projection Model

This edition of *Projections of Education Statistics* contains projected trends in national public elementary and secondary enrollment by race/ethnicity from 2015 to 2026.

This is the fourth edition to include enrollment projections for students of Two or more races. As 2010 is the first year in which all 50 states and the District of Columbia reported enrollment data for students of Two or more races, enrollment projections for this category were produced using a different method than that used for the other five racial/ethnic groups.

Prior to 2008, there was a single category for students of Asian and/or Native Hawaiian or Other Pacific Islander origin. In 2008 and 2009, states could choose to place these students in the single category, Asian and/or Native Hawaiian or Other Pacific Islander, or in one of three categories, (1) Asian, (2) Hawaiian or Other Pacific Islander, and (3) Two or more races (for students of both Asian and Hawaiian or Other Pacific Islander origin). Beginning in 2010, the option of using the single category was eliminated and states were required to place students in one of those three categories. For students of Asian and/or Native Hawaiian or Other Pacific Islander origin, projections were calculated for a single category, Asian/Pacific Islander. For 2008 and 2009, the count of the Asian/Pacific Islander students included the total of the Asian and/or Native Hawaiian or Other Pacific Islander students for states reporting one category and the counts for Asian students and Native Hawaiian or Other Pacific Islander students for states reporting three categories. Beginning in 2010, the count of the Asian/Pacific Islander students and Native Hawaiian or Other Pacific Islander students for states reporting three categories. Beginning in 2010, the count of the Asian/Pacific Islander students and Native Hawaiian or Other Pacific Islander students for states reporting three categories. Beginning in 2010, the count of the Asian/Pacific Islander students and Native Hawaiian or Other Pacific Islander students for states reporting three categories. Beginning in 2010, the count of the Asian/Pacific Islander students and Native Hawaiian or Other Pacific Islander students.

The enrollment projections by race/ethnicity were produced in two stages:

- » first, an initial set of projections by race/ethnicity was produced; and
- » second, these initial projections were adjusted to sum to the national totals.

### Initial set of projections by race/ethnicity

The same methods used to produce the national enrollment projections—namely, the grade progression rate method and the enrollment rate method—were used to produce initial sets of projections for each of the following five racial/ethnic groups: White, Black, Hispanic, Asian/Pacific Islander, and American Indian/Alaska Native. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used to calculate the projected progression rate for each combination of race/ethnicity and grade.

For details on the procedures used to develop the initial sets of projections, see "Procedures and equations used in all three elementary and secondary enrollment models," earlier in this section of appendix A.

National enrollment projections for students of Two or more races by grade level were produced by taking the 2014 grade-level enrollment numbers for students of Two or more races and applying the growth rates from 2015 to 2026 of the U.S. Census Bureau's age specific population projections for persons of Two or more races.

#### Adjustments to the projections by race/ethnicity

The initial projections of enrollments by race/ethnicity were adjusted to sum to the national projections of public school preK–12, preK–8, and 9–12 enrollments shown in table 1 on page 37. This was done through the use of ratio adjustments in which all the initial enrollment projections by race/ethnicity for each grade level were multiplied by the ratio of the national enrollment projection for that grade level to the sum of the initial enrollment projections by race/ethnicity for that grade level.

#### Data and imputations used to develop enrollment projections by race/ethnicity

**Public school enrollment data.** Public school enrollment data by grade level and race/ethnicity from the NCES Common Core of Data (CCD) for 1994 to 2014 were used to develop these projections. While projections by race/ethnicity were produced at the national level only, the national data used to develop these projections were constructed from state-level data on enrollment by grade level and race/ethnicity. In those instances where states did not report their enrollment data by grade level and race/ethnicity, the state-level data had to be examined and some imputations made in order to produce the national public school enrollment by grade level and race/ethnicity data. For example, in 1994, North Dakota did not report grade-level enrollment data by race/ethnicity. It did, however, report these numbers for 1995. So, to impute these numbers for 1994, North Dakota's 1994 grade-level enrollment data were estimated by the state's 1995 racial/ethnic distribution at each grade level.

**Population estimates and projections.** Population estimates for 2000 to 2015 and population projections for 2016 to 2026 from the U.S. Census Bureau were used to develop the enrollment projections by race/ethnicity. The set of population projections used in this year's *Projections of Education Statistics* are the Census Bureau's 2014 National Population Projections by age, sex, and race/ethnicity (December 2014), ratio-adjusted to line up with the most recent historical estimates.

#### Accuracy of enrollment projections by race/ethnicity

Mean absolute percentage errors (MAPEs) for projections of public school enrollment by race/ethnicity were calculated using the last seven editions of *Projections of Education Statistics*. Table B, below, shows MAPEs for public school enrollment by race/ethnicity projections.

					Lead tim	ne (years	)			
Statistic	1	2	3	4	5	6	7	8	9	10
Total enrollment	0.3	0.5	0.8	1.0	1.2	1.4	1.7	2.0	2.2	2.4
White	0.4	1.0	1.9	3.6	4.9	5.7	5.4	_	_	_
Black	0.6	1.5	2.4	3.3	4.2	4.3	2.6	_	_	_
Hispanic	0.9	1.3	1.7	3.2	4.0	4.5	1.0	_	_	_
Asian/Pacific Islander	0.8	2.2	3.7	5.8	8.6	9.4	8.2	_	_	_
American Indian/Alaska Native	1.4	3.1	5.7	12.5	16.0	19.3	20.2	_	_	_

# Table B. Mean absolute percentage errors (MAPEs) of enrollment projections, by lead time and race/ethnicity: MAPEs constructed using projections from Projections of Education Statistics to 1984–85 through Projections of Education Statistics to 2025

- Not available.

NOTE: Mean absolute percentage error (MAPE) is the average value over past projections of the absolute values of errors expressed in percentage terms. MAPEs for public prekindergarten–12 enrollments were calculated using the last 33 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics*, from *Projections of Education Statistics* to 1984–85 through *Projections of Education Statistics*, from *Projections of Education Statistics* to 2025. MAPEs for public prekindergarten–12 enrollments by race/ethnicity were calculated using the last seven editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2019* through *Projections of Education Statistics* to 2025. Calculations were made using unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared February 2017.)

#### Table A-5. Actual and projected national public school grade progression rates: Fall 2014, and fall 2015 through fall 2026

Grade	Actual 2014	Projected 2015 through 2026
1	2	3
1 to 2         2 to 3         3 to 4         4 to 5         5 to 6         6 to 7         7 to 8         8 to 9         9 to 10         10 to 11	99.3 100.4 99.5 100.3 100.3 100.3 100.7 100.2 107.4 95.3 94.9	99.3 100.3 99.8 100.2 100.4 100.7 100.2 107.4 95.3 94.9
11 to 12	99.2	99.2

NOTE: The progression rate for a particular grade in a year equals the enrollment in the grade for that year divided by the enrollment in the previous grade in the previous year all multiplied by 100. For example, the progression rate for third-graders in 2014 equals the enrollment of third-graders in 2014 divided by the enrollment of second-graders in 2013, all multiplied by 100.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2013–14 and 2014–15; and National Elementary and Secondary Enrollment Projection Model, 1972 through 2026. (This table was prepared February 2017.)

#### Table A-6. Actual and projected national enrollment rates in public schools, by grade level: Fall 2014, and fall 2015 through fall 2026

Grade level	Actual 2014	Projected 2015 through 2026
1	2	3
Prekindergarten Kindergarten Grade 1 Elementary ungraded Secondary ungraded	34.2 94.1 93.4 0.2 0.3	34.2 94.1 93.4 0.2 0.3

NOTE: The enrollment rate for each grade level equals the enrollment at that grade level divided by the population of that grade's base age, all multiplied by 100. The base age for each grade level is as follows: kindergarten, 5 years old; grade 1, 6 years old; elementary ungraded, 5 to 13 years old; and secondary ungraded, 14 to 17 years old. Projected values for 2015 through 2026 were held constant at the actual values for 2014.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2014–15; and National Elementary and Secondary Enrollment Projection Model, 1972 through 2026. (This table was prepared February 2017.)

# Table A-7. Mean absolute percentage errors (MAPEs) for projected prekindergarten–12 enrollment in public elementary and secondary schools, by lead time, region, and state: MAPEs constructed using projections from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2025*

					Lead tim	ne (years)				
Region and state	1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10	11
United States	0.3	0.5	0.8	1.0	1.2	1.4	1.7	2.0	2.2	2.4
Region										
Northeast	0.5	0.6	0.8	1.0	0.9	1.1	1.2	0.9	0.9	1.2
Midwest	0.2	0.4	0.5	0.6	0.8			1.4	1.5	1.6
South	0.4	0.8	1.2	1.7	2.0	2.4	2.9	3.5	4.0	4.4
West	0.5	0.8	1.1	1.5	1.9	2.1	2.4	2.5	2.4	2.1
State										
Alabama	0.6	0.7	1.0	1.4	2.0	2.5	3.2	4.1	4.8	5.3
Alaska	0.9	1.7	2.4	2.9	3.1	3.9	4.5	6.0	7.7	9.3
Arizona	2.0	3.0	4.4	6.2	8.0	9.3	10.3	11.1	11.9	11.3
Arkansas	0.5	1.0	1.5	2.1	2.8	3.5	4.2	4.6	4.9	5.3
California	0.5	0.9	1.3	2.0	2.3	2.7	3.2	3.6	3.9	4.3
Colorado	0.5	0.8	1.1	1.6	2.1	2.7	3.5	4.1	5.0	6.3
Connecticut	0.5	0.7	0.9	1.3	1.8	2.2	2.8	3.4	4.2	5.1
Delaware	0.7	1.3	1.6	2.2	2.9	3.6	4.6	5.3	6.3	7.3
District of Columbia	4.6	4.9	6.5	7.5	6.5	6.7	6.0	5.3	6.6	6.7
Florida	0.8	1.6	2.2	3.3	4.3	5.3	6.2	7.4	8.1	8.1
Goorgia	0.6	1.2	1.7	2.5	3.1	3.8	4.7	5.4	5.9	6.3
Georgia Hawaii	1.6	2.6	3.4	4.8	6.5	7.8	9.3	10.8	12.6	14.5
Idaho	0.9	2.0	2.1	4.0	3.4	4.0	9.3	4.3	3.9	4.2
Illinois	0.5	0.7	0.9	1.1	1.3	1.6	1.8	2.3	2.5	2.7
Indiana	0.3	0.7	0.8	1.1	1.5	1.0	2.3	2.5	2.5	2.7
	0.5	0.7	0.0	1.1	1.5	1.5	2.5			2.5
lowa	0.6	0.9	1.2	1.5	1.8	2.0	2.2	2.4	2.9	3.4
Kansas	0.7	1.0	1.4	1.6	1.9	2.2	2.5	2.7	2.8	2.9
Kentucky	1.5	1.3	1.9	2.3	2.1	2.8	2.9	3.2	3.9	4.4
Louisiana	1.7	2.7	3.5	4.7	5.6	6.4	7.0	6.9	7.6	7.1
Maine	0.8	1.2	1.4	1.7	2.0	2.0	1.7	1.9	2.5	2.8
Maryland	0.5	0.8	1.1	1.6	2.1	2.4	2.5	2.2	2.0	2.3
Massachusetts	0.4	0.5	0.7	0.9	1.1	1.4	1.5	1.5	1.6	1.9
Michigan	0.6	1.4	1.8	2.4	3.0	3.6	4.2	5.0	5.7	5.9
Minnesota	0.4	0.5	0.7	0.9	1.1	1.3	1.5	1.6	1.7	2.0
Mississippi	0.4	0.9	1.2	1.5	1.7	1.9	2.2	2.5	2.9	3.3
Missouri	0.4	0.5	0.5	0.7	0.9	0.9	1.1	1.3	1.3	1.6
Montana	0.7	1.3	1.9	2.8	3.8	4.7	5.9	7.2	8.7	10.3
Nebraska	0.5	0.8	1.0	1.4	1.8	2.2	2.7	2.9	3.1	3.1
Nevada	1.0	1.7	2.7	4.4	6.2	7.8	9.8	11.3	12.7	14.0
New Hampshire	0.6	0.8	0.9	1.3	1.3	1.9	2.7	3.4	3.7	4.4
New Jersey	0.8	1.2	1.7	1.8	2.1	2.6	3.2	3.8	4.3	4.8
New Mexico	1.2	1.9	2.8	3.9	4.9	6.0	7.3	8.4	9.3	10.2
New York	0.8	1.1	1.5	1.9	2.2	2.7	2.9	2.7	2.6	2.7
North Carolina	0.8	1.4	2.1	3.1	3.8	4.5	5.2	5.5	6.2	7.0
North Dakota	0.8	1.5	2.4	3.3	4.3	5.9	7.2	8.3	9.1	9.9
Ohio	0.4	0.5	0.8	1.1	1.5	1.8	1.9	2.3	2.3	2.2
Oklahoma	0.8	1.3	1.8	2.5	3.1	3.7	4.3	5.0	5.9	6.9
Oregon	0.8	1.3	1.7	1.7	1.9	2.2	2.8	3.1	3.6	3.9
Pennsylvania	0.8	1.2	1.4	1.5	1.4	1.6	1.8	2.0	1.8	2.4
Rhode Island	1.0	1.5	2.2	2.9	3.4	3.5	3.8	3.6	3.6	4.0
				-						-
South Carolina	0.7	1.1	1.5	2.1	2.6	3.1	3.7	4.4	4.8	5.4
South Dakota	1.2	2.0	3.1	4.3	5.4	6.3		7.8	8.0	8.7
Tennessee	0.9	1.2	1.6	2.0	2.3			3.8	3.7	3.7
Texas	0.7	1.2	1.7	2.4	3.0		4.6	5.6	6.4	7.1
Utah	1.4	1.7	2.0	3.2	3.7	4.5	5.5	5.6	6.6	7.2
Vermont	1.1	2.0	2.5	3.2	3.3	3.9	4.3	5.0	5.0	6.0
Virginia	0.4	0.6	0.8	1.2	1.6			2.8	3.3	3.7
Washington	0.4	0.7	1.0	1.4	1.7	2.0	2.2	2.6	2.8	3.3
West Virginia	0.5	0.7	1.0	1.4	1.9		3.1	3.7	4.5	5.0
Wisconsin	0.5	0.8	1.1	1.5	1.6			2.0	2.0	2.1
Wyoming	0.7	1.2	2.1	3.4	4.8		7.3	9.0	10.9	12.5
							1			

NOTE: Mean absolute percentage error (MAPE) is the average value over past projections of the absolute values of errors expressed in percentage terms. National MAPEs for public prekindergarten-12 enrollments were calculated using the last 33 editions of *Projections of Education Statistics,* from *Projections of Education Statistics* to 1984-85 through *Projections of Education Statistics to 2025.* State MAPEs were calculated using the last 21 editions of *Pro*  jections of Education Statistics, from Projections of Education Statistics to 2005 through Projections of Education Statistics to 2025. 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, *Projections of Education Statistics*, various issues. (This table was prepared February 2017.)

#### Table A-8. Mean absolute percentage errors (MAPEs) for projected prekindergarten–8 enrollment in public elementary and secondary schools, by lead time, region, and state: MAPEs constructed using projections from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2025*

					Lead tim	ie (years)				
Region and state	1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10	11
United States	0.3	0.6	0.9	1.2	1.4	1.7	2.1	2.5	2.8	3.0
Region	0.4	0.7	0.8	0.9	0.9	1.0	1.2	1.0	0.8	1.1
Northeast Midwest	0.4	0.7	0.8	0.9	0.9	1.0	1.2	1.0	1.4	1.1
South	0.5	1.0	1.5	2.0	2.5	2.9	3.6	4.3	4.7	5.1
West	0.5	1.0	1.4	1.9	2.2	2.5	2.8	3.0	3.0	2.8
State										
Alabama	0.6	1.0	1.4	1.9	2.5	3.1	3.8	4.6	5.1	5.2
Alaska Arizona	1.1 1.9	1.9 2.9	2.9 4.5	3.6 6.1	4.3 7.6	5.5 9.4	6.9 10.2	9.2 11.0	11.5 11.2	13.3 10.8
Arkansas	0.7	2.9	4.5	2.6	7.0	9.4 4.3	5.1	5.4	5.8	6.2
California	0.7	1.3	1.8	2.6	3.1	3.7	4.3	4.8	5.3	5.9
Colorado	0.6	1.0	1.3	1.8	2.5	3.2	4.1	5.0	6.1	7.3
Connecticut	0.6	0.8	1.1	1.6	2.2	2.5	3.1	3.7	4.5	5.2
Delaware	0.9	1.4	1.8	2.6	3.2	4.0	5.2	6.0	7.0	8.3
District of Columbia	4.2	5.0	6.0	6.8	5.6	6.0	6.3	5.0	6.8	6.4
Florida	0.9	1.8	2.7	4.0	5.3	6.3	7.6	8.8	9.3	9.1
Georgia	0.8	1.5	2.2	3.1	3.9	4.5	5.6	6.4	6.8	7.1
Hawaii	1.8	3.0	3.9	5.5	7.8	9.5	11.6	13.9	16.3	18.3
Idaho	1.1	1.8	2.8	3.6	4.3	4.8	5.0	4.9	4.6	4.7
Illinois Indiana	0.6 0.5	0.9 0.8	1.1 0.9	1.4 1.2	1.6 1.5	2.0 1.8	2.2 2.2	2.8 2.3	2.9 2.4	3.0 2.8
lowa	0.7	1.1	1.5	2.1	2.7	3.1	3.5	3.8	4.3	4.6
Kansas	0.8 1.6	1.1 1.7	1.4 2.5	1.7 3.0	2.2 3.0	2.7 3.0	3.2 3.3	3.5 3.7	3.8 4.2	3.8 5.1
Kentucky Louisiana	1.6	2.5	3.0	3.9	4.6	5.2	5.9	5.8	4.2	6.8
Maine	0.6	0.9	1.3	1.7	2.1	2.6	3.0	4.1	5.2	6.2
Maryland	0.5	0.8	1.3	1.8	2.4	2.9	3.2	3.2	3.3	3.8
Massachusetts	0.3	0.6	0.9	1.1	1.3	1.7	1.8	1.7	1.7	2.1
Michigan	0.6	1.3	1.7	2.5	3.0	3.6	4.3	5.4	6.1	6.2
Minnesota	0.4	0.5	0.8	1.1	1.2	1.4	1.5	1.3	1.4	1.6
Mississippi	0.6	1.1	1.5	2.0	2.4	2.7	2.9	3.4	3.7	3.8
Missouri	0.5	0.7	0.9	1.1	1.3	1.4	1.5	1.4	1.3	1.4
Montana	0.9	1.6	2.6	3.8	5.2	6.7	8.4	10.4	12.4	13.9
Nebraska	0.6	0.9	1.2	1.6	2.0	2.6	3.1	3.4	3.6	3.7
Nevada New Hampshire	1.1 0.6	2.4 0.9	4.0 1.2	6.2 1.8	8.5 2.4	10.5 3.2	12.9 4.2	14.8 5.2	16.3 5.8	17.4 6.7
·										
New Jersey New Mexico	1.0 1.0	1.4 1.8	1.7 2.5	1.8 3.4	1.9 4.5	2.3 6.0	2.9 7.4	3.4 8.9	3.7 9.7	4.0 10.1
New York	0.6	0.9	2.5	3.4 1.8	2.3	2.5	2.8	2.7	9.7	2.7
North Carolina	1.0	1.8	2.7	3.9	4.7	5.5	6.2	6.9	7.7	8.5
North Dakota	1.1	2.1	3.2	4.3	5.5	7.4	9.0	10.4	11.2	11.8
Ohio	0.4	0.5	0.6	0.8	1.0	1.3	1.4	1.6	1.8	1.9
Oklahoma	1.1	1.7	2.4	3.2	3.9	4.7	5.4	6.2	7.1	8.2
Oregon	1.0	1.5	1.6	1.5	2.0	2.4	2.6	3.0	3.7	4.0
Pennsylvania	0.5	0.9	1.2	1.3	1.2	1.3	1.6	1.7	1.8	2.1
Rhode Island	1.1	1.7	2.2	3.1	3.6	3.9	4.5	4.4	4.6	5.4
South Carolina	0.9	1.3	1.7	2.4	2.8	3.4	3.9	4.5	5.0	5.8
South Dakota	1.3	2.1	3.1	4.8	6.2		8.7	9.9	10.4	10.6
Tennessee	0.8	1.2	1.8	2.2	2.4	2.5	2.7	3.4	3.4	3.5
Texas Utah	0.8 1.3	1.5 1.7	2.2 2.1	3.1 3.1	3.8 3.7	4.4 4.6	5.4 5.5	6.4 6.2	7.1 7.3	7.8 7.7
Vermont	1.6	2.5	3.0	3.8	4.3	5.2	6.0	7.4	7.4	8.4
Virginia Washington	0.5 0.5	0.7 0.7	0.8 1.0	1.2 1.5	1.6 1.8	2.1 2.2	2.6 2.3	3.2 2.7	3.7 2.8	4.0 3.1
Washington	0.5	0.7	1.0	1.5	1.8	2.2	2.3	2.7	2.8 4.6	5.1
Wisconsin	0.0	0.7	1.0	1.5	1.5	1.9	2.1	2.1	2.0	2.1
Wyoming	0.0	1.4	2.6	4.3	6.1	7.7	9.5		13.9	15.3
,	0.0		2.0		5.1		0.0			

NOTE: Mean absolute percentage error (MAPE) is the average value over past projections of the absolute values of errors expressed in percentage terms. National MAPEs for public prekindergarten-8 enrollments were calculated using the last 33 editions of *Projections of Education Statistics*, from *Projections of Education Statistics*, from *Projections of Education Statistics* to 2025. State MAPEs were calculated using the last 21 edi-

tions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2005* through *Projections of Education Statistics to 2025*. 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, *Projections of Education Statistics*, various issues. (This table was prepared February 2017.)

# Table A-9. Mean absolute percentage errors (MAPEs) for projected grades 9–12 enrollment in public schools, by lead time, region, and state: MAPEs constructed using projections from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2025*

					Lead tim	e (years)				
Region and state	1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10	11
United States	0.4	0.7	1.0	1.1	1.2	1.4	1.6	1.9	2.1	2.4
Region	0.0	10	10	14	15	1.6	15	15	15	10
Northeast Midwest	0.9 0.4	1.2 0.7	1.3 0.9	1.4 1.0	1.5 1.1	1.6 1.2	1.5 1.5	1.5 1.8	1.5 1.8	1.8 1.9
South	0.4	0.8	1.3	1.6	1.8	2.0	2.1	2.4	2.8	3.6
West	0.5	0.8	1.1	1.3	1.5	1.5	1.8	2.0	1.9	1.3
State	0.0	10	10	2.4	0.0	2.6	4.0	5.0	6.1	6.0
Alabama Alaska	0.8 1.0	1.3 2.0	1.8 2.8	2.4	2.8 3.4	3.6 3.4	4.3 3.6	5.2 3.7	6.1 3.5	6.9 3.4
Arizona	3.6	5.6	7.5	8.6	9.0	9.3	10.4	11.3	13.6	13.0
Arkansas	0.4	0.9	1.2	1.4	1.7	2.0	2.3	2.9	3.2	3.5
California	0.4	0.9	1.3	1.8	2.1	2.3	2.5	2.7	2.4	2.2
Colorado	0.6	1.1	1.7	2.2	2.5	2.9	3.1	2.9	3.3	4.0
Connecticut Delaware	0.7	1.0 1.7	1.1 2.0	1.4 2.4	1.9 2.7	2.5 3.1	3.2 3.7	4.1 3.8	5.1 4.9	6.3 6.2
District of Columbia	6.2	7.4	10.5	13.5	15.6	16.4	14.1	14.3	15.2	16.1
Florida	0.7	1.2	1.6	2.2	2.4	3.4	3.9	4.9	5.7	5.8
Georgia	0.5	0.9	1.3	1.6	1.9	2.5	3.0	3.6	4.3	5.0
Hawaii	1.5	2.2	3.0	3.8	4.2	4.8	5.3	5.9	5.7	6.8
Idaho Illinois	1.0 0.7	1.2 0.9	1.7 1.2	2.1 1.4	2.8 1.6	3.0 2.1	3.9 2.4	4.3 2.9	3.9 2.9	3.9 3.2
Indiana	0.4	0.8	1.2	1.4	2.2	2.6	2.9	3.2	3.6	4.0
lowa	0.7	0.8	1.1	1.1	1.5	1.7	2.1	2.4	2.5	2.8
Kansas	1.0	1.6	2.0	2.4	2.3	1.9	1.6	1.6	1.6	1.1
Kentucky	1.5	1.8	2.0	2.1	2.0	3.1	3.9	3.8	4.6	4.8
Louisiana	2.6 1.4	3.7 2.6	5.0 3.3	6.9 4.5	8.5 5.2	9.8 6.0	10.9 7.1	10.9 8.3	11.7 9.0	10.4 8.3
Maine										
Maryland Massachusetts	0.5 0.5	0.8 0.9	1.2 1.4	1.7 1.9	1.9 2.5	2.2 3.1	2.3 3.4	2.3 3.4	2.0 3.6	1.8 3.6
Michigan	1.3	2.1	2.8	3.3	3.8	4.3	5.4	6.5	7.9	8.9
Minnesota	0.5	0.8	1.0	1.3	1.5	1.8	2.0	2.3	2.7	3.2
Mississippi	0.6	1.2	1.9	2.4	2.8	3.2	3.7	4.3	4.7	4.7
Missouri	0.3	0.7	0.9	1.4	1.5	1.5	1.5	1.8	2.0	2.1
Montana Nebraska	0.5 0.4	0.9 0.8	1.2 1.1	1.7 1.4	2.2 1.7	2.7 2.0	3.2 2.3	3.6 2.6	3.1 2.9	3.2 3.0
Neoraska	1.2	2.1	2.7	3.0	3.6	4.6	5.8	7.9	9.3	9.3
New Hampshire	0.6	1.0	1.4	1.8	1.9	2.0	2.5	3.3	4.0	4.5
New Jersey	0.7	1.5	2.2	2.2	2.6	3.5	4.4	5.3	6.2	7.0
New Mexico	2.2	3.7	5.0	6.5	7.9	8.3	9.1	9.9	10.3	11.8
New York North Carolina	1.4 1.0	2.2 1.3	2.4 1.5	2.7 1.7	2.7 2.3	3.3 2.7	3.3 3.1	3.5 3.0	3.7 3.6	3.4 5.0
North Dakota	0.7	1.0	1.5	2.3	3.2	4.2	5.2	6.5	7.6	8.2
Ohio	1.0	1.5	2.0	2.5	2.9	3.4	3.8	3.8	3.5	3.0
Oklahoma	0.4	0.8	1.2	1.7	2.1	2.4	2.8	3.3	4.1	4.9
Oregon	1.0	1.6	2.2	2.7	2.8	3.2	3.8	4.5	4.9	5.0
Pennsylvania Rhode Island	1.6 0.8	2.0 1.5	2.1 2.3	2.4 3.4	2.5 4.2	2.7 4.8	2.6 4.7	2.7 4.5	1.9 4.1	3.2 4.5
South Carolina South Dakota	0.7	1.3 2.7	1.9 4.1	2.4 5.7	3.0 7.1	3.6 7.6	4.1 8.4	4.6 9.7	4.7	5.4 10.3
Tennessee	1.8	2.0	2.6	3.6	4.4	5.0	5.6	6.1	5.8	6.0
Texas	0.5	1.0	1.5	2.0	2.4	2.7	3.2	4.0	5.0	6.1
Utah	1.7	2.1	2.1	3.8	4.0	4.9	6.3	5.4	6.2	7.1
Vermont	1.0	2.3	2.8	3.4	3.8	3.9	4.0	4.4	4.4	4.0
Virginia Washington	0.5 0.6	0.9 0.9	1.4 1.2	2.1 1.6	2.6 2.1	2.9 2.4	3.0 3.0	3.0 3.5	3.1 4.1	3.3 4.6
West Virginia	0.6	0.9	1.1	1.5	2.1	2.4	3.0	4.2	4.1	4.0
Wisconsin	0.7	1.1	1.3	1.6	1.8	2.0	2.3	2.7	2.5	2.4
Wyoming	0.7	1.1	1.8	2.9	4.0	5.1	6.4	7.5	8.7	9.0

NOTE: Mean absolute percentage error (MAPE) is the average value over past projections of the absolute values of errors expressed in percentage terms. National MAPEs for public 9–12 enrollments were calculated using the last 33 editions of *Projections of Education Statistics* to 1984–85 through *Projections of Education Statistics to 1984–85* through *Projections of Projections of Projections of Projections* of Projections of Projectic

tions of Education Statistics, from Projections of Education Statistics to 2005 through Projections of Education Statistics to 2025. 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, *Projections of Education Statistics*, various issues. (This table was prepared February 2017.)

# A.2. ELEMENTARY AND SECONDARY TEACHERS

# **Projections in this edition**

This edition of *Projections of Education Statistics* presents projected trends in elementary and secondary teachers, pupil/teacher ratios, and new teacher hires from 2015 to 2026. These projections were made using two models:

- » The *Elementary and Secondary Teacher Projection Model* was used to project the number of public school teachers, the number of private school teachers, and the total number of teachers for the nation. It was also used to project pupil/ teacher ratios for public schools, private schools, and all elementary and secondary schools.
- » The *New Teacher Hires Projection Model* was used to project the number of new teacher hires in public schools, private schools, and all schools.

## **Overview of approach**

### Approach for numbers of teachers and pupil/teacher ratios

**Public schools.** Multiple linear regression was used to produce initial projections of public school pupil/teacher ratios separately for elementary and secondary schools. The initial projections of elementary pupil/teacher ratios and secondary pupil/ teacher ratios were applied to enrollment projections to project the numbers of elementary teachers and secondary teachers, which were summed to get the total number of public school teachers. Final projections of the overall public school pupil/ teacher ratios were produced by dividing total projected public school enrollment by the total projected number of teachers.

### Assumptions underlying this method

This method assumes that past relationships between the public school pupil/teacher ratio (the dependent variable) and the independent variables used in the regression analysis will continue throughout the forecast period. For more information about the independent variables, see "Elementary and Secondary Teacher Projection Model," later in this section of appendix A.

**Private schools.** Private school pupil/teacher ratios were projected by applying each year's projected annual percentage change in the overall public school pupil/teacher ratio to the previous year's private school pupil/teacher ratio. The projected private school pupil/teacher ratios were then applied to projected enrollments at private schools to produce projected numbers of private school teachers.

#### Assumptions underlying this method

This method assumes that the future pattern in the trend of private school pupil/teacher ratios will be the same as that for public school pupil/teacher ratios. The reader is cautioned that a number of factors could alter the assumption of consistent patterns of change in ratios over the forecast period.

#### Approach for new teacher hires

The following numbers were projected separately for public schools and for private schools:

- » The number of teachers needed to fill openings when there is an increase in the size of the teaching workforce from one year to the next and the decrease in the number of replacement teachers needed if there is a decrease in the size of the teaching workforce from one year to the next. This number was estimated based on continuation rates of teachers by their age.
- » The number of teachers needed to fill openings due to an increase in the size of the teaching workforce from one year to the *next*. This number was estimated by subtracting the projected number of teachers in one year from the projected number of teachers in the next year.

These two numbers were summed to yield the total number of "new teacher hires" for each control of school—that is, teachers who will be hired in a given year, but who did not teach in that control the previous year. A teacher who moves from one control to the other control (i.e., from a public to private school or from a private to a public school) is considered a new teacher hire, but a teacher who moves from one school to another school in the same control is not considered a new teacher hire.

# **Elementary and Secondary Teacher Projection Model**

Projections for public schools were produced first. Projections for private schools were produced based partially on input from the public school projections. Finally, the public and private school projections were combined into total elementary and secondary school projections (not shown in the steps below).

### Steps used to project numbers of teachers and pupil/teacher ratios

Public school teachers. The following steps were used for the public school projections:

**Step 1.** Produce projections of pupil/teacher ratios for public elementary schools and public secondary schools separately. Two separate equations were used—one for elementary schools and one for secondary schools. The equations for elementary and secondary schools included an AR(1) term for correcting for autocorrelation and the following independent variables:

- » *Independent variables for public elementary school pupil/teacher ratios*—(1) average teacher wage relative to the overall economy-level wage, and (2) level of education revenue from state sources in constant dollars per public elementary student.
- » Independent variables for public secondary school pupil/teacher ratios—(1) level of education revenue from state sources in constant dollars per public secondary student, and (2) the number of students enrolled in public secondary schools relative to the secondary school–age population.

To estimate the models, they were first transformed into nonlinear models and then the coefficients were estimated simultaneously by applying a Marquardt nonlinear least squares algorithm to the transformed equation.

For details on the equations, model statistics, and data used to project public school pupil/teacher ratios, see "Data and equations used for projections of teachers and pupil/teacher ratios," below.

**Step 2.** Produce projections of the number of teachers for public elementary schools and public secondary schools separately. The projections of the public elementary pupil/teacher ratio and public secondary pupil/teacher ratio were applied to projections of enrollments in elementary schools and secondary schools, respectively, to produce projections of public elementary teachers and public secondary teachers.

**Step 3.** Produce projections of the total number of teachers for public elementary and secondary schools combined. The projections of public elementary teachers and public secondary teachers were added together to produce the projections of the total number of public elementary and secondary teachers.

**Step 4.** Produce projections of the pupil/teacher ratio for public elementary and secondary schools combined. The projections of total enrollment in public elementary and secondary schools were divided by the projections of the total number of public elementary and secondary teachers to produce projections of the overall pupil/teacher ratio in public elementary and secondary schools.

Private school teachers. The following steps were used for the private school projections:

**Step 1.** Produce projections of the private school pupil/teacher ratio. First, the estimate of the private school pupil/teacher ratio for 2014 was calculated by multiplying the private school pupil/teacher ratio estimate 2013 (the last year of actual data) by the percentage change from 2013 to 2014 in the public school pupil/teacher ratio. The same method was used to calculate the projections of the private school pupil/teacher ratio for 2015 through 2026. That is, each year's projected annual percentage change in the public school pupil/teacher ratio was applied to the previous year's private school pupil/teacher ratio.

Step 2. Produce projections of the number of private school teachers. The projected pupil/teacher ratios were applied to projected private school enrollments to produce projections of private school teachers from 2014 through 2026.

For information about the private school teacher and enrollment data used for the private school projections, see "Data and equations used for projections of teachers and pupil/teacher ratios," below.

#### Data and equations used for projections of teachers and pupil/teacher ratios

Public school data used in these projections were by organizational level (i.e., school level), not by grade level. Thus, secondary school enrollment is not the same as enrollment in grades 9 through 12 because many jurisdictions count some grade 7 and 8 enrollment as secondary. For example, some jurisdictions may have 6-year high schools with grades 7 through 12.

**Data used to estimate the equation for public elementary school pupil/teacher ratios.** The following data were used to estimate the equation:

» To compute the historical elementary school pupil/teacher ratios—Data on 1972–73 to 1980–81 enrollments in public elementary schools came from the NCES *Statistics of Public Elementary and Secondary Day Schools* and data on 1981–82 to 2014–15 enrollment came from the NCES Common Core of Data (CCD). The proportion of public school teachers who taught in elementary schools was taken from the National Education Association and then applied to the total number of public school teachers from the CCD to produce the number of teachers in elementary schools.

» For 1973–74 and 1975–76, the education revenue from state sources data came from *Statistics of State School Systems*, published by NCES. For 1972–73, 1974–75, and 1976–77, the education revenue from state sources data came from *Revenues and Expenditures for Public Elementary and Secondary Education*, also published by NCES. For 1977–78 through 2013–14, these data came from the NCES Common Core of Data (CCD).

**Estimated equation and model statistics for public elementary school pupil/teacher ratios.** For the estimated equation and model statistics, see table A-10 on page 93. In the public elementary pupil/teacher ratio equation, the independent variables affect the dependent variable in the expected ways:

- » As the average teacher wage relative to the overall economy-level wage increases, the pupil/teacher ratio increases; and
- » As the level of education revenue from state sources in constant dollars per public elementary student increases, the pupil/teacher ratio decreases.

**Data used to project public elementary school pupil/teacher ratios.** The estimated equation was run using projected values for teacher salaries and education revenues from state sources from 2014–15 through 2026–27. For more information, see Section A.0. Introduction to Projection Methodology, earlier in this appendix and Section A.4 Expenditures for Public Elementary and Secondary Education later in this appendix.

Data used to estimate the equation for public secondary school pupil/teacher ratios. The following data were used to estimate the equation:

- » To compute the historical secondary school pupil/teacher ratios—Data on 1972–73 to 1980–81 enrollments in public elementary schools came from the NCES *Statistics of Public Elementary and Secondary Day Schools* and data on 1981–82 to 2014–15 enrollment came from the NCES Common Core of Data (CCD). The proportion of public school teachers who taught in secondary schools was taken from the National Education Association and then applied to the total number of public school teachers from the CCD to produce the number of teachers in secondary schools.
- » For 1973–74 and 1975–76, the education revenue from state sources data came from *Statistics of State School Systems*, published by NCES. For 1972–73, 1974–75, and 1976–77, the education revenue from state sources data came from *Revenues and Expenditures for Public Elementary and Secondary Education*, also published by NCES. For 1977–78 through 2013–14, these data came from the NCES Common Core of Data (CCD).
- » To compute the historical secondary school enrollment rate—Data on the secondary school-age population from 1972–73 to 2014–15 came from the U.S. Census Bureau. Data on enrollments in public secondary schools during the same period came from the CCD, as noted above.

**Estimated equation and model statistics for public secondary school pupil/teacher ratios.** For the estimated equation and model statistics, see table A-10 on page 93. In the public secondary pupil/teacher ratio equation, the independent variables affect the dependent variable in the expected way:

- » As enrollment rates (number of enrolled students relative to the school-age population) increase, the pupil/teacher ratio increases; and
- » As the level of education revenue from state sources in constant dollars per public secondary student increases, the pupil/ teacher ratio decreases.

**Data used to project public secondary school pupil/teacher ratios.** The estimated equation was run using projections for education revenues, public secondary enrollments, and secondary school–age populations from 2014–15 through 2026–27. Secondary enrollment projections were derived from the enrollment projections described in Section A.1. Elementary and Secondary Enrollment. Population projections were from the Census Bureau's 2014 National Population Projections by age and sex (December 2014), ratio-adjusted to line up with the most recent historical estimates.

**Private school teacher and enrollment data.** Private school data for 1989–90, 1991–92, 1993–94, 1995–96, 1997–98, 1999–2000, 2001–02, 2003–04, 2005–06, 2007–08, 2009–10, 2011–12, and 2013–14 came from the biennial NCES Private School Universe Survey (PSS). Since the PSS is collected in the fall of odd-numbered years, data for years without a PSS collection were estimated using data from the PSS.

**Private school enrollment projections.** Private school enrollments from 2015 to 2026 came from the projections described in Section A.1. Elementary and Secondary Enrollment, earlier in this appendix.

### Accuracy of projections of numbers of teachers

Mean absolute percentage errors (MAPEs) for projections of public school teachers were calculated using the last 27 editions of *Projections of Education Statistics* that included projections of teachers. Table C, below, shows MAPEs for projections of the numbers of public school teachers. There was a change in the methodology for projecting private school teachers beginning with *Projections of Education Statistics to 2017*, and therefore there are too few years of data to present the MAPEs for private school teachers.

# Table C. Mean absolute percentage errors (MAPEs) of projections of number of public elementary and secondary school teachers, by lead time: MAPEs constructed using projections from Projections of Education Statistics to 1997–98 through Projections of Education Statistics to 2025

	Lead time (years)												
Statistic	1	2	3	4	5	6	7	8	9	10			
Public elementary and secondary teachers	0.7	1.4	1.8	2.5	3.1	3.9	4.6	5.3	5.7	6.1			

NOTE: MAPEs for teachers were calculated from the past 27 editions of *Projections of Education Statistics*, from *Projections of Education Statistics* to 1997–98 through *Projections of Education Statistics to 2025*, excluding *Projections of Education Statistics to 2012*, which did not include projections of teachers. Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Number of teachers reported in full-time equivalents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared February 2017.)

For more information about MAPEs, see Section A.O. Introduction to Projection Methodology, earlier in this appendix.

## **New Teacher Hires Projection Model**

The New Teacher Hires Projection 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.

#### About new teacher hires

A teacher is considered to be a new teacher hire for a control of school (public or private) for a given year if the teacher teaches in that control that year but had not taught in that control in the previous year. Included among new teachers hires are: (1) teachers who are new to the profession; (2) teachers who had taught previously but had not been teaching the previous year; and (3) teachers who had been teaching in one control the previous year but have moved to the other control. Concerning the last category, if a teacher moves from one public school to a different public school, that teacher would not be counted as a new 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 new teacher hire, since the teacher did not teach in a private school in the previous year.

The New Teacher Hires Projection Model measures the demand for teacher hires. Due to difficulties in defining and measuring the pool of potential teachers, no attempt was made to measure the supply of new teacher candidates.

#### Steps used to project numbers of new teacher hires

The steps outlined below provide a general summary of how the New Teacher Hires Projection Model was used to produce projections of the need for new teacher hires.

For more information about the New Teacher Hires Projection Model, see Hussar (1999).

First, the series of steps outlined below was used to produce projections of public school new teacher hires. Then, the same steps were used to produce projections of private school new hires. Finally, the public and private new teacher hires were combined to produce projections of total new teacher hires.

**Step 1.** Estimate the age distribution of full-time-equivalent (FTE) teachers in 2011. For this estimate, the age distribution of the headcount of school teachers (including both full-time and part-time teachers) in 2011 was applied to the national number of FTE teachers in the same year.

Step 2. Project the number of new FTE teacher hires needed to replace those who left teaching between 2011 and 2012.

- » Age-specific continuation rates for 2012 (due to data availability, 2008 continuation rates were used for private school new teacher hires) were applied to the FTE count of teachers by age for 2011, resulting in estimates of the number of FTE teachers who remained in teaching in 2012 by individual age.
- » The FTE teachers who remained in teaching by individual age were summed across all ages to produce a projection of the total number of FTE teachers who remained teaching in 2012.
- » The total projection of remaining FTE teachers in 2012 was subtracted from the total FTE teacher count for 2011 to produce the projected number of FTE teachers who left teaching.

**Step 3.** Project the number of new FTE teacher hires needed due to the overall increase in the teacher workforce between 2011 and 2012. The total number of FTE teachers in 2011 was subtracted from the total projected number of FTE teachers in 2012 to project the overall increase in the teaching workforce between 2011 and 2012.

*Step 4. Project the total number of new FTE teacher hires needed in 2012.* The number of FTE teachers who left teaching from step 2 was added to the projected net change in the number of FTE teachers from step 3 to project the total number of new FTE teacher hires needed in 2012.

#### Step 5. Project the FTE count of teachers by age for 2012. In this step

- » The age distribution for the headcount of newly hired teachers in 2011 was applied to the projected total number of new FTE teacher hires in 2012, resulting in the projected number of new FTE teacher hires by age.
- » For each individual age, the projected number of new FTE teacher hires was added to the projected number of remaining FTE teachers (from step 2, first bullet) to produce the projected FTE count of teachers by age for 2012.

#### Step 6. Repeat steps 2 to 5 for each year from 2013 through 2026.

- » In step 2
  - For public school teachers ages 22 through 66 and private school teachers ages 21 through 65, projections of age-specific continuation rates were used. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used to calculate the projected progression rate for each age. (For a general description of the exponential smoothing technique, see Section A.0. Introduction to Projection Methodology, earlier in this appendix.)
  - For all other ages, the age-specific continuation rates for 2012 for public school teachers and 2008 for private school teachers (the last year of actual data) were used.
- » In step 3, projections of the numbers of FTE teachers were used for all years in which there were no actual teacher numbers. The projections of FTE teachers are described under "Elementary and Secondary Teacher Projection Model," earlier in this section of appendix A.

#### Assumptions underlying this method

A number of assumptions are made in order to make these projections. They include that (1) the age distribution of FTE teachers in 2011 was 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 2012 through 2026 are similar to either the projections produced using single exponential smoothing or the values for 2012, depending on the age of the teachers (step 2); (3) the age distribution for newly hired FTE teachers from 2012 through 2026 is similar to that of newly hired full-time and part-time teachers in 2011 (step 3); (4) the actual numbers of FTE teachers for each year from 2013 through 2026 are similar to projections of FTE teachers shown in table 8 on page 50; and (5) no economic or political changes further affect the size of the teaching force.

#### Data used for projections of new teacher hires

**Data on numbers of public school teachers.** The number of FTE teachers for 2012 and 2014 came from the NCES Common Core of Data (CCD).

**Data on numbers of private school teachers.** Private school data on the numbers of FTE teachers in 2003–04, 2005–06, 2007–08, 2009–10, 2011–12, and 2013–14 came from the biennial NCES Private School Universe Survey (PSS). Since the PSS is collected in the fall of odd-numbered years, data for years without a PSS collection were estimated using data from the PSS.

**Data on the age distribution of public and private school teachers.** Data on the age distribution of full-time and part-time public and private school teachers came from the 2011–12 NCES Schools and Staffing Survey (SASS). These data and their standard errors are shown in table A-11 on page 93.

**Data on the age distribution of public and private new teacher hires.** Data on the age distribution of newly hired full-time and part-time public and private school teachers came from the 2011–12 NCES Schools and Staffing Survey (SASS). These data and their standard errors are shown in table A-12 on page 93.

**Data on and projections of age-specific continuation rates of public and private school teachers.** The 2008 continuation rates came from the 2008–09 NCES Teacher Follow-Up Survey (TFS) and the 2012 continuation rates came from the 2012–13 TFS. Data from the 1994–95, 2000–01, and 2004-05 TFS were also used in the projection of age-specific continuation rates. The actual data, their standard errors, and the projections are shown in table A-13 on page 94.

**Projections of the numbers of public and private elementary and secondary school teachers.** These projections are described under "Elementary and Secondary Teacher Projection Model," earlier in this section of appendix A.

#### Accuracy of projections of new teacher hires

No MAPEs are presented for new teacher hires as there has only been two additional years of historical data for this statistic since it was first included in *Projections of Education Statistics to 2018*.

#### Table A-10. Estimated equations and model statistics for public elementary and secondary teachers based on data from 1972 through 2014

Dependent variable					Equation <sup>1</sup>	R <sup>2</sup>	Breusch-Godfrey Serial Correlation LM test statistic <sup>2</sup>	
1					2	3	4	5
Elementary	In (RELENRTCH) =	3.81 (48.434)	+ 0.07 ln (RSALARY) (6.732)	- 0.23 ln (RSGRNTELENR) (-12.799)		0.99	.27 (0.872)	1972 to 2014
Secondary	In (RSCENRTCH) =	4.17 (34.819)	- 0.22 ln (RSGRNTSCENR) (-12.383)	+ 0.72 ln (RSCENRPU) (5.453)	+ .63 AR (1) (4.706)		2.22 (0.330)	1973 to 2014

<sup>1</sup>AR(1) indicates that the model was estimated using least squares with the AR(1) process for correcting for first-order autocorrelation. To estimate the model, it was first transformed into a nonlinear model and then the coefficients were estimated simultaneously by applying a Marquardt nonlinear least squares algorithm to the transformed equation. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see Judge, G., Hill, W., Griffiths, R., Lutkepohl, H., and Lee, T. (1985). *The* Theory and Practice of Econometrics. New York: John Wiley and Sons, pp. 315-318. Num-

<sup>2</sup>The number in parentheses is the probability of the Chi-Square associated with the Breusch-Godfrey Serial Correlation LM Test. A *p* value greater that 0.05 implies that we do not reject the null hypothesis of no autocorrelation at the 5 percent significance level for a two-tailed test and 10 percent significance level for a one-tailed test, i.e., there is no autocorrelation present. For an explanation of the Breusch-Godfrey Serial Correlation LM test statistic, see Greene, W. (2000). Econometric Analysis. New Jersey: Prentice-Hall. NOTE: R<sup>2</sup> indicates the coefficient of determination.

RELENRTCH = Ratio of public elementary school enrollment to classroom teachers (i.e., pupil/teacher ratio). RSCENRTCH = Ratio of public secondary school enrollment to classroom teachers (i.e.,

pupil/teacher ratio).

RSALARY = Average annual teacher salary relative to the overall economy wage in 2000 dollars.

RSGRNTELENR = Ratio of education revenue receipts from state sources per capita to public elementary school enrollment in 2000 dollars.

RSGRNTSCENR = Ratio of education revenue receipts from state sources per capita to public secondary school enrollment in 2000 dollars. RSCENRPU = The ratio of enrollment in public secondary schools to the 11- to 18-year-old

population.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary Teacher Projection Model, 1972 through 2026. (This table was pre-pared February 2017.)

#### Table A-11. Percentage distribution of full-time and part-time school teachers, by age, control of school, and teaching status: School year 2011–12

									Age	e distribut	ion						
Control of school and teaching status	Percent	t of total	Total		ess than 25 years	25–2	9 years	30–3	9 years	40–4	9 years	50–5	i9 years	60–6	64 years	65 years	or more
1		2	3		4		5		6		7		8		9		10
Public actual Full-time Part-time	<b>100.0</b> 93.1 6.9	(†) (0.46) (0.46)	<b>100.0</b> 100.0 100.0	<b>2.8</b> 2.9 1.9	(0.24) (0.25) (0.59)	<b>12.5</b> 12.8 8.7	<b>(0.58)</b> (0.60) (2.04)	<b>28.9</b> 29.3 23.4	<b>(0.79)</b> (0.85) (2.92)	<b>25.1</b> 24.9 27.5	(0.75) (0.81) (3.22)	<b>23.1</b> 22.8 27.0	(0.72) (0.76) (2.58)	<b>6.1</b> 6.0 8.7	(0.45) (0.48) (1.80)	<b>1.4</b> 1.3 2.9	(0.20) (0.21) (0.99)
Private actual Full-time Part-time	<b>100.0</b> 79.4 20.6	(†) (2.04) (2.04)	<b>100.0</b> 100.0 100.0	<b>4.6</b> 4.7 4.0	<b>(1.35)</b> (1.30) (1.90)	<b>12.2</b> 12.5 10.9	<b>(1.26)</b> (1.25) (3.14)	<b>24.0</b> 25.6 18.2	<b>(1.58)</b> (1.82) (4.31)	<b>23.8</b> 23.8 23.5	<b>(1.57)</b> (1.75) (3.39)	<b>21.3</b> 21.1 22.2	<b>(1.57)</b> (1.66) (3.15)	<b>9.6</b> 9.0 11.8	<b>(0.97)</b> (1.07) (3.09)	<b>4.6</b> 3.3 9.4	<b>(0.93)</b> (0.94) (2.60)

#### + Not applicable.

NOTE: Detail may not sum to totals because of rounding. Standard errors appear in parentheses. The 2011-12 data are the most recent data available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Questionnaire," 2011-12 and "Private School Teacher Questionnaire," 2011-12; and unpublished tabulations. (This table was prepared February 2014.)

#### Table A-12. Percentage distribution of full-time and part-time newly hired teachers, by age and control of school: Selected school years, 1987–88 through 2011-12

							Aç	je distributi	on						
Control of school and school year	Total	Less than a	25 years	25–	29 years	30-	39 years	40-	49 years	50–59 years		60-	64 years	65 year	s or more
1	2		3		4		5		6		7		8		9
Public           1987-88           1990-91           1999-94           1999-2000           2003-04           2007-08           2011-12	100.0 100.0 100.0 100.0 100.0 100.0 100.0	17.7 17.5 16.2 23.6 24.4 23.8 21.9	(0.79) (1.06) (0.91) (1.28) (1.21) (1.75) (2.46)	23.7 24.0 28.7 22.5 19.0 24.3 23.0	(1.19) (1.35) (1.15) (0.97) (1.23) (1.79) (2.93)	33.0 30.6 24.9 22.2 24.6 20.4 24.1	(1.43) (1.33) (1.04) (1.10) (1.10) (1.56) (2.79)	21.2 21.4 24.6 19.2 16.5 15.1 15.9	(0.80) (1.28) (1.16) (0.90) (1.18) (0.94) (2.79)	4.0 5.6 5.0 11.1 13.3 13.6 10.9	(0.51) (0.65) (0.63) (0.88) (0.93) (1.22) (2.58)	0.3 ! 0.6 0.5 0.9 1.5 2.3 3.5 !	(0.11) (0.18) (0.13) (0.23) (0.29) (0.39) (1.35)	‡ 0.2 ! 0.6 ! 0.7 ! 0.5 ! ‡	(†) (†) (0.09) (0.26) (0.29) (0.22) (†)
Private 1987–88 1990–91 1993–94 1999–2000 2003–04 2007–08 2011–12	100.0 100.0 100.0 100.0 100.0 100.0 100.0	17.0 15.8 19.3 18.5 17.1 14.3 14.9 !	(1.27) (1.47) (1.13) (0.89) (1.59) (1.26) (5.78)	22.8 26.3 24.4 17.2 16.0 18.2 20.7	(1.68) (1.83) (1.19) (0.87) (2.13) (1.36) (4.29)	32.5 29.1 24.9 24.1 23.0 23.2 27.5	(2.17) (1.86) (1.49) (1.24) (2.19) (1.97) (4.62)	17.9 21.1 22.6 22.1 22.8 23.6 17.4	(1.61) (1.67) (1.18) (1.19) (3.32) (1.92) (4.74)	5.3 5.6 7.3 14.0 15.3 14.4 10.8	(1.09) (0.88) (0.85) (1.01) (1.77) (1.49) (2.51)	‡ 1.1 ! 0.9 2.6 3.6 4.2 5.3 !	(†) (0.40) (0.20) (0.39) (0.83) (0.84) (2.32)	1.8 ! 1.0 ! 0.6 ! 1.5 2.1 2.1 ! ‡	(0.77) (0.42) (0.23) (0.38) (0.58) (0.69) (†)

† Not applicable

! Interpret with caution. The coefficient of variation (CV) for this estimate is between 30 percent or greater.

‡ Reporting standards not met. The coefficcient of variation (CV) for this estimate is 50 percent or greater

NOTE: Detail may not sum to totals because of rounding. Standard errors appear in parentheses. The 2011–12 data are the most recent data available. SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools

and Staffing Survey (SASS), "Public School Teacher Questionnaire," 1987-88 through 2011-12 and "Private School Teacher Questionnaire," 1987-88 through 2011-12; and unpublished tabulations. (This table was prepared February 2014.)

#### Table A-13. Actual and projected continuation rates of full-time and part-time school teachers, by age and control of school: Selected school years, 1993-94 to 1994-95 through 2026-27 to 2027-28

			Continuation rates, by age													
			Less than													
Control of school and school year	To	otal	25 years		25–29 years		30–39 years		40-49 years		50–59 years		60–64 years		65 years or more	
1		2		3		4		5		6		7		8		9
Public actual           1993–94 to 1994–95           1999–2000 to 2000–01           2003–04 to 2004–05           2007–08 to 2008–09	93.4 (0.3 92.4 (0.3 91.4 (0.4 91.8 (0.4	38) 55)	96.2 95.8 94.9 92.2	(1.09) (0.98) (1.79) (1.95)	90.0 89.3 90.1 89.0	(1.22) (7.38) (1.71) (2.33)	93.3 93.2 92.6 92.4	(1.03) (2.76) (0.93) (1.29)	96.1 94.5 94.5 95.1	(0.54) (0.61) (0.78) (1.06)	93.7 92.9 90.8 92.3	(0.77) (4.58) (0.81) (1.23)	69.5 76.8 ! 77.2 82.8	(4.79) (29.18) (3.00) (3.97)	65.9 (‡) 70.3 88.9	(8.81) (†) (9.40) (4.26)
2011-12 to 2012-13	92.1 (0.6		83.1	(9.79)	92.3	(1.39)	94.2	(1.14)	96.7	(0.53)	90.2	(1.38)	81.9	(3.11)	70.2	(12.44)
Public projected           2012-13 to 2013-14           2013-14 to 2014-15           2014-15 to 2015-16           2015-16 to 2016-17           2016-17 to 2017-18           2017-18 to 2019-20           2019-20 to 2020-21           2020-21 to 2021-22           2021-22 to 2022-23           2022-23 to 2023-24           2024-25 to 2025-26           2025-26 to 2026-27           2026-27 to 2027-28	92.3 92.2 92.3 92.3 92.4 92.4 92.5 92.5 92.5 92.5 92.5 92.5 92.5 92.5	(t) (t)	90.1 89.9 90.0 89.9 89.9 89.9 90.0 89.9 89.9	(t) $(t)$	91.8 91.8 91.8 91.8 91.8 91.8 91.8 91.8	(†) (†) (†) (†) (†) (†) (†) (†) (†) (†)	94.0 93.9 93.8 93.8 93.9 93.9 94.0 94.0 94.0 94.0 94.0 94.0 94.0 93.9 93.9	$ \begin{array}{c} (t) \\ (t) $	96.7 96.8 96.7 96.7 96.7 96.6 96.6 96.6 96.6 96.6	$ \begin{array}{c} (t) \\ (t) $	90.3 90.2 90.3 90.3 90.3 90.4 90.4 90.4 90.5 90.5 90.5 90.5 90.5 90.5	$ \begin{array}{c} (t) \\ (t) $	81.4 81.7 81.5 81.8 81.6 81.6 81.6 81.6 81.5 81.6 81.5 81.5 81.5 81.5 81.5 81.5		69.6 69.8 68.6 69.5 70.4 70.9 70.9 71.5 71.2 71.0 71.0 71.0 71.0 71.0 70.6 70.9 70.1	$ \begin{array}{c} (t) \\ (t) $
Private actual           1993-94 to 1994-95           1999-2000 to 2000-01           2003-04 to 2004-05           2007-08 to 2008-09	88.1 (0.7 83.0 (0.7 83.3 (2.0 82.2 (1.6	72) 06)	80.0 61.7 75.4 77.7	(4.42) (4.90) (5.97) (8.33)	86.9 72.2 71.7 71.7	(1.64) (2.76) (3.62) (6.44)	85.1 80.2 82.2 79.1	(1.70) (1.57) (2.30) (3.43)	91.3 86.1 86.8 86.1	(1.14) (1.47) (2.28) (2.92)	91.8 92.3 89.2 86.8	(1.52) (1.00) (9.17) (2.17)	86.9 78.8 80.1 85.2	(2.74) (4.79) (4.15) (4.21)	58.1 75.2 79.5 77.3	(8.67) (5.17) (6.07) (8.23)
Private projected           2012-13 to 2013-14           2013-14 to 2014-15           2014-15 to 2015-16           2015-16 to 2016-17           2016-17 to 2017-18           2017-18 to 2018-19           2019-20 to 2020-21           2020-21 to 2021-22           2021-22 to 2022-23           2022-23 to 2023-24           2022-24 to 2024-25           2024-25 to 2025-26           2025-26 to 2026-27           2026-27 to 2027-28	81.2 81.5 81.6 81.4 81.4 81.4 81.4 81.4 81.3 81.3 81.3 81.3 81.3 81.3	$ \begin{array}{c} (t) \\ (t) $	$\begin{array}{c} 69.1 \\ 68.7 \\ 70.2 \\ 69.3 \\ 69.1 \\ 69.2 \\ 69.2 \\ 69.2 \\ 69.2 \\ 69.2 \\ 69.2 \\ 69.2 \\ 69.2 \\ 69.2 \\ 69.2 \\ 69.2 \\ 69.2 \\ 69.2 \\ 69.2 \end{array}$	(t) $(t)$	73.2 73.4 73.3 73.4 73.3 73.4 73.3 73.2 73.2 73.2 73.2 73.2 73.2 73.2	(t) $(t)$	80.2 80.2 80.1 80.1 80.1 80.2 80.2 80.2 80.2 80.2 80.2 80.2 80.2	(t) $(t)$	86.0 86.1 86.2 85.8 85.9 86.0 85.9 86.0 85.9 85.9 86.0 85.9 85.9 85.9 85.9	(t) $(t)$	88.1 87.6 87.5 87.9 87.7 87.6 87.7 87.6 87.7 87.6 87.7 87.7	$ \begin{array}{c} (t) \\ (t) $	80.0 79.9 79.5 80.0 80.3 79.6 79.4 79.8 79.8 80.1 80.2 79.6 79.6 80.0		75.9 75.4 77.9 76.7 75.9 77.1 77.3 76.3 76.8 76.0 75.3 75.9 76.0 75.8 75.8	$ \begin{array}{c} (t) \\ (t) $

† Not applicable.

! Interpret with caution. The coefficient of variation (CV) for this estimate is between 30 percent or greater.

‡ Reporting standards not met. The coefficient of variation (CV) for this estimate is 50 percent or greater.

NOTE: The continuation rate for teachers for each control of school (public schools and pri-vate schools) is the percentage of teachers in that control who continued teaching in the

same control from one year to the next. Standard errors appear in parentheses. The 2012–13 data are the most recent data available for public school teachers and the 2008–09 data are the most recent data available for private school teachers. SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow up Survey (TFS), "Public School Teacher Questionnaire," 1994–95 through 2008–09 and "Private School Teacher Questionnaire," 1994–95 through 2012–13; and unpublished tabulations. (This table was prepared February 2017.)

## A.3. HIGH SCHOOL GRADUATES

## **Projections in this edition**

This edition of *Projections of Education Statistics* presents projected trends in the number of high school graduates from 2014–15 to 2026–27. These projections were made using three models:

- » The *National High School Graduates Projection Model* was used to project the number of public high school graduates, the number of private high school graduates, and the total number of high school graduates for the nation.
- » The *State Public High School Graduates Projection Model* was used to project the number of public high school graduates for individual states and regions.
- » The *National Public High School Graduates by Race/Ethnicity Projection Model* was used to project the number of public high school graduates for the nation by race/ethnicity.

### **Overview of approach**

All the high school graduates models first calculated the number of high school graduates as a percentage of grade 12 enrollment based on historical data. Single exponential smoothing was used to project this percentage. The projected percentage was then applied to projections of grade 12 enrollment.

### Assumptions underlying this approach

The percentage of 12th-graders who graduate was assumed to remain constant at levels consistent with the most recent rates. This methodology assumes that past trends in factors affecting graduation rates, such as dropouts, migration, and public or private transfers, will continue over the forecast period. No specific assumptions were made regarding the dropout rate, retention rate, or the rate at which alternative credentials are awarded. The combined effect of these proportions is reflected implicitly in the graduate proportion. 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.

### Procedures used in all three high school graduates projection models

The following steps were used to project the numbers of high school graduates:

Step 1. For each year in the historic period, express the number of high school graduates as a percentage of grade 12 enrollment. This value represents the approximate percentage of 12th graders who graduate. For information about the specific historical data and analysis periods used for the National High School Graduates Model, the State Public High School Graduates Model, and the National Public High School Graduates by Race/Ethnicity Model, see the description of the appropriate model, later in this section of appendix A.

**Step 2.** Project the percentage of 12th-graders who graduate from step 1. This percentage was projected using single exponential smoothing with a smoothing constant chosen to minimize the sum of squared forecast errors. Because single exponential smoothing produces a single forecast for all years in the forecast period, the same projected percentage of grade 12 enrollment was used for each year in the forecast period.

*Step 3. Calculate projections of the numbers of high school graduates.* For each year in the forecast period, the projected percentage from step 2 was applied to projections of grade 12 enrollment to yield projections of high school graduates.

## National High School Graduates Projection Model

This model was used to project the number of public high school graduates, the number of private high school graduates, and the total number of high school graduates for the nation. Public and private high school graduates were projected separately. The public and private projections were then summed to yield projections of the total number of high school graduates for the nation.

For details of the procedures used to develop the projections, see "Procedures used in all three high school graduates projection models," above.

### Data used in the National High School Graduates Projection Model

**Public school data on graduates and grade 12 enrollment.** Data on public school 12th-grade enrollments and high school graduates from the NCES *Statistics of Public Elementary and Secondary School Systems* for 1972–73 to 1980–81 and the NCES Common Core of Data (CCD) for 1981–82 through 2005–06 were used to develop national projections of public high school. Also, for 2006–07 through 2013–14, data on public school 12th-grade enrollments from the CCD and data on high school graduate from the "State Dropout and Completion Data File" were used.

**Private school data on graduates and grade 12 enrollment.** Data on private school 12th-grade enrollments for 1989–90 through 2013–14 and high school graduates for 1988–89 through 2012–13 were used to develop national projections of private high school graduates. The data were from the biennial NCES Private School Universe Survey (PSS) from 1989–90 to 2013–14 with data for 12th grade enrollment the same as the year of the survey and the data for high school graduates for the preceding year (i.e., the 2013–14 PSS presents high school graduates for 2012–13). Since the PSS is collected in the fall of odd-numbered years, data for missing years were estimated using data from the PSS. For 12th grade enrollment, estimates for missing years were linear interpolations of the prior year's and succeeding year's actual values. For high school graduates, estimates for the missing years were the interpolations of the high school graduates to estimated 12th grade enrollment percentages for the prior and succeeding years multiplied by the estimated enrollments for the current year.

**Public and private school enrollment projections for grade 12.** Projections of grade 12 enrollment in public schools and in private schools were used to develop projections of public high school graduates and private high school graduates, respectively. The grade 12 enrollment projections were made using the grade progression method. For more information, see Section A.1. Elementary and Secondary Enrollment, earlier in this appendix.

### Accuracy of national high school graduates projections

Mean absolute percentage errors (MAPEs) for projections of graduates from public high schools were calculated using the last 26 editions of *Projections of Education Statistics*, while MAPEs for projections of graduates from private high schools were calculated using the last 15 editions. Table D, below, shows MAPEs for both public and private school graduation projections.

# Table D.Mean absolute percentage errors (MAPEs) of projections of high school graduates, by lead time and control<br/>of school: MAPEs constructed using projections from Projections of Education Statistics to 2000 through<br/>Projections of Education Statistics to 2025

		Lead time (years)								
Statistic	1	2	3	4	5	6	7	8	9	10
Public high school graduates	1.0	1.1	1.8	2.2	2.5	2.9	3.5	4.2	4.8	5.1
Private high school graduates	duates 1.8 1.5 1.6 3.7 4.9 4.2 2.8						4.7	4.5	4.9	

NOTE: MAPEs for public high school graduates were calculated from the past 26 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2000* through *Projections of Education Statistics to 2025*. MAPEs for private high school graduates were calculated from the past 15 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2011* through *Projections of Education Statistics* to 2025. 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, *Projections of Education Statistics*, various issues. (This table was prepared February 2017.)

For more information about MAPEs, see Section A.O. Introduction to Projection Methodology, earlier in appendix A.

## **State Public High School Graduates Projection Model**

This edition of *Projections of Education Statistics* contains projections of public high school graduates from 2014–15 to 2026–27 for each of the 50 states and the District of Columbia, as well as for each region of the country. The state projections of high school graduates were produced in two stages:

- » first, an initial set of projections for each state was produced; and
- » second, these initial projections were adjusted to sum to the national public school totals produced by the National High School Graduates Projection Model.

For each region, the high school graduate projections equaled the sum of high school graduate projections for the states within that region.

### Initial set of state projections

The same steps used to produce the national projections of high school graduates were used to produce an initial set of projections for each state and the District of Columbia. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used to calculate the projected percentage of 12th grade enrollment for each jurisdiction.

For details on the steps used to develop the initial sets of projections, see "Procedures used in all three high school graduate projection models," earlier in this section of appendix A.

### Adjustments to the state projections

The initial projections of state public high school graduates were adjusted to sum to the national projections of public high school graduates shown in table 9 on page 51. 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 public high school graduate projection to the sum of the state public high school graduate projections.

### Data used in the State Public High School Graduates Projection Model

**Public school data on graduates and grade 12 enrollment at the state level.** State-level data on public school high school graduates from the NCES *Statistics of Public Elementary and Secondary School Systems* for 1972–73 to 1980–81, the NCES Common Core of Data (CCD) for 1981–82 through 2004–05, and the "State Dropout and Completion Data File" for 2005–06 through 2013–14 were used to develop state-level projections of public high school graduates. State-level data on public school 12th-grade enrollments from the NCES *Statistics of Public Elementary and Secondary School Systems* for 1972–73 to 1980–81 and the NCES Common Core of Data (CCD) for 1981–82 through 2014–15 were also used.

**Public school projections for grade 12 enrollment at the state level.** State-level projections of grade 12 enrollment in public schools were used to develop the state-level projections of public high school graduates. The grade 12 enrollment projections were made using the grade progression method. For more information, see Section A.1. Elementary and Secondary Enrollment, earlier in this appendix.

### Accuracy of state public high school graduate projections

Mean absolute percentage errors (MAPEs) for projections of the number of public high school graduates by state were calculated using the last 21 editions of *Projections of Education Statistics*. Table A-14 on page 99 shows MAPEs for the number of high school graduates by state.

## National Public High School Graduates by Race/Ethnicity Projection Model

The projections of public high school graduates by race/ethnicity were produced in two stages:

- » first, an initial set of projections for each racial/ethnic group was produced; and
- » second, these initial projections were adjusted to sum to the national public school totals produced by the National High School Graduates Projection Model.

### Initial set of projections by race/ethnicity

The same steps used to produce the national projections of high school graduates were used to produce an initial set of projections for each of the following five racial/ethnic groups: White, Black, Hispanic, Asian/Pacific Islander, and American Indian/Alaska Native. For example, the number of White public high school graduates was projected as a percentage of White grade 12 enrollment in public schools. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used to calculate the projected percentage of 12th-grade enrollment for each racial/ethnic group. This is the third edition of *Projections of Education Statistics* to include projections for high school graduates of Two or more races. To produce an initial set of projections for this racial/ethnic group, the 2013–14 ratio of 12th-grade enrollment to high school graduates of the group were multiplied by the 12th-grade enrollment projections of the group from the data file used to produce table 6.

### Adjustments to the projections by race/ethnicity

The projections of public high school graduates by race/ethnicity were adjusted to sum to the national projections of public high school graduates shown in table 9 on page 51. This was done through the use of ratio adjustments in which all high school graduate projections by race/ethnicity were multiplied by the ratio of the national high school graduate projections by race/ethnicity.

### Data and imputations used in the Public High School Graduates by Race/Ethnicity Projection Model

**Public school data on graduates and grade 12 enrollment by race/ethnicity.** Data on public school high school graduates by race/ethnicity from the NCES Common Core of Data (CCD) for 1994–95 through 2004–05, and the "State Dropout and Completion Data File" for 2005–06 through 2013–14 were used to develop projections of public high school graduates by race/ethnicity. Data on public school 12th-grade enrollments by race/ethnicity from the NCES *Statistics of Public Elementary and Secondary School Systems* for 1972–73 to 1980–81 and the NCES Common Core of Data (CCD) for 1981–82 through 2014–15 were also used. In those instances where states did not report their high school graduate data by race/ethnicity, the state-level data had to be examined and some imputations made. For example, in 1994, Arizona did not report high school graduate data by race/ethnicity for that year. So, to impute the high school graduate numbers by race/ethnicity for that year, Arizona's total number of high school graduates for 1994 was multiplied by the state's 1994 racial/ethnic distribution for grade 12 enrollment.

**Public enrollment projections for grade 12 by race/ethnicity.** Projections of grade 12 enrollment in public schools by race/ethnicity were used to develop the projections of public high school graduates by race/ethnicity. The grade 12 enrollment projections were made using the grade progression method. For more information, see Section A.1. Elementary and Secondary Enrollment, earlier in this appendix.

### Accuracy of enrollment projections by race/ethnicity

Mean absolute percentage errors (MAPEs) for projections of the number of public high school graduates by race/ethnicity were calculated using the last seven editions of *Projections of Education Statistic*. Table E, below, shows MAPEs for public high school graduates by race/ethnicity projections.

# Table E. Mean absolute percentage errors (MAPEs) of projections of public high school graduates, by lead time and race/ethnicity: MAPEs constructed using projections from *Projections of Education Statistics to 2000* through *Projections of Education Statistics to 2025*

	Lead time (years)									
Statistic	1	2	3	4	5	6	7	8	9	10
Total high school graduates	1.0	1.1	1.8	2.2	2.5	2.9	3.5	4.2	4.8	5.1
White	1.0	0.5	0.8	1.3	2.5	3.5	_	_	_	_
Black	2.3	3.0	3.5	5.8	7.1	9.3	_	_	_	_
Hispanic	3.6	4.5	6.6	13.2	16.9	16.2	_	_	_	_
Asian/Pacific Islander	1.5	2.6	2.8	1.6	2.3	0.5	_	_	_	_
American Indian/Alaska Native	1.9	1.8	3.7	6.9	8.8	7.8	_	_	_	_

Not available.

NOTE: MAPEs for public high school graduates were calculated from the past 26 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2000* through *Projections of Education Statistics to 2025*. MAPEs for public high school graduates by race/ethnicity were calculated using the last 7 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2025*. 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, *Projections of Education Statistics*, various issues. (This table was prepared February 2017.)

# Table A-14. Mean absolute percentage errors (MAPEs) for the projected number of high school graduates in public schools, by lead time, region, and state: MAPEs constructed using projections from *Projections of Education Statistics to 2000* through *Projections of Education Statistics to 2025*

					Lead tim	e (years)				
Region and state	1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10	11
United States	1.0	1.1	1.8	2.2	2.5	2.9	3.5	4.2	4.8	5.1
Region										
Northeast	1.1	1.6	1.7	2.3	3.0	3.6	3.7	4.4	5.2	5.6
Midwest	1.1	0.9	1.5	1.8	2.4	2.8	2.8	3.0	3.3	3.3
South	1.1	1.5	2.5	3.1	3.7	4.5	5.0	6.0	6.9	7.9
West	1.7	2.0	2.6	3.7	3.5	3.5	3.0	2.7	3.4	3.4
State										
Alabama	3.1	3.1	2.8	5.1	6.1	7.3	8.2	8.5	9.5	10.3
Alaska	2.5	2.1	3.0	4.6	5.2	6.6	7.5	7.8	7.8	7.6
Arizona	7.6	8.0	10.0	12.6	11.4	11.6	13.8	11.6	10.5	12.5
Arkansas	1.3 2.4	1.6	2.0	2.5	2.9	2.4	2.3	2.8	3.1	3.9
California	2.4	2.5	3.3	4.6	5.0	5.2	5.2	4.4	5.1	5.0
Colorado	1.6	2.2	2.6	2.2	2.8	2.9	3.1	3.9	4.6	4.7
Connecticut	2.6	2.3	2.5	3.3	3.6	4.0	4.6	4.4	5.6	5.0
Delaware	1.9	2.5	3.2	4.6	3.9	4.9	5.0	6.0	6.7	7.6
District of Columbia	6.7	7.4	11.6	14.0	14.1	14.8	15.9	17.2	17.9	20.5
Florida	1.9	3.9	5.2	4.6	5.1	5.0	6.0	6.6	8.1	7.2
Georgia	1.9	2.7	3.5	5.5	7.4	8.4	9.1	9.4	10.2	10.1
Hawaii	3.3	3.8	4.4	5.4	8.2	8.9	10.9	11.8	13.4	14.5
ldaho	1.0	1.3	1.4	1.9	2.2	2.7	3.0	3.8	4.9	5.4
Illinois	2.5	2.1	2.9	3.6	3.8	3.7	5.4	4.4	5.1	6.5
Indiana	1.4	1.8	1.8	2.3	2.7	3.2	3.9	4.3	4.7	5.0
lowa	1.4	1.2	1.9	2.0	2.7	2.7	2.5	2.5	2.5	2.7
Kansas	1.4	1.6	2.4	3.0	4.3	5.4	6.0	6.5	7.0	7.0
Kentucky	2.2	3.3	3.4	4.7	5.4	6.4	7.4	7.9	7.9	9.9
Louisiana	1.8	2.7	4.5	6.2	7.3	6.6	6.3	6.4	3.8	5.3
Maine	2.5	3.8	3.7	4.8	5.6	6.7	8.6	9.3	11.0	11.7
Maryland	1.2	1.2	1.8	1.7	2.4	2.8	3.3	3.3	3.5	4.6
Massachusetts	1.0	1.4	2.4	3.1	3.6	4.0	4.4	4.2	4.2	4.3
Michigan	2.9	3.8	4.5	5.6	5.5	5.5	7.1	8.0	8.7	9.5
Minnesota	2.1	1.2	1.5	1.8	2.2	2.4	2.9	3.6	4.0	4.7
Mississippi	1.4	1.6	2.2	2.5	3.5	4.3	4.4	5.1	5.5	5.7
Missouri	0.9	1.4	2.3	2.8	3.5	4.4	4.9	5.4	6.4	6.7
Montana	0.8	0.9	1.4	1.6	2.5	3.5	4.4	5.9	7.1	8.3
Nebraska	2.0	2.5	2.6	2.7	3.1	3.2	2.7	2.7	2.6	3.1
Nevada	4.7	7.1	8.8	9.8	8.8	9.3	8.6	9.5	11.1	12.8
New Hampshire	1.1	2.0	2.3	3.0	3.8	4.8	5.5	6.6	7.2	7.4
New Jersey	2.0	3.5	4.2	4.1	4.3	5.4	6.4	7.3	8.0	8.8
New Mexico	3.1	2.7	4.3	4.5	6.6	6.9	7.3	8.1	9.7	10.0
New York	1.8	2.9	3.3	5.0	6.1	7.4	8.2	9.2	9.8	10.5
North Carolina	1.9	2.4	3.6	4.1	4.9	5.6	5.9	6.8	7.8	10.2
North Dakota	1.2	1.7	2.1	2.8	3.4	3.6	4.0	4.5	5.3	7.1
Ohio	2.6	2.5	3.9	3.8	3.7	3.7	3.3	3.9	4.4	5.7
Oklahoma	1.2	1.4	1.7	1.6	2.2	2.9	3.3	3.5	3.7	4.4
Oregon	1.8	2.1	2.6	4.0	4.3	5.0	5.7	6.8	7.2	6.9
Pennsylvania	1.6	2.6	3.2	3.3	3.3	3.0	2.8	3.3	3.9	4.1
Rhode Island	1.3	1.2	2.1	1.9	2.5	3.0	4.2	5.1	5.4	5.1
	4 7	0.0	0.1	5.0	0.7	0.0	0.0	0.0	0.0	0.5
South Carolina	1.7	3.2	3.1	5.3	6.7	8.2	8.6	9.0	9.0	9.5
South Dakota Tennessee	2.2 4.2	2.9 6.1	3.2 7.9	5.0 11.1	7.7 13.5	8.4 15.5	9.7 15.8	10.9 16.4	12.5 16.2	13.8 15.4
Texas	4.2	3.5	4.7	6.0	6.5	7.4	8.3	9.7	11.3	13.0
Utah	2.4 4.6	5.6	5.3	6.2	6.1	4.9	4.8	9.7 4.9	4.3	2.3
Vermont	1.9	2.2	3.2	4.7	6.6	6.9	7.5	8.3	9.5	9.8
Virginia	1.4	2.1	2.7	4.0	4.8	4.8	4.3	3.6	3.9	4.4
Washington	1.8	1.9	2.7	2.6	3.0	3.8	4.1	4.2	5.5	5.4
West Virginia	0.6	1.0	1.8	1.9	2.4	3.5	3.8	5.0	5.4	6.0
Wisconsin	1.2	1.4	2.4	2.7	3.1	3.9	4.3	5.1	5.8	5.3
Wyoming	1.5	1.9	2.4	3.1	4.5	5.8	7.6	8.9	10.4	11.3

NOTE: Mean absolute percentage error (MAPE) is the average value over past projections of the absolute values of errors expressed in percentage terms. National MAPEs for public high school graduates were calculated using the last 26 editions of *Projections of Education Statistics*, from *Projections of Education Statistics* to 2000 through *Projections of Education Statistics* to 2005. State MAPEs were calculated using the last 21 editions of the state of

Projections of Education Statistics, from Projections of Education Statistics to 2005 through Projections of Education Statistics to 2025. 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, *Projections of Education Statistics*, various issues. (This table was prepared February 2017.)

## A.4. EXPENDITURES FOR PUBLIC ELEMENTARY AND SECONDARY EDUCATION

## **Projections in this edition**

This edition of *Projections of Education Statistics* presents projections of total current expenditures for public elementary and secondary education, current expenditures per pupil in fall enrollment, and current expenditures per pupil in average daily attendance for 2014–15 through 2026–27.

As the source of the elementary and secondary private school data, the NCES Private School Universe Survey, does not collect data for current expenditures, there are no projections for private school current expenditures.

### **Overview of approach**

### Theoretical and empirical background

The Public Elementary and Secondary Education Current Expenditure Projection Model used in this report is based on the theoretical and empirical literature on the demand for local public services such as education.<sup>1</sup> Specifically, it is based on a type of model that has been called a median voter model. In brief, a median voter model posits 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 government officials.

In a median voter model, the demand for education expenditures is typically linked to four different types of independent variables: (1) measures of the income of the median voter; (2) measures of intergovernmental aid for education going indirectly to the median voter; (3) measures of the price to the median voter of providing one more dollar of education expenditures per pupil; and (4) any other variables that may affect one's tastes for education. The Public Elementary and Secondary Education Current Expenditure Projection Model contains independent variables of the first two types. It uses multiple linear regression analysis to define the relationships between these independent variables and current expenditures (the dependent variable).

## **Elementary and Secondary Education Current Expenditure Projection Model**

Projections for current expenditures per pupil in fall enrollment were produced first. These projections were then used in calculating total expenditures and expenditures per pupil in average daily attendance.

### Steps used to project current expenditures for public elementary and secondary education

*Step 1. Produce projections of education revenue from state sources.* The equation for education revenue included an AR(1) term for correcting for autocorrelation and the following independent variables:

- » disposable income per capita in constant dollars; and

To estimate the model, it was first transformed into a nonlinear model and then the coefficients were estimated simultaneously by applying a Marquardt nonlinear least squares algorithm to the transformed equation.

*Step 2. Produce projections of current expenditures per pupil in fall enrollment.* The equation for current expenditures per pupil for fall enrollment included an AR(1) term for correcting for autocorrelation and the following independent variables:

- » disposable income per capita in constant dollars; and
- » education revenue from state sources per capita in constant dollars. This variable was projected in step 1.

<sup>&</sup>lt;sup>1</sup> For a discussion of the theory together with a review of some of the older literature, see Inman (1979). More recent empirical work includes Gamkhar and Oates (1996) and Mitias and Turnbull (2001).

To estimate the models, they were first transformed into nonlinear models and then the coefficients were estimated simultaneously by applying a Marquardt nonlinear least squares algorithm to the transformed equation.

For details on the equations used in steps 1 and 2, the data used to estimate these equations, and their results, see "Data and equations used for projections of current expenditures for public elementary and secondary education," below.

Step 3. Produce projections of total current expenditures. Projections of total current expenditures were made by multiplying the projections for current expenditures per pupil in fall enrollment by projections for fall enrollment.

**Step 4.** Produce projections of current expenditures per pupil in average daily attendance. The projections for total current expenditures were divided by projections for average daily attendance to produce projections of current expenditures per pupil in average daily attendance.

All the projections were developed in 1982–84 dollars and then placed in 2015–16 dollars using the projections of 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.

## Data and equations used for projections of current expenditures for public elementary and secondary education

**Data used to estimate the equations for revenue from state sources and current expenditures per pupil.** The following data for the period from 1973–74 to 2013–14 were used to estimate the equations:

- » Current expenditures and revenues from state sources—For 1973–74 and 1975–76, the current expenditures data came from *Statistics of State School Systems*, published by NCES. For 1974–75 and 1976–77, the current expenditures data came from *Revenues and Expenditures for Public Elementary and Secondary Education*, also published by NCES. For 1977–78 through 2013–14, these data came from the NCES Common Core of Data (CCD) and unpublished data. For most years, the sources for the past values of revenue from state sources were identical to the sources for current expenditures.
- » Disposable personal income per capita—Disposable personal income data from the Bureau of Economic Analysis were divided by population data from the U.S. Census Bureau.
- » The ratio of fall enrollment to population data—Fall enrollment data from the CCD were divided by population data from the U.S. Census Bureau. (See table B-5 on page 133.)

**Estimated equations and model statistics for revenue from state sources and current expenditures per pupil.** For the results of the equations, see table A-15 on page 103. In each equation, the independent variables affect the dependent variable in the expected way. In the revenues from state sources equation:

- » All other things being equal, as disposable income per capita increases so does local governments' education revenue from state sources per capita; and
- » As enrollment increases relative to the population, so does the local governments' education revenue from state sources per capita.
- » In the current expenditures per pupil equation: All other things being equal, as disposable income per capita increases, so does current expenditures per pupil; and
- » As local governments' education revenue from state sources per capita increases, so does current expenditures per pupil.

**Projections for economic variables.** Projections for economic variables, including disposable income and the Consumer Price Index, were from the "U.S. Quarterly Macroeconomic Model: November 2016 Short-Term Baseline Projections" from the economic consulting firm, IHS Global Inc. (see supplemental table B-5). This set of projections was IHS Global Inc.'s most recent set at the time the education projections in this report were produced. The values of all the variables from IHS Global Inc. 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.

**Projections for fall enrollment.** The projections for fall enrollment are those presented in section 1 of this publication. The methodology for these projections is presented in Section A.1. Elementary and Secondary Enrollment, earlier in this appendix.

**Projections for population.** Population estimates for 1973 to 2015 and population projections for 2016 to 2026 from the U.S. Census Bureau were used to develop the public school current expenditure projections. The set of population projections used in this year's *Projections of Education Statistics* are the Census Bureau's 2014 National Population Projections (December 2014).

**Historical data for average daily attendance.** For 1973–74 and 1975–76, these data came from *Statistics of State School Systems*, published by NCES. For 1974–75 and 1976–77, the current expenditures data came from *Revenues and Expenditures for Public Elementary and Secondary Education*, also published by NCES. For 1977–78 through 2013–14, these data came from the CCD and unpublished NCES data.

**Projections for average daily attendance.** These projections were made by multiplying the projections for enrollment by the average value of the ratios of average daily attendance to enrollment from 1993–94 to 2013–14; this average value was approximately 0.93.

### Accuracy of projections

Mean absolute percentage errors (MAPEs) for projections of current expenditures for public elementary and secondary education were calculated using the last 27 editions of *Projections of Education Statistics* that included projections of current expenditures. Table F, below, shows the MAPEs for projections of current expenditures.

# Table F.Mean absolute percentage errors (MAPEs) of projections for total and per pupil current expenditures for public<br/>elementary and secondary education, by lead time: MAPEs constructed using projections from Projections of<br/>Education Statistics to 1984–85 through Projections of Education Statistics to 2025

	Lead time (years)									
Statistic	1	2	3	4	5	6	7	8	9	10
Total current expenditures	1.7	2.5	2.7	2.6	2.8	3.8	5.0	6.0	6.2	6.2
Current expenditures per pupil in fall enrollment	1.7	2.4	2.6	2.6	2.9	3.7	4.9	5.9	6.7	6.9

NOTE: Expenditures were in constant dollars based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor. MAPEs for current expenditures were calculated using projections from the last 27 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1997–98* through *Projections of Education Statistics to 2025*, excluding *Projections of Education Statistics to 2012* which did not include projections of current expenditures. 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, *Projections of Education Statistics*, various issues. (This table was prepared February 2017.)

For more information about MAPEs, see Section A.O. Introduction to Projection Methodology, earlier in this appendix.

#### Table A-15. Estimated equations and model statistics for current expenditures per pupil in fall enrollment for public elementary and secondary schools, and education revenue from state sources per capita based on data from 1973-74 to 2013-14

Dependent variable					Equation <sup>1</sup>	R <sup>2</sup>	Breusch-Godfrey Serial Correlation LM test statistic <sup>2</sup>	
1					2	3	4	5
Current expenditures per pupil	In(CUREXP) =	2.18 + (1.889)	0.49ln(PCI) (2.474)	+ 0.19ln(SGRANT) (2.301)	+ 0.94AR(1) (26.579)	0.996	5.74 (0.057)	1973–74 to 2013–14
Education revenue from state sources per capita	In(SGRNT) =	7.73 + (1.981)	0.95ln(PCI) (7.025)	+ 1.34ln(ENRPOP) (3.069)	+ 0.82AR(1) (12.283)	0.984	1.57 (0.457)	1973–74 to 2013–14

<sup>1</sup>AR(1) indicates that the model was estimated using least squares with the AR(1) process for correcting for first-order autocorrelation. To estimate the model, it was first transformed into a nonlinear model and then the coefficients were estimated simultaneously by applying a Marquardt nonlinear least squares algorithm to the transformed equation. For a general discussion of the problem of autocorrelation, and the method used to forecast in the pres-ence of autocorrelation, see Judge, G., Hill, W., Griffiths, R., Lutkepohl, H., and Lee, T. (1985). The Theory and Practice of Econometrics. New York: John Wiley and Sons, pp.

<sup>(150)</sup> The number in parentheses are *i*-statistics. <sup>(150)</sup> The number in parentheses is the probability of the Chi-Square associated with the Breusch-Godfrey Serial Correlation LM Test. A *p* value greater that 0.05 implies that we do not reject the null hypothesis of no autocorrelation at the 5 percent significance level for a two-tailed test and 10 percent significance level for a one-tailed test (i.e., there is no autocorrelation present). For an explanation of the Breusch-Godfrey Serial Correlation LM test statistics, see Greene, W. (2000). *Econometric Analysis*. New Jersey: Prentice-Hall. NOTE:  $R^2$  indicates the coefficient of determination.

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 con-stant 1982–84 dollars.

PCI = Disposable income per capita in constant 2000 chained dollars. ENRPOP = Ratio of fall enrollment to the population. SOURCE: U.S. Department of Education, National Center for Education Statistics, Public Elementary and Secondary Education Current Expenditure Projection Model, 1973–74 through 2026-27. (This table was prepared February 2017.)

## A.5. ENROLLMENT IN DEGREE-GRANTING POSTSECONDARY INSTITUTIONS

### **Projections in this edition**

This edition of *Projections of Education Statistics* presents projections of enrollment in degree-granting postsecondary institutions for fall 2016 through fall 2026. Three different models were used to produce these enrollment projections:

- » The *Enrollment in Degree-Granting Institutions Projection Model* produced projections of enrollments by attendance status, level of student, level of institution, control of institution, sex, and age. It also produced projections of full-time-equivalent enrollments by level of student, level of institution, and control of institution.
- » The *Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model* produced projections of enrollments by race/ethnicity.
- » The First-Time Freshmen Projection Model produced projections of enrollments of first-time freshmen by sex.

## **Overview of approach**

### Basic features of the three degree-granting enrollment projection models

The Enrollment in Degree-Granting Institutions Projection Model is the primary model for projecting enrollment in degreegranting postsecondary institutions. For this model, enrollment rates by attendance status and sex are projected for various age categories using either the pooled seemingly unrelated regression method or the pooled seemingly unrelated regression method with a first-order autocorrelation correction. These rates are applied to projections of populations of the same sex and age to produce projections of enrollment by attendance status, sex, and age. To project enrollments by level of student, level of institution, and control of institution, rates for these characteristics are projected using single exponential smoothing and applied to enrollment projections previously produced by the model.

The Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model takes an approach similar to that of the Enrollment in Degree-Granting Institutions Projection Model. Enrollment rates by attendance status, sex, and race/ethnicity are projected for the age categories using either the pooled seemingly unrelated regression method or the pooled seemingly unrelated regression method with a first-order autocorrelation correction. The resulting rates are iteratively corrected to ensure consistency with those projected by the Enrollment in Degree-Granting Institutions Projection Model. The adjusted rates are then applied to projections of populations of the same sex, age, and race/ethnicity.

The First-Time Freshmen Enrollment in Degree-Granting Institutions Projection Model uses single exponential smoothing to project the ratio of freshmen enrollment to undergraduate enrollment separately for males and for females. It then applies the projected ratios to the projections of undergraduate enrollment by sex that were produced by the Enrollment in Degree-Granting Institutions Projection Model.

## The Enrollment in Degree-Granting Institutions Projection Model

The Enrollment in Degree-Granting Institutions Projection Model produces projections of enrollment counts by six levels of detail, as well as projections of full-time-equivalent enrollments by level of student, level of institution, and control of institution.

### Steps used in the Enrollment in Degree-Granting Institutions Projection Model

**Step 1.** Adjust age-specific enrollment counts from the U.S. Census Bureau to make them agree with the more highly aggregated NCES enrollment counts that do not include age. The Enrollment in Degree-Granting Institutions Projection Model projects enrollments by six levels of detail: attendance status, level of student, level of institution, control of institution, sex, and age. While NCES does produce enrollment counts by the first five levels of detail, it does not produce data by the sixth level of detail, age, every year. However, the U.S. Census Bureau does produce annual age-specific enrollment counts.

In step 1, the age distributions from the Census Bureau counts for 2000 to 2016 were applied to the NCES counts to produce a set of enrollment data that breaks enrollments down by age while being consistent with NCES counts. Specifically, the most detailed level of Census Bureau data (by attendance status, level of student, level of institution, control of institution, sex, and age) was iteratively changed using proportions based on the more highly aggregated NCES enrollment numbers to ensure that all sums across this most detailed level of Census enrollment data equaled the more highly aggregated NCES enrollment totals that did not include age.

Step 2. Calculate enrollment rates by attendance status, sex, and age category. The enrollment data were broken up into 14 age categories, with separate age categories for individual ages 14 through 24 as well as for the age groups 25 to 29, 30 to 34, and 35 and over. For each of the 14 age categories, 4 enrollment rates were calculated—part-time male, full-time male, part-time female, and full-time female—resulting in a total of 56 enrollment rates. Each of the 56 enrollment rates was calculated by dividing the enrollment count for that combination of attendance status, sex, and age category by the total population for the corresponding combination of sex and age category. For each combination of attendance and sex, the enrollment rate for the oldest age category was calculated by dividing the enrollment count for those 35 and over by the total population for those 35 to 44.

**Step 3.** Produce projections of enrollment rates by attendance status, sex, and age category. Enrollment rates for most of the age groups were projected using multiple linear regression. However, because enrollment in degree-granting postsecondary institutions is negligible for ages 14, 15, and 16, these ages were not included in the multiple linear regression models. Instead, projections for individual ages 14, 15, and 16 were produced by double exponential smoothing.

The following 11 age categories were modeled: individual ages 17 through 24 and age groups 25 to 29, 30 to 34, and 35 and over. For each of these age categories, enrollment rates by attendance status and sex were produced using four pooled timeseries models—one for each combination of attendance status and sex. Each model was pooled across age categories. Each equation contained two independent variables, which were measures of

- » disposable income; and
- » the unemployment rate.

Either the pooled seemingly unrelated regression method or the pooled seemingly unrelated regression method with a first-order autocorrelation correction was used to estimate each equation.

For more details on the equations used in step 3, the data used to estimate these equations, and their results, see tables A-16 through A-18 on pages 111–113.

**Step 4.** Produce projections of enrollments by attendance status, sex, and age category. For each combination of attendance status, sex, and age category, enrollment projections were produced by multiplying the projected enrollment rate for that combination by projections of the total population with the corresponding combination of sex and age category.

**Step 5.** Add two additional levels of detail—level of student and level of institution—to the projected enrollments by attendance status, sex, and age category. For this step, the 14 age categories used in the previous steps were collapsed into the following 8 categories: ages 14 to 16, 17, 18 and 19, 20 and 21, 22 to 24, 25 to 29, 30 to 34, and 35 and over. Step 5 can be broken into three parts:

First, the historic data were used to calculate the percentage distribution of enrollment by level of student and level of institution for each combination of attendance status, sex, and age category. Because it was assumed that there was no enrollment in 2-year institutions at the postbaccalaureate level, three combinations of student level and institution type were used: undergraduates at 4-year institutions, undergraduates at 2-year institutions, and postbaccalaureate students at 4-year institutions.

Second, for each combination of attendance status, sex, and age category, the percentage distribution by level of student and level of institution was projected using single exponential smoothing. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used in each case. The percentages were then adjusted so the sum of the categories by attendance status, level of student, level of institution, sex, and age category would equal 100 percent.

### For the projected percentage distributions from step 5 and the actual 2015 distributions, see tables A-19 and A-20 on pages 114 and 115.

Third, the projected distributions by level of student and type of institution were applied to the projected enrollments by attendance status, sex, and age category from step 4 to obtain the enrollment projections by attendance status, level of student, level of institution, sex, and age category.

**Step 6.** Add the sixth level of detail—control of institutions—to the projected enrollments in degree-granting postsecondary institutions. In this step, the data on enrollment by age category were not used. Control of institutions was added in the following manner:

First, the historic data were used to calculate the percentage of enrollment in public institutions for each combination of attendance status, level of student, level of institution, and sex.

Second, the percentages of enrollment in public institutions were projected using single exponential smoothing. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used for each percentage.

### For the projected percentages from step 6 and the actual 2015 percentages, see table A-21 on page 116.

Third, the projected percentages were applied to the projected enrollments in each corresponding enrollment combination to obtain projections for public institutions by attendance status, level of student, level of institution, and sex.

Fourth, the projected enrollments for public institutions were subtracted from the total to produce the projected enrollments for private institutions.

**Step 7.** Produce projections of full-time-equivalent enrollment by level of student, level of institution, and control of institution. Full-time-equivalent enrollment represents total full-time and part-time enrollment as if it were enrollment on a full-time basis. It equals the sum of full-time enrollment plus the full-time-equivalent of part-time enrollment. Full-time-equivalent enrollment projections were produced in the following manner:

First, for each combination of level of student, level of institution, and control of institution, the historic data were used to calculate the full-time-equivalent of part-time enrollment as a percentage of part-time enrollment.

Second, for each combination of level of student, level of institution, and control of institution, the full-time equivalent of part-time enrollment as a percentage of part-time enrollment was projected using single exponential smoothing. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used for each percentage.

Third, for each combination of level of student, level of institution, and control of institution, the projected percentages were applied to the projections of part-time enrollment to project the full-time equivalent of the part-time enrollment.

Fourth, the projections of full-time equivalents of part-time enrollment were added to projections of full-time enrollment to obtain projections of full-time-equivalent enrollment.

### Data and equation results for the Enrollment in Degree-Granting Institutions Projection Model

**Enrollment data for degree-granting postsecondary institutions.** Enrollment data for 2000 to 2016 by attendance status, level of student, level of institution, control of institution, and sex came from the NCES Integrated Postsecondary Education Data System (IPEDS). These are universe counts. The U.S. Census Bureau was the source for enrollment estimates for 1981 to 2015 by the characteristics listed above, as well as age of student.

**Population data and projections.** Population counts for 2000 to 2016 came from the U.S. Census Bureau. Population projections for 2017 to 2026 are the Census Bureau's 2014 National Population Projections of the population by sex and age (December 2014), ratio-adjusted to line up with the most recent historical estimates. For more information, see Section A.0. Introduction to Projection Methodology, earlier in this appendix.

**Projections for economic variables.** The economic variables used in developing these projections were from the "U.S. Quarterly Macroeconomic Model: 4th Quarter 2015 Short-Term Baseline Projections" from the economic consulting firm, IHS Global Inc. This set of projections was IHS Global Inc.'s most recent set at the time the education projections in this report were produced.

Data and results for the equations. The following details for the equations are shown on pages 111–116:

- » Table A-16 shows enrollment rates by sex, attendance status, and age for fall 2015 and projected enrollment rates for fall 2021 and fall 2026.
- » Table A-17 shows the estimated equations and model statistics used to project enrollments for men by attendance status, and table A-18 shows the estimated equations and model statistics used to project enrollment rates for women by attendance status. 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, the Breusch-Godfrey Serial Correlation LM test statistic, and residual plots.
- » Table A-19 shows actual and projected percentage distributions of full-time students, and table A-20 shows actual and projected percentage distributions of part-time students.
- » Table A-21 shows actual and projected data for enrollment in public degree-granting institutions as a percentage of total enrollment by sex, attendance status, student level, and level of institution.

### Accuracy of projections for the Enrollment in Degree-Granting Institutions Projection Model

Mean absolute percentage errors (MAPEs) for enrollment in degree-granting institutions were calculated using the last 19 editions of *Projections of Education Statistics*. Table G, below, shows MAPEs for key projections of the Enrollment in Degree-Granting Institutions Model.

## Table G. Mean absolute percentage errors (MAPEs) of projected enrollment in degree-granting postsecondary institutions, by lead time, sex, and level of institution: MAPEs constructed using projections from Projections of Education Statistics to 2007 through Projections of Education Statistics to 2025

				l	_ead tim	e (years)				
Statistic	1	2	3	4	5	6	7	8	9	10
Total enrollment	1.5	2.6	4.0	5.1	5.9	5.9	6.6	7.5	9.0	10.3
Males	1.5	2.7	4.0	5.3	6.3	6.7	7.8	8.9	10.3	11.8
Females	1.7	2.7	4.3	5.1	5.6	5.3	5.8	6.7	8.6	10.3
4-year institutions	1.6	2.6	3.9	5.2	6.4	7.3	8.4	9.8	11.6	12.9
2-year institutions	2.9	4.1	5.7	6.0	5.9	4.4	5.0	6.3	8.5	9.4

NOTE: MAPEs for degree-granting postsecondary institution enrollments were calculated using the last 19 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2007* through *Projections of Education Statistics to 2025*. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared February 2017.)

For more information about MAPEs, see Section A.O. Introduction to Projection Methodology, earlier in this appendix.

### The Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model

The Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model projects enrollments in degree-granting institutions by attendance status, sex, age, and race/ethnicity. The following groups are projected in this model:

- » White;
- » Black;
- » Hispanic;
- » Asian/Pacific Islander;
- » American Indian/Alaska Native; and
- » nonresident alien.

See the glossary for definitions of the five racial/ethnic categories and the nonresident alien category. (The race/ethnicity of nonresident aliens is unknown, but they are considered a separate group for purposes of this analysis.)

### Steps used in the Degree-Granting Institutions by Race/Ethnicity Projection Model

**Step 1.** Adjust U.S. Census Bureau enrollment counts by attendance status, sex, age, and race/ethnicity to make them sum to NCES enrollment counts by attendance status, sex, and race/ethnicity. For 1981 to 2015, the most detailed levels of Census Bureau enrollment data (by enrollment status, sex, age, and race/ethnicity) were iteratively changed using proportions that were based on the more highly aggregated NCES enrollment numbers to ensure that the sums across these most detailed levels of enrollment data equaled the more highly aggregated NCES enrollment numbers that did not include age.

**Step 2.** Calculate enrollment rates by attendance status, sex, age category, and race/ethnicity. The enrollment data were broken up into 14 age categories, with separate age categories for individual ages 14 through 24 as well as for the age groups 25 to 29, 30 to 34, and 35 and over. For each of the 14 age categories, enrollment rates were calculated for each combination of attendance status, sex, and the six racial/ethnic groups, resulting in a total of 336 enrollment rates. Each of the 336 enrollment rates was calculated by dividing the enrollment count for that combination of attendance status, sex, age category, and race/ethnicity by the total population for the corresponding combination of sex, age category, and race/ ethnicity. For each combination of attendance status, sex and racial/ethnic group, the enrollment rate for the oldest age category was calculated by dividing the enrollment count for those 35 and over by the total population for those 35 to 44.

**Step 3.** Produce projections of enrollment rates by attendance status, sex, age category, and race/ethnicity. Enrollment rates for most of the age groups and racial/ethnic groups were projected using multiple linear regression. However, there were several exceptions:

- » Due to negligible enrollments for ages 14, 15, and 16, these ages were not included in the multiple linear regression models. Instead, projections of enrollment rates for individual ages 14, 15, and 16 were produced by single exponential smoothing.
- » Due to the relatively large fluctuations in the historical enrollment rates resulting from small sample sizes, American Indian/Alaska Native enrollments were projected using single exponential smoothing.
- » Since there were no applicable population counts to compute enrollment rates for nonresident aliens, their enrollments were projected using patterns in recent historical growth.

Four racial/ethnic groups were modeled: White, Black, Hispanic, and Asian/Pacific Islander. Eleven age categories were modeled: individual ages 17 through 24 and age groups 25 to 29, 30 to 34, and 35 to 44. For each of the age categories, projected enrollment rates by attendance status, sex, and race/ethnicity were produced using 16 pooled time-series models—one for each combination of attendance status, sex, and the four racial/ethnic groups. Each equation included variables measuring

- » recent trends;
- » economic conditions (such as disposable income); and
- » demographic changes.

For more information on the equations used to project enrollment rates for the combinations of attendance status, sex, and race/ ethnicity, see tables A-22 through A-29, under "Data and equations used for the Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model," below.

The final set of projected rates by attendance status, sex, age, and race/ethnicity were controlled to enrollment rates by attendance status, sex, and age produced by the Enrollment in Degree-Granting Institutions Projection Model to ensure consistency across models.

**Step 4.** Produce projections of enrollments by attendance status, sex, age category, and race/ethnicity. For each combination of attendance status, sex, age category, and race/ethnicity, enrollment projections were produced by multiplying the projected enrollment rate for that combination by projections of the total population with the corresponding combination of sex, age category, and race/ethnicity.

## Data and equations used for the Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model

**Enrollment data for degree-granting institutions by race/ethnicity.** Enrollment data for 1981 to 2015 by attendance status, sex, and race/ethnicity came from the NCES Integrated Postsecondary Education Data System (IPEDS). These are universe counts. The U.S. Census Bureau, Current Population Survey was the source for enrollment estimates for 1981 to 2015 by the characteristics listed above, as well as age of student.

**Population data and projections by race/ethnicity.** Population counts for 1981 to 2015 came from the U.S. Census Bureau, Population Estimates series. Population projections for 2016 to 2026 are the Census Bureau's 2014 National Population Projections of the population by sex, age and race/ethnicity (December 2014), ratio-adjusted to line up with most recent historical estimates.

**Projections for economic variables.** The economic variables used in developing these projections were from the "U.S. Quarterly Macroeconomic Model: November 2016 Short-Term Baseline Projections" from the economic consulting firm, IHS Global Inc. This set of projections was IHS Global Inc.'s most recent set at the time the education projections in this report were produced.

**Estimated equations and model statistics.** Tables A-22 through A-29 show the estimated equations and model statistics used to project enrollment rates for the various combinations of attendance status, sex, and race/ethnicity.

### Accuracy of projections for the Degree-Granting Institutions by Race/Ethnicity Projection Model

Mean absolute percentage errors (MAPEs) for enrollment in degree-granting institutions by race/ethnicity were calculated using the last 11 editions of *Projections of Education Statistics*. Table H, below, shows MAPEs for key projections of the Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model.

# Table H. Mean absolute percentage errors (MAPEs) of projected enrollment in degree-granting postsecondary institutions, by lead time and race/ethnicity: MAPEs constructed using projections from Projections of Education Statistics to 2015 through Projections of Education Statistics to 2025

					Lead tim	ne (years	;)			
Statistic	1	2	3	4	5	6	7	8	9	10
Total enrollment	1.5	2.6	4.0	5.1	5.9	5.9	6.6	7.5	9.0	10.3
White	2.2	4.2	6.2	7.4	7.6	6.4	6.1	5.7	7.4	9.1
Black	3.5	7.9	11.7	14.9	14.9	13.4	9.8	6.3	3.8	1.7
Hispanic	3.8	6.3	8.7	11.6	14.6	16.5	18.8	20.2	20.4	19.7
Asian/Pacific Islander	3.3	5.6	6.4	8.0	8.7	9.4	9.6	9.4	9.9	11.8
American Indian/Alaska Native	5.4	7.7	12.0	15.7	19.1	24.8	31.3	40.6	44.1	49.2

NOTE: MAPEs for total degree-granting postsecondary institution enrollments were calculated using the last 19 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2007* through *Projections of Education Statistics to 2025*. MAPEs for degree-granting postsecondary institution enrollment by race/ethnicity were calculated using the last 11 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2015* through *Projections of Education Statistics to 2025*. 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, Projections of Education Statistics, various issues. (This table was prepared February 2017.)

## The First-Time Freshmen Enrollment in Degree-Granting Institutions Projection Model

The First-Time Freshmen Enrollment in Degree-Granting Institutions Projection Model produced projections of first-time freshmen enrollment in degree-granting institutions by sex.

### Steps used in the First-Time Freshmen Enrollment in Degree-Granting Institutions Projection Model

The projections were produced in the following manner:

*Step 1. Calculate the ratio of first-time freshmen enrollment to undergraduate enrollment.* For 1975 to 2015, the ratio of first-time freshmen enrollment to undergraduate enrollment was calculated for males and females.

**Step 2.** Project the ratio of first-time freshmen enrollment to undergraduate enrollment. The percentages of undergraduate enrollment for both males and females were projected using single exponential smoothing. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used for each percentage.

*Step 3. Apply the projected ratio to projected undergraduate enrollment.* The projected ratios were applied to projections of undergraduate enrollment by sex from the Enrollment in Degree-Granting Institutions Model to yield projections of first-time freshmen enrollment.

### Assumptions underlying this method

This method assumes that the future pattern in the trend of first-time freshmen enrollment will be the same as that for undergraduate enrollment.

### Data used in the First-Time Freshmen Enrollment in Degree-Granting Institutions Projection Model

**Undergraduate and freshmen enrollment data for degree-granting institutions.** Undergraduate and freshmen enrollment data by sex for 1975 to 2015 came from the NCES Integrated Postsecondary Education Data System (IPEDS).

**Projections of undergraduate enrollment.** Projections of undergraduate enrollment by sex came from the Enrollment in Degree-Granting Institutions Model, discussed earlier in this section of appendix A.

### Accuracy of projections for the First-Time Freshmen Enrollment Projection Model

Mean absolute percentage errors (MAPEs) for enrollment in degree-granting institutions by race/ethnicity were calculated using the last seven editions of *Projections of Education Statistics*. Table I, below, shows MAPEs for key projections of the First-Time Freshmen Enrollment in Degree-Granting Institutions Model.

# Table I.Mean absolute percentage errors (MAPEs) of projected first-time freshmen enrollment in degree-granting<br/>postsecondary institutions, by lead time and sex: MAPEs constructed using projections from Projections of<br/>Education Statistics to 2018 through Projections of Education Statistics to 2025

	Lead time (years)									
Statistic	1	2	3	4	5	6	7	8	9	10
Total first-time freshmen enrollment	3.0	5.3	7.2	8.4	8.2	7.2	6.2	5.7	_	_
Males	2.9	5.0	6.6	7.4	7.2	6.0	3.1	1.2	_	_
Females	3.3	5.6	7.8	9.2	9.4	9.7	8.9	9.6	_	_

Not available.

NOTE: MAPEs for first-time freshmen enrollment in degree-granting postsecondary institutions were calculated using the last 8 editions of

Projections of Education Statistics, from Projections of Education Statistics to 2018 through Projections of Education Statistics to 2025. 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, Projections of Education Statistics, various issues. (This table was prepared February 2017.)

## Table A-16. Actual and projected enrollment rates of all students at degree-granting postsecondary institutions, by sex, attendance status, and age: Fall 2015, fall 2021, and fall 2026

		Proje	ected
Sex, attendance status, and age	Actual 2015	2021	2026
1	2	3	4
Males			
Full-time			
16 years old	0.6	0.7	0.7
17 years old	2.7	2.7	2.5
18 years old	30.0	32.3	33.3
19 years old	35.5	38.1	39.3
20 years old	39.4	42.7	44.6
21 years old	32.3	33.9	34.2
22 years old	24.1	26.1	27.0
23 years old	14.9	16.7	17.8
24 years old	10.8	11.8	12.2
25 to 29 years old	5.8	6.1	6.2
30 to 34 years old	2.2	2.3	2.3
35 to 44 years old	1.7	1.7	1.6
Part-time			
	<u>и</u>	0.1	0.1
16 years old	0.9		1.0
17 years old		0.9 7.3	7.6
18 years old	6.9		-
19 years old	11.3	11.7	12.1
20 years old	10.3	10.5	10.7
21 years old	11.1	11.7	12.2
22 years old	7.1	7.6	7.9 9.8
23 years old	8.8	9.3	
24 years old	7.3	7.8	8.2
25 to 29 years old	5.7	6.1	6.3
30 to 34 years old	3.5	3.5	3.5
35 to 44 years old	3.3	3.3	3.3
Females			
Full-time			
16 years old	0.5	0.6	0.6
17 years old	3.6	4.3	4.7
18 years old	36.1	40.2	42.4
19 years old	48.2	50.3	50.6
20 years old	49.2	53.0	54.8
21 years old	38.8	41.1	41.5
22 years old	23.4	26.4	28.0
23 years old	22.1	24.9	26.4
24 years old	12.3	14.1	15.2
25 to 29 years old	6.8	7.5	7.6
30 to 34 years old	3.4	3.6	3.6
35 to 44 years old	2.8	3.0	2.9
Part-time			
	#	0.1	0.1
16 years old 17 years old	0.3	0.1 0.4	0.1
	8.0		8.9
18 years old 19 years old	12.8	8.5 13.6	14.5
	12.0	13.0	14.5
20 years old	13.4	13.7	14.1
21 years old			-
22 years old	9.2	10.0	10.7
23 years old	10.7	11.7	12.5
24 years old	7.3	8.2	8.8
25 to 29 years old	8.4	9.1	9.7
30 to 34 years old	5.1	5.4	5.5
35 to 44 years old	7.0	7.4	7.6

#Rounds to zero. SOURCE: U.S. Department of Education, National Center for Education Statistics, Inte-grated Postsecondary Education Data System, Spring 2015; Enrollment in Degree-Granting

Institutions Projection Model, 1980 through 2026; and U.S. Department of Commerce, Cen-sus Bureau, Current Population Reports, "Social and Economic Characteristics of Students," 2015. (This table was prepared February 2017.)

### Table A-17. Estimated equations and model statistics for full-time and part-time enrollment rates of males at degree-granting postsecondary institutions based on data from 2000 to 2015

Independent variable	Coefficient	Standard error	t-statistic	$R^2$	D.W. statistic
1	2	3	4	5	6
Full-time					
Intercept term for 17-year-olds	-9.99	0.222	-45.06	1.00	2.01*
Intercept term for 18-year-olds	-7.08	0.217	-32.58		
Intercept term for 19-year-olds	-6.66	0.217	-30.73		
Intercept term for 20-year-olds	-6.61	0.218	-30.29		
Intercept term for 21-year-olds	-6.75	0.218	-30.91		
Intercept term for 22-year-olds	-7.23	0.219	-33.07		
Intercept term for 23-year-olds	-7.72	0.218	-35.34		
Intercept term for 24-year-olds	-7.96	0.219	-36.35		
Intercept term for 25- to 29-year-olds	-8.61	0.220	-39.10		
Intercept term for 30- to 34-year-olds	-9.54	0.221	-43.11		
Intercept term for 35- to 44-year-olds	-10.03	0.222	-45.19		
Log of three-period weighted average of per capita					
disposable income in 2000 dollars, using the					
present period and the previous two periods	1.08	0.034	31.61		
Log age-specific unemployment rate for men	0.30	0.008	35.60		
Part-time					
Intercept term for 17-year-olds	-11.23	0.556	-20.18	0.95	2.07*
Intercept term for 18-year-olds	-8.87	0.554	-16.02		
Intercept term for 19-year-olds	-8.37	0.555	-15.09		
Intercept term for 20-year-olds	-8.25	0.553	-14.92		
Intercept term for 21-year-olds	-8.38	0.556	-15.08		
Intercept term for 22-year-olds	-8.62	0.556	-15.51		
Intercept term for 23-year-olds	-8.62	0.554	-15.57		
Intercept term for 24-year-olds	-8.78	0.554	-15.84		
Intercept term for 25- to 29-year-olds	-9.19	0.552	-16.64		
Intercept term for 30- to 34-year-olds	-9.69	0.552	-17.54		
Intercept term for 35- to 44-year-olds	-9.61	0.552	-17.41		
Log of three-period weighted average of per capita					
disposable income in 2000 dollars, using the					
present period and the previous two periods	0.65	0.061	10.62		
Log unemployment rate	0.20	0.022	9.05		

\* p < .05. NOTE:  $R^2$  = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). Econometric Methods, New York: McGraw-Hill. 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 both equations is from 2000 to 2015 and the number of observations is 176. For additional information, see Intriligator, M.D. (1978). *Economet-ric Models, Techniques, & Applications.* New Jersey: Prentice-Hall, Inc., pp. 165–173. SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. (This table was pre-pared April 2017.)

### Table A-18. Estimated equations and model statistics for full-time and part-time enrollment rates of females at degree-granting postsecondary institutions based on data from 2000 to 2015

Independent variable	Coefficient	Standard error	t-statistic	$R^2$	D.W. statistic
1	2	3	4	5	6
Full-time					
Intercept term for 17-year-olds	-10.60	0.286	-37.12	1.00	2.05*
Intercept term for 18-year-olds	-7.59	0.284	-26.75		
Intercept term for 19-year-olds	-7.18	0.283	-25.37		
Intercept term for 20-year-olds	-7.20	0.286	-25.15		
Intercept term for 21-year-olds	-7.41	0.286	-25.92		
Intercept term for 22-year-olds	-8.02	0.286	-28.07		
Intercept term for 23-year-olds	-8.45	0.286	-29.51		
Intercept term for 24-year-olds	-8.82	0.286	-30.84		
Intercept term for 25- to 29-year-olds	-9.39	0.288	-32.55		
Intercept term for 30- to 34-year-olds	-10.17	0.290	-35.10		
Intercept term for 35- to 44-year-olds	-10.41	0.290	-35.93		
Log of three-period weighted average of per capita		0.200	00.00		
disposable income in 2000 dollars, using the					
present period and the previous two periods	1.28	0.044	28.84		
Log age-specific unemployment rate for women	0.36	0.014	26.30		
Part-time					
Intercept term for 17-year-olds	-14.41	0.812	-17.76	0.92	2.29~
Intercept term for 18-year-olds	-11.34	0.770	-14.73		
Intercept term for 19-year-olds	-10.59	0.770	-13.76		
Intercept term for 20-year-olds	-10.72	0.771	-13.91		
Intercept term for 21-year-olds	-10.75	0.770	-13.97		
Intercept term for 22-year-olds	-10.99	0.770	-14.28		
Intercept term for 23-year-olds	-11.07	0.770	-14.38		
Intercept term for 24-year-olds	-11.17	0.770	-14.51		
Intercept term for 25- to 29-year-olds	-11.58	0.769	-15.06		
Intercept term for 30- to 34-year-olds	-12.04	0.769	-15.65		
Intercept term for 35- to 44-year-olds	-11.72	0.769	-15.25		
Log of three-period weighted average of per capita	=	0.1.00			
disposable income in 2000 dollars, using the					
present period and the previous two periods	0.96	0.085	11.34		
Log unemployment rate	0.13	0.031	4.17		

\* p < .05. ~Inconclusive. NOTE:  $R^2$  = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*, New York: McGraw-Hill. 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 both equations is from 2000 to 2015 and the num-ber of observations is 176. For additional information, see Intriligator, M.D. (1978). *Economet-ric Models, Techniques, & Applications.* New Jersey: Prentice-Hall, Inc., pp. 165–173. SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Projection Model, 2000 through 2026. (This table was pre-pared April 2017.)

## Table A-19. Actual and projected percentages of full-time students at degree-granting postsecondary institutions, by sex, age group, student level, and level of institution: Fall 2015, and fall 2016 through fall 2026

	Ма	les	Fema	ales
Age group, student level, and level of institution	Actual 2015	Projected 2016 through 2026	Actual 2015	Projected 2016 through 2026
1	2	3	4	5
18 and 19 years old Undergraduate, 4-year institutions Undergraduate, 2-year institutions Postbaccalaureate, 4-year institutions	68.7 30.9 0.3	67.3 32.3 0.4	75.1 24.9 #	72.0 28.0 0.1
20 and 21 years old Undergraduate, 4-year institutions Undergraduate, 2-year institutions Postbaccalaureate, 4-year institutions	79.8 17.9 2.3	77.1 20.2 2.7	78.8 19.1 2.1	79.5 18.3 2.2
22 to 24 years old Undergraduate, 4-year institutions Undergraduate, 2-year institutions Postbaccalaureate, 4-year institutions	67.6 12.5 20.0	65.0 15.7 19.3	62.2 14.2 23.6	60.1 17.6 22.3
25 to 29 years old Undergraduate, 4-year institutions Undergraduate, 2-year institutions Postbaccalaureate, 4-year institutions	41.7 17.8 40.5	43.3 18.3 38.4	42.6 19.4 38.0	42.7 21.3 36.0
<b>30 to 34 years old</b> Undergraduate, 4-year institutions Undergraduate, 2-year institutions Postbaccalaureate, 4-year institutions	50.0 14.1 35.9	48.1 15.3 36.6	45.1 21.6 33.3	43.0 25.9 31.1
<b>35 years and over</b> Undergraduate, 4-year institutions Undergraduate, 2-year institutions Postbaccalaureate, 4-year institutions	45.0 23.5 31.5	41.7 24.7 33.6	48.0 22.4 29.6	42.7 29.3 28.0

#Rounds to zero.

NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Spring 2015; Enrollment in Degree-Granting Institutions Projection Model, 1980 through 2026; and U.S. Department of Commerce, Census Bureau, Current Population Reports, "Social and Economic Characteristics of Students," 2015. (This table was prepared February 2017.)

## Table A-20. Actual and projected percentages of part-time students at degree-granting postsecondary institutions, by sex, age group, student level, and level of institution: Fall 2015, and fall 2016 through fall 2026

	Male	S	Females			
Age, student level, and level of institution	Actual 2015	Projected 2016 through 2026	Actual 2015	Projected 2016 through 2026		
1	2	3	4	5		
18 and 19 years old Undergraduate, 4-year institutions Undergraduate, 2-year institutions Postbaccalaureate, 4-year institutions	23.9 76.1 #	20.3 79.7 #	15.8 84.2 #	19.6 80.3 0.1		
20 and 21 years old Undergraduate, 4-year institutions Undergraduate, 2-year institutions Postbaccalaureate, 4-year institutions	21.5 75.9 2.7	26.2 71.7 2.1	31.4 66.0 2.6	28.1 70.7 1.3		
22 to 24 years old Undergraduate, 4-year institutions Undergraduate, 2-year institutions Postbaccalaureate, 4-year institutions	40.3 51.6 8.1	37.0 55.3 7.7	44.3 41.0 14.6	40.5 47.3 12.2		
25 to 29 years old Undergraduate, 4-year institutions Undergraduate, 2-year institutions Postbaccalaureate, 4-year institutions	39.8 46.8 13.4	33.4 47.6 19.1	35.0 41.1 23.9	30.4 48.7 20.8		
<b>30 to 34 years old</b> Undergraduate, 4-year institutions Undergraduate, 2-year institutions Postbaccalaureate, 4-year institutions	35.4 37.3 27.4	33.5 41.6 24.9	35.5 46.0 18.5	31.0 46.3 22.7		
<b>35 years and over</b> Undergraduate, 4-year institutions Undergraduate, 2-year institutions Postbaccalaureate, 4-year institutions	29.9 37.0 33.1	30.9 40.9 28.2	27.7 47.6 24.7	29.5 45.5 24.9		

#Rounds to zero. NOTE: Detail may not sum to totals because of rounding. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Spring 2015; Enrollment in Degree-Granting Institutions Projection Model, 1980 through 2026; and U.S. Department of Commerce, Census Bureau, Current Population Reports, "Social and Economic Characteristics of Students," 2015. (This table was prepared February 2017.)

#### Table A-21. Actual and projected enrollment in public degree-granting postsecondary institutions as a percentage of total postsecondary enrollment, by sex, attendance status, student level, and level of institution: Fall 2015, and fall 2016 through fall 2026

Attendance status, student	Ма	les	Females			
level, and level of institution	Actual 2015	Projected 2016 through 2026	Actual 2015	Projected 2016 through 2026		
Full-time, undergraduate, 4-year institutions	67.2	67.2	63.7	63.6		
Part-time, undergraduate, 4-year institutions	70.0	70.0	65.3	65.3		
Full-time, undergraduate, 2-year institutions	92.9	92.9	88.5	88.5		
Part-time, undergraduate, 2-year institutions	99.5	99.4	98.8	98.7		
Full-time, postbaccalaureate, 4-year institutions	49.6	49.6	45.8	45.8		
Part-time, postbaccalaureate, 4-year institutions	51.9	51.9	48.1	48.1		

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Spring 2016; and Enrollment in DegreeGranting Institutions Projection Model, 1980 through 2026. (This table was prepared February 2017.)

### Table A-22. Estimated equations and model statistics for full-time and part-time enrollment rates of White males at degree-granting postsecondary institutions based on data from 1980 to 2015

Independent variable	Coefficient	Standard error	t-statistic	R <sup>2</sup>	D.W. statistic
1	2	3	4	5	6
Full-time					
Intercept term for 17-year-olds	-9.22	0.279	-32.98	0.99	1.58*
Intercept term for 18-year-olds	-6.24	0.270	-23.09		
Intercept term for 19-year-olds	-5.96	0.268	-22.26		
Intercept term for 20-year-olds	-6.13	0.268	-22.86		
Intercept term for 21-year-olds	-6.26	0.268	-23.34		
Intercept term for 22-year-olds	-6.76	0.268	-25.20		
Intercept term for 23-year-olds	-7.32	0.268	-27.28		
Intercept term for 24-year-olds	-7.70	0.270	-28.54		
Intercept term for 25- to 29-year-olds	-8.55	0.268	-31.84		
Intercept term for 30- to 34-year-olds	-9.58	0.270	-35.47		
Intercept term for 35- to 44-year-olds	-10.19	0.271	-37.60		
Log of White per capita disposable income					
in current dollars	0.29	0.014	20.89		
Part-time					
Intercept term for 17-year-olds	-5.10	0.506	-10.09	0.86	1.81*
Intercept term for 18-year-olds	-1.54	0.120	-12.78		
Intercept term for 19-year-olds	-1.07	0.126	-8.45		
Intercept term for 20-year-olds	-1.01	0.117	-8.59		
Intercept term for 21-year-olds	-1.04	0.118	-8.84		
Intercept term for 22-year-olds	-1.26	0.118	-10.71		
Intercept term for 23-year-olds	-1.30	0.115	-11.38		
Intercept term for 24-year-olds	-1.34	0.113	-11.91		
Intercept term for 25- to 29-year-olds	-1.66	0.111	-14.96		
Intercept term for 30- to 34-year-olds	-2.12	0.113	-18.81		
Intercept term for 35- to 44-year-olds	-2.15	0.110	-19.60		
Log of real total private compensation					
employment cost index	1.48	0.146	10.11		

\* p < .05. NOTE:  $R^2$  = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). Econometric Methods. New York: McGraw-Hill. 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 2015. The number of observations is 396. For additional information, see Intriligator, M.D. (1978). Econometric Models, Techniques, & Applications. New Jersey: Prentice-Hall, Inc., pp. 165–173. Race cat-egories exclude persons of Hispanic ethnicity.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, 1980 through 2026. (This table was prepared February 2017.)

#### Table A-23. Estimated equations and model statistics for full-time and part-time enrollment rates of White females at degree-granting postsecondary institutions based on data from 1980 to 2015

Independent variable	Coefficient	Standard error	t-statistic	R <sup>2</sup>	D.W. statistic
1	2	3	4	5	6
Full-time					
Intercept term for 17-year-olds	-12.93	0.442	-29.23	0.99	1.75*
Intercept term for 18-year-olds	-9.98	0.435	-22.96		
Intercept term for 19-year-olds	-9.80	0.433	-22.61		
Intercept term for 20-year-olds	-10.02	0.434	-23.12		
Intercept term for 21-year-olds	-10.26	0.434	-23.65		
Intercept term for 22-year-olds	-10.99	0.434	-25.34		
Intercept term for 23-year-olds	-11.53	0.435	-26.53		
Intercept term for 24-year-olds	-11.92	0.435	-27.43		
Intercept term for 25- to 29-year-olds	-12.72	0.434	-29.31		
Intercept term for 30- to 34-year-olds	-13.46	0.434	-31.03		
Intercept term for 35- to 44-year-olds	-13.65	0.434	-31.46		
Log of White per capita disposable income					
in current dollars	0.50	0.022	22.51		
Part-time					
Intercept term for 17-year-olds	-10.15	0.393	-25.81	0.70	1.86*
Intercept term for 18-year-olds	-6.58	0.318	-20.72		
Intercept term for 19-year-olds	-6.08	0.319	-19.06		
Intercept term for 20-year-olds	-6.17	0.319	-19.34		
Intercept term for 21-year-olds	-6.23	0.318	-19.57		
Intercept term for 22-year-olds	-6.44	0.317	-20.35		
Intercept term for 23-year-olds	-6.50	0.318	-20.48		
Intercept term for 24-year-olds	-6.54	0.316	-20.70		
Intercept term for 25- to 29-year-olds	-6.85	0.315	-21.75		
Intercept term for 30- to 34-year-olds	-7.24	0.317	-22.86		
Intercept term for 35- to 44-year-olds	-6.90	0.315	-21.90		
Log of real total private compensation					
employment cost index	0.22	0.016	13.82		

\* p < .05. NOTE:  $R^2$  = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for NOTE: P<sup>+</sup> = Coemident of determination. D.W. statistic = Durbin-Vatison statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. 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 2015. The number of observations is 396. For additional information, see Intriligator, M.D. (1978). *Econometric Models, Techniques, & Applications*. New Jersey: Prentice-Hall, Inc., pp. 165–173. Race cat-

egories exclude persons of Hispanic ethnicity. SOURCE: U.S. Department of Education, National Center for Education Statistics, Enroll-ment in Degree-Granting Institutions by Race/Ethnicity Projection Model, 1980 through 2026. (This table was prepared February 2017.)

## Table A-24. Estimated equations and model statistics for full-time and part-time enrollment rates of Black males at degree-granting postsecondary institutions based on data from 1980 to 2015

Independent variable	Coefficient	Standard error	t-statistic	R <sup>2</sup>	D.W. statistic
1	2	3	4	5	6
Full-time					
Intercept term for 17-year-olds	-11.25	0.639	-17.61	0.94	1.83*
Intercept term for 18-year-olds	-9.00	0.633	-14.22		
Intercept term for 19-year-olds	-8.71	0.633	-13.77		
Intercept term for 20-year-olds	-8.77	0.633	-13.86		
Intercept term for 21-year-olds	-9.02	0.634	-14.22		
Intercept term for 22-year-olds	-9.22	0.634	-14.54		
Intercept term for 23-year-olds	-9.69	0.636	-15.23		
Intercept term for 24-year-olds	-9.95	0.634	-15.69		
Intercept term for 25- to 29-year-olds	-10.73	0.634	-16.91		
Intercept term for 30- to 34-year-olds	-11.55	0.637	-18.12		
Intercept term for 35- to 44-year-olds	-11.84	0.636	-18.61		
Log of Black per capita disposable income	-				
in current dollars	0.40	0.034	11.75		
Part-time					
Intercept term for 17-year-olds	-12.92	0.721	-17.93	0.51	1.96*
Intercept term for 18-year-olds	-11.40	0.558	-20.43		
Intercept term for 19-year-olds	-10.65	0.550	-19.35		
Intercept term for 20-year-olds	-10.59	0.551	-19.23		
Intercept term for 21-year-olds	-10.52	0.545	-19.31		
Intercept term for 22-year-olds	-10.62	0.552	-19.26		
Intercept term for 23-year-olds	-10.74	0.555	-19.37		
Intercept term for 24-year-olds	-10.85	0.556	-19.52		
Intercept term for 25- to 29-year-olds	-10.96	0.543	-20.18		
Intercept term for 30- to 34-year-olds	-11.22	0.542	-20.71		
Intercept term for 35- to 44-year-olds	-11.24	0.540	-20.82		
Log of Black per capita disposable income					
in current dollars	0.42	0.029	14.38		

\* p < .05. NOTE:  $B^2 =$ Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. 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 2015. The number of observations is 396. For additional information, see Intriligator, M.D. (1978). *Econometric Models, Techniques, & Applications.* New Jersey: Prentice-Hall, Inc., pp. 165–173. Race categories exclude persons of Hispanic ethnicity.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, 1980 through 2026. (This table was prepared February 2017.)

#### Table A-25. Estimated equations and model statistics for full-time and part-time enrollment rates of Black females at degree-granting postsecondary institutions based on data from 1980 to 2015

Independent variable	Coefficient	Standard error	t-statistic	$R^2$	D.W. statistic
1	2	3	4	5	6
Full-time					
Intercept term for 17-year-olds	-14.44	0.627	-23.04	0.96	1.80*
Intercept term for 18-year-olds	-12.17	0.620	-19.64		
Intercept term for 19-year-olds	-11.91	0.619	-19.25		
Intercept term for 20-year-olds	-12.15	0.619	-19.61		
Intercept term for 21-year-olds	-12.33	0.619	-19.93		
Intercept term for 22-year-olds	-12.76	0.619	-20.62		
Intercept term for 23-year-olds	-13.04	0.620	-21.04		
Intercept term for 24-year-olds	-13.41	0.621	-21.60		
Intercept term for 25- to 29-year-olds	-14.13	0.621	-22.77		
Intercept term for 30- to 34-year-olds	-14.61	0.620	-23.56		
Intercept term for 35- to 44-year-olds	-14.94	0.621	-24.05		
Log of Black per capita disposable income					
in current dollars	0.60	0.033	18.19		
Part-time					
Intercept term for 17-year-olds	-13.92	0.846	-16.46	0.46	1.85*
Intercept term for 18-year-olds	-11.88	0.828	-14.34		
Intercept term for 19-year-olds	-11.37	0.827	-13.75		
Intercept term for 20-year-olds	-11.33	0.826	-13.71		
Intercept term for 21-year-olds	-11.27	0.825	-13.67		
Intercept term for 22-year-olds	-11.29	0.824	-13.69		
Intercept term for 23-year-olds	-11.36	0.824	-13.78		
Intercept term for 24-year-olds	-11.48	0.825	-13.91		
Intercept term for 25- to 29-year-olds	-11.62	0.821	-14.15		
Intercept term for 30- to 34-year-olds	-11.79	0.821	-14.35		
Intercept term for 35- to 44-year-olds	-11.59	0.821	-14.12		
Log of Black per capita disposable income					
in current dollars	0.48	0.044	10.93		

\* p < .05. NOTE:  $R^2$  = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for NOTE: P<sup>+</sup> = Coemident of determination. D.W. statistic = Durbin-Vatison statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. 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 2015. The number of observations is 396. For additional information, see Intriligator, M.D. (1978). Econometric Models, Techniques, & Applications. New Jersey: Prentice-Hall, Inc., pp. 165–173. Race cat-

egories exclude persons of Hispanic ethnicity. SOURCE: U.S. Department of Education, National Center for Education Statistics, Enroll-ment in Degree-Granting Institutions by Race/Ethnicity Projection Model, 1980 through 2026. (This table was prepared February 2017.)

### Table A-26. Estimated equations and model statistics for full-time and part-time enrollment rates of Hispanic males at degree-granting postsecondary institutions based on data from 1980 to 2015

Independent variable	Coefficient	Standard error	t-statistic	$R^2$	D.W. statistic
1	2	3	4	5	6
Full-time					
Intercept term for 17-year-olds	-12.73	0.755	-16.87	0.92	1.89*
Intercept term for 18-year-olds	-10.61	0.749	-14.16		
Intercept term for 19-year-olds	-10.39	0.749	-13.86		
Intercept term for 20-year-olds	-10.56	0.750	-14.09		
Intercept term for 21-year-olds	-10.79	0.751	-14.37		
Intercept term for 22-year-olds	-11.24	0.751	-14.98		
Intercept term for 23-year-olds	-11.54	0.751	-15.37		
Intercept term for 24-year-olds	-11.74	0.750	-15.64		
Intercept term for 25- to 29-year-olds	-12.55	0.751	-16.71		
Intercept term for 30- to 34-year-olds	-13.40	0.751	-17.84		
Intercept term for 35- to 44-year-olds	-13.88	0.753	-18.44		
Log of Hispanic per capita disposable income					
in current dollars	0.48	0.041	11.70		
Part-time					
Intercept term for 17-year-olds	-12.68	0.740	-17.12	0.59	1.75*
Intercept term for 18-year-olds	-10.52	0.571	-18.43		
Intercept term for 19-year-olds	-10.17	0.573	-17.75		
Intercept term for 20-year-olds	-10.04	0.571	-17.59		
Intercept term for 21-year-olds	-10.08	0.571	-17.66		
Intercept term for 22-year-olds	-10.48	0.570	-18.40		
Intercept term for 23-year-olds	-10.44	0.575	-18.18		
Intercept term for 24-year-olds	-10.68	0.570	-18.72		
Intercept term for 25- to 29-year-olds	-10.94	0.564	-19.41		
Intercept term for 30- to 34-year-olds	-11.48	0.567	-20.26		
Intercept term for 35- to 44-year-olds	-11.45	0.563	-20.34		
Log of Hispanic per capita disposable income					
in current dollars	0.41	0.031	13.48		

\* p < .05. NOTE:  $R^2$  = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. 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 2015. The number of

observations is 396. For additional information, see Intriligator, M.D. (1978). Econometric Models, Techniques, & Applications. New Jersey: Prentice-Hall, Inc., pp. 165-173.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, 1980 through 2026. (This table was prepared February 2017.)

#### Table A-27. Estimated equations and model statistics for full-time and part-time enrollment rates of Hispanic females at degree-granting postsecondary institutions based on data from 1980 to 2015

Independent variable	Coefficient	Standard error	t-statistic	R <sup>2</sup>	D.W. statistic
1	2	3	4	5	6
Full-time					
Intercept term for 17-year-olds	-17.91	0.685	-26.15	0.92	1.90*
Intercept term for 18-year-olds	-15.39	0.674	-22.83		
Intercept term for 19-year-olds	-15.25	0.673	-22.65		
Intercept term for 20-year-olds	-15.55	0.674	-23.07		
Intercept term for 21-year-olds	-15.67	0.674	-23.23		
Intercept term for 22-year-olds	-16.28	0.675	-24.12		
Intercept term for 23-year-olds	-16.56	0.675	-24.51		
Intercept term for 24-year-olds	-17.03	0.677	-25.14		
Intercept term for 25- to 29-year-olds	-17.69	0.673	-26.28		
Intercept term for 30- to 34-year-olds	-18.37	0.675	-27.21		
Intercept term for 35- to 44-year-olds	-18.74	0.676	-27.71		
Log of Hispanic per capita disposable income					
in current dollars	0.77	0.037	21.03		
Part-time					
Intercept term for 17-year-olds	-14.85	0.654	-22.70	0.60	2.00*
Intercept term for 18-year-olds	-12.76	0.635	-20.09		
Intercept term for 19-year-olds	-12.37	0.636	-19.46		
Intercept term for 20-year-olds	-12.62	0.637	-19.79		
Intercept term for 21-year-olds	-12.46	0.637	-19.58		
Intercept term for 22-year-olds	-12.79	0.637	-20.07		
Intercept term for 23-year-olds	-12.71	0.634	-20.06		
Intercept term for 24-year-olds	-12.96	0.636	-20.40		
Intercept term for 25- to 29-year-olds	-13.29	0.630	-21.10		
Intercept term for 30- to 34-year-olds	-13.69	0.630	-21.72		
Intercept term for 35- to 44-year-olds	-13.58	0.630	-21.56		
Log of Hispanic per capita disposable income					
in current dollars	0.56	0.034	16.42		

\* p < .05. NOTE:  $R^2$  = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for NOTE: P<sup>+</sup> = Coemident of determination. D.W. statistic = Durbin-Vatison statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. 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 2015. The number of observations is 396. For additional information, see Intriligator, M.D. (1978). *Econometric Models, Techniques, & Applications*. New Jersey: Prentice-Hall, Inc., pp. 165–173. SOURCE: U.S. Department of Education, National Center for Education Statistics, Enroll-ment in Degree-Granting Institutions by Race/Ethnicity Projection Model, 1980 through 2026. (This table was prepared February 2017.)

### Table A-28. Estimated equations and model statistics for full-time and part-time enrollment rates of Asian/Pacific Islander males at degreegranting postsecondary institutions based on data from 1989 to 2015

Independent variable	Coefficient	Standard error	t-statistic	$R^2$	D.W. statistic
1	2	3	4	5	6
Full-time					
Intercept term for 17-year-olds	-3.75	0.577	-14.87	0.94	1.95*
Intercept term for 18-year-olds	-1.04	0.566	-10.11		
Intercept term for 19-year-olds	-0.79	0.568	-9.69		
Intercept term for 20-year-olds	-0.83	0.575	-9.94		
Intercept term for 21-year-olds	-0.81	0.575	-9.87		
Intercept term for 22-year-olds	-1.18	0.576	-10.48		
Intercept term for 23-year-olds	-1.47	0.577	-10.88		
Intercept term for 24-year-olds	-1.76	0.577	-11.46		
Intercept term for 25- to 29-year-olds	-2.52	0.587	-13.19		
Intercept term for 30- to 34-year-olds	-3.56	0.589	-14.98		
Intercept term for 35- to 44-year-olds	-4.38	0.588	-16.47		
Log of Asian/Pacific Islander per capita disposable					
income in current dollars	0.05	0.028	1.77		
Log unemployment rate for Asian/Pacific Islanders	0.17	0.041	4.21		
Part-time					
Intercept term for 17-year-olds	-1.68	0.904	-1.86	0.64	1.96*
Intercept term for 18-year-olds	-0.04	0.670	-0.06		
Intercept term for 19-year-olds	0.73	0.659	1.11		
Intercept term for 20-year-olds	0.54	0.670	0.80		
Intercept term for 21-year-olds	0.53	0.667	0.79		
Intercept term for 22-year-olds	0.56	0.675	0.83		
Intercept term for 23-year-olds	0.35	0.661	0.53		
Intercept term for 24-year-olds	0.25	0.658	0.39		
Intercept term for 25- to 29-year-olds	-0.17	0.650	-0.27		
Intercept term for 30- to 34-year-olds	-0.84	0.654	-1.29		
Intercept term for 35- to 44-year-olds	-1.09	0.649	-1.68		
Log of Asian/Pacific Islander level of educational					
attainment per household	0.14	0.041	3.44		

\* p < .05. NOTE:  $R^2$  = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for NOTE:  $R^2$  = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for NOTE:  $R^2$  = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnstvatson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. The regression method used to estimate the full-time and part-time equations was the pooled seemingly unrelated regres-sion method. The time period used to estimate the is from 1989 to 2015. The number of observations equal to 297. For additional information, see Intriligator, M.D. (1978). Econo-metric Models, Techniques, & Applications. New Jersey: Prentice-Hall, Inc., pp. 165–173.

Race categories exclude persons of Hispanic ethnicity. SOURCE: U.S. Department of Education, National Center for Education Statistics, Enroll-ment in Degree-Granting Institutions by Race/Ethnicity Projection Model, 1989 through 2026. (This table was prepared February 2017.)

### Table A-29. Estimated equations and model statistics for full-time and part-time enrollment rates of Asian/Pacific Islander females at degreegranting postsecondary institutions based on data from 1989 to 2015

Independent variable	Coefficient	Standard error	t-statistic	$R^2$	D.W. statistic
1	2	3	4	5	6
Full-time					
Intercept term for 17-year-olds	-6.33	0.615	-10.29	0.97	1.87*
Intercept term for 18-year-olds	-3.92	0.601	-6.52		
Intercept term for 19-year-olds	-3.45	0.605	-5.70		
Intercept term for 20-year-olds	-3.70	0.602	-6.14		
Intercept term for 21-year-olds	-3.72	0.601	-6.19		
Intercept term for 22-year-olds	-4.26	0.604	-7.05		
Intercept term for 23-year-olds	-4.55	0.601	-7.57		
Intercept term for 24-year-olds	-5.07	0.610	-8.32		
Intercept term for 25- to 29-year-olds	-6.01	0.600	-10.02		
Intercept term for 30- to 34-year-olds	-7.21	0.603	-11.97		
Intercept term for 35- to 44-year-olds	-7.78	0.602	-12.92		
Log of Asian/Pacific Islander per capita disposable					
income in current dollars	0.19	0.031	6.25		
Part-time					
Intercept term for 17-year-olds	1.23	0.277	4.46	0.69	2.03*
Intercept term for 18-year-olds	-1.82	0.854	-2.13		
Intercept term for 19-year-olds	-0.24	0.835	-0.29		
Intercept term for 20-year-olds	0.40	0.848	0.47		
Intercept term for 21-year-olds	0.06	0.841	0.07		
Intercept term for 22-year-olds	0.68	0.834	0.81		
Intercept term for 23-year-olds	0.29	0.836	0.35		
Intercept term for 24-year-olds	0.13	0.830	0.16		
Intercept term for 25- to 29-year-olds	0.04	0.836	0.05		
Intercept term for 30- to 34-year-olds	-0.50	0.825	-0.61		
Intercept term for 35- to 44-year-olds	-1.12	0.826	-1.35		
Log of Asian/Pacific Islander per capita disposable					
income in current dollars	0.91	0.199	4.60		
Log of Asian/Pacific Islander level of educational					
attainment per household	1.23	0.277	4.46		

\* p < .05. NOTE:  $R^2$  = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. 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 1989 to 2015.

The number of observations is 297. For additional information, see Intriligator, M.D. (1978).

*Econometric Models, Techniques, & Applications.* New Jersey: Prentice-Hall, Inc., pp. 165– 173. Race categories exclude persons of Hispanic ethnicity. SOURCE: U.S. Department of Education, National Center for Education Statistics, Enroll-ment in Degree-Granting Institutions by Race/Ethnicity Model, 1989 through 2026. (This table was prepared February 2017.)

## A.6. POSTSECONDARY DEGREES CONFERRED

## **Projections in this edition**

This edition of *Projections of Education Statistics* presents projections of postsecondary degrees conferred by level of degree and sex of recipient for 2015–16 through 2026–27.

### **Overview of approach**

### **Basic approach**

Projections of associate's, bachelor's, master's, and doctor's degrees for males and females were produced using forecasting equations that relate degrees conferred to full-time enrollment in degree-granting institutions by sex, student level (undergraduate or postbaccalaureate), and institution level (2-year or 4-year).

## **Degrees Conferred Projection Model**

### Procedures used to project degrees

For all degree levels, projections of degrees conferred were made separately for males and for females. The projections for males and females were then summed to get projections of the total number of degrees.

Multiple linear regression was used to project associate's, bachelor's, master's, and doctor's degrees based on enrollment variables for males and females. The enrollment variables used for the different levels of degrees are briefly described below.

For details and results of the regression analyses used to project associate's, bachelor's, master's, and doctor's degrees, see table A-30, under "Data and equations used to project degrees," later in this section.

Associate's degrees. *Projections were based on full-time undergraduate enrollment in 2-year institutions by sex.* Males' projections of associate's degrees were based on current full-time enrollment and full-time enrollment lagged 2 years. Females' projections of associate's degrees were based on current full-time enrollment and full-time enrollment lagged 1 and 2 years.

**Bachelor's degrees.** *Projections were based on full-time undergraduate enrollment in 4-year institutions by sex.* For males and for females, bachelor's degree projections were based on current full-time enrollment and full-time enrollment lagged 2 years.

**Master's degrees.** *Projections were based on full-time postbaccalaureate enrollment by sex.* Males' projections of master's degrees were based on current full-time enrollment and full-time enrollment lagged 1 year. Females' projections of master's degrees were based on current full-time enrollment.

**Doctor's degrees.** *Projections were based on full-time postbaccalaureate enrollment by sex.* For males and for females, doctor's degree projections were based on current full-time postbaccalaureate enrollment and full-time postbaccalaureate enrollment lagged 1 and 2 years.

### Data and equations used to project degrees

**Enrollment data and projections for degree-granting institutions.** Historical enrollment data by sex, level of student, and level of institution came from the NCES Integrated Postsecondary Education Data System (IPEDS). For the time period used for each level of degree, see table A-30 on page 126. The enrollment projections used are those produced for this edition of *Projections of Education Statistics*. For more information about the enrollment projections, see Section A.5. Enrollment in Degree-granting postsecondary Institutions, earlier in this appendix.

**Data on degrees awarded at all levels.** Historical data by level of degree and sex of recipient came from the NCES Integrated Postsecondary Education Data System (IPEDS). Associate's and bachelor's degrees were projected using data from 1970–71 to 2014–15 and master's and doctor's degrees were projected using data from 1980–81 to 2014–15.

**Estimated equations and model statistics.** For details on the equations used to project associate's, bachelor's, master's, and doctor's degrees, see table A-30 on page 126. The 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, the Breusch-Godfrey Serial Correlation LM test statistic, and residual plots.

## Accuracy of projections

Mean absolute percentage errors (MAPEs) for associate's and bachelor's degrees conferred by degree-granting institutions were calculated using the last eight editions of *Projections of Education Statistics* and MAPEs for master's and doctor's degrees conferred by degree-granting institutions were calculated using the last five editions of *Projections of Education Statistics*.

### Table J. Mean absolute percentage errors (MAPEs) of projected associate's and bachelor's degrees conferred by degreegranting postsecondary institutions, by lead time: MAPEs constructed using projections from Projections of Education Statistics to 2018 through Projections of Education Statistics to 2025

		Lead time (years)										
Statistic	1	2	3	4	5	6	7	8	9	10		
Associate's degrees	2.8	5.5	8.1	11.5	12.9	13.9	14.6	15.1	_	_		
Bachelor's degrees	0.6	0.6	1.1	2.4	3.6	5.1	5.8	6.2	_	_		
Master's degrees	0.9	3.4	5.3	6.6	5.8	_	_	_	_	_		
Doctor's degrees	0.2	0.1	0.1	1.3	0.8	_	_	_	_	_		

- Not available.

NOTE: MAPEs for associate's and bachelor's degrees conferred were calculated using the last eight editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2018* through *Projections of Education Statistics to 2025*. and MAPEs for master's degrees and doctor's degrees were calculated using the last 5 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2021* through *Projections of Education Statistics*, from *Projections of Education Statistics to 2021* through *Projections of Education Statistics to 2025*.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared February 2017.)

For more information about MAPEs, see Section A.O. Introduction, earlier in this appendix.

#### Table A-30. Estimated equations and model statistics for degrees conferred, by degree type and sex based on data from 1970–71 to 2014–15

Dependent variable		Equation <sup>1</sup>								ch-Godfrey Correlation st statistic <sup>2</sup>	Time period
1							2	3		4	5
Associate's degrees, males	DASSOCM	=	3821.3 (3.06)	+	74.4DUGFT2M (3.82)	+	86.6DUGFT2ML2 (4.42)	0.45	6.30	(0.043)	1970–71 to 2014–15
Associate's degrees, females	DLOGASSOCW	=	# · †	+	0.8DLOGUGFT2WS3 (7.74)	+	.6MA(1) (4.98)	0.79	5.16	(0.076)	1970–71 to 2014–15
Bachelor's degrees, males	DBACHM	=	870.8 -0.74	+	55.0DUGFT4M (2.95)	+	150.5DUGFT4ML2 (8.42)	0.73	1.56	(0.458)	1970–71 to 2014–15
Bachelor's degrees, females	DBACHW	=	5115.8 (2.85)	+	31.4DUGFT4W (1.58)	+	141.0DUGFT4WL2 (6.75)	0.61	3.87	(0.144)	1970–71 to 2014–15
Master's degrees, males	PCHMASTM	=	# · †	+	0.6PCHPBFTM (4.55)	+	0.5PCHPBFTML1 (3.41)	0.67	0.99	(0.609)	1980–81 to 2014–15
Master's degrees, females	PCHMASTW	=	# · †	+	0.5PCHPBFTW (3.12)	+	0.5AR(1) (3.99)	0.60	3.23	(0.199)	1980–81 to 2014–15
Doctor's degrees, males	DDOCM	=	-378.8 (-1.71)	+	60.6DPBFTML1 (3.08)	+	48.4DPBFTML2 (2.46)	0.54	1.59	(0.451)	1980–81 to 2014–15
Doctor's degrees, females	DDOCW	=	777.4 (2.80)	+	18.3DPBFTWL1 (1.62)	+	41.5DPBFTWL2 (3.64)	0.43	0.22	(0.896)	1980–81 to 2014–15

† Not applicable.

# Rounds to zero. <sup>1</sup>AR(1) indicates that the model was estimated to account for first-order autocorrelation. To estimate the model, it was first transformed into a nonlinear model and then the coefficients were estimated simultaneously by applying a Marquardt nonlinear least squares algorithm to the transformed equation. MA(1) indicates that the model was estimated to incorporate moving average of the residual into model fit. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see Judge, G., Hill, W., Griffiths, R., Lutkepohl, H., and Lee, T. (1985). The Theory and Practice of Econometrics. New York: John Wiley and Sons, pp. 315-318. Numbers in parentheses are t-statistics.

<sup>2</sup>The number in parentheses is the probability of the Chi-Square associated with the Breusch-Godfrey Serial Correlation LM Test. A p value greater that 0.05 implies that we do not reject the null hypothesis of no autocorrelation at the 5 percent significance level for a two-tailed test or 10 percent significance level for a one-tailed test (i.e., there is no autocorrelation present). For an explanation of the Breusch-Godfrey Serial Correlation LM test statistic, see Greene, W. (2000). Econometric Analysis. New Jersey: Prentice-Hall.

NOTE: R<sup>2</sup> is the coefficient of determination.

DASSOCM = First difference of associate's degrees awarded to males.

DLOGASSOCW = First difference of the log of associate's degrees awarded to females.

DBACHM = First difference of bachelor's degrees awarded to males.

DBACHW = First difference of bachelor's degrees awarded to females

PCHMASTM = Percentage change in master's degrees awarded to males. PCHMASTW = Percentage change in master's degrees awarded to females. DDOCM = First difference of doctor's degrees awarded to males.

DDOCW = First difference of doctor's degrees awarded to females. DUGFT2M = First difference of full-time male undergraduate enrollment in 2-year institutions. DUGFT2ML2 = First difference of full-time male undergraduate enrollment in 2-year institutions, lagged two periods.

DLOGUGFT2WS3 = First difference of the sum of the full-time female undergraduate enrollment in 2-year institutions over the present year and the previous 2 years. DUGFT4M = First difference of full-time male undergraduate enrollment in 4-year institutions.

DUGFT4ML2 = First difference of full-time male undergraduate enrollment in 4-year institutions, lagged two periods. DUGFT4W = First difference of full-time female undergraduate enrollment in 4-year institutions.

DUGFT4WL2 = First difference of full-time female undergraduate enrollment in 4-year institutions, lagged two periods.

PCHPBFTM = Percentage change in full-time male postbaccalaureate enrollment. PCHPBFTML1 = Percentage change in full-time male postbaccalaureate enrollment lagged 1 year. PCHPBFTW = Percentage change in full-time female postbaccalaureate enrollment.

DPBFTML1 = First difference of full-time male postbaccalaureate enrollment lagged 1 year. DPBFTML2 = First difference of full-time male postbaccalaureate enrollment lagged 2 years. DPBFTWL1 = First difference of full-time female postbaccalaureate enrollment lagged 1 year. DPBFTWL2 = First difference of full-time female postbaccalaureate enrollment lagged 2 years. SOURCE: U.S. Department of Education, National Center for Education Statistics, Degrees Conferred Projection Model, 1970-71 through 2026-27. (This table was prepared February 2017.)

## Appendix B Supplementary Tables

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### Table B-1. Actual and projected prekindergarten- and kindergarten-age populations, by age: 2001 through 2026

[In thousands]

Year (July 1)	3- to 5-year-olds	3-year-olds	4-year-olds	5-year-olds
1	2	3	4	5
Actual				
2001	11,540	3.803	3,827	3.910
2002	11,454	3,804	3,813	3,837
2003	11,501	3,861	3,817	3,824
2004	11,714	4.008	3.877	3.830
2005	11,866	3,943	4,030	3,893
2006	11,987	3,966	3,971	4.051
2007	11,996	4.004	3,971	4,051 3.993
2007	12,058	3,992	4,041	4.024
				7 -
2009	12,129	4,026	4,033	4,070
2010	12,254	4,112	4,078	4,065
2011	12,312	4,102	4,122	4,088
2012	12,228	3,983	4,113	4,132
2013	12,111	3,993	3,994	4,124
2014	12,020	4,007	4,006	4,007
2015	12,012	3,974	4,020	4,018
Projected				
2016	12,001	3,981	3,987	4.032
2017	12,001	4.012	3,989	4,002
2018	12,070	4,012	4,020	4,018
2019	12,168	4.070	4,049	4,049
	12,108	4,070	4,049	4,049
2020	12,255	4,090	4,070	4,079
2021	12,339	4,125	4,107	4,108
2022	12,419	4,149	4,133	4,136
2023	12,493	4,171	4,158	4,163
2024	12,557	4,189	4,180	4,188
025	12,610	4,203	4,198	4,210
2026	12,653	4.214	4.212	4,228

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. As the Census Bureau projections were not updated to reflect the most recent 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 2015 to the total Census Bureau projection for 2015.

SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved September 21, 2016 from <a href="https://www2.census.gov/programs-surveys/popest/datasets/2010-2015/;">https://www2.census.gov/programs-surveys/popest/datasets/2010-2015/;</a>; and Population Projections, retrieved August 4, 2015, from <a href="https://www.census.gov/programs-surveys/popproj.html">https://www.census.gov/programs-surveys/popest/datasets/2010-2015/;</a>; and Population Projections, retrieved August 4, 2015, from <a href="https://www.census.gov/programs-surveys/popproj.html">https://www.census.gov/programs-surveys/popest/datasets/2010-2015/;</a>; and Population Projections, retrieved August 4, 2015, from <a href="https://www.census.gov/programs-surveys/popproj.html">https://www.census.gov/programs-surveys/popproj.html</a>. (This table was prepared March 2017.)

### Table B-2. Actual and projected school-age populations, by selected ages: 2001 through 2026

[In thousands]

Year (July 1)	5-year-olds	6-year-olds	5- to 13-year-olds	14- to 17-year-olds
1	2	3	4	5
Actual				
2001	. 3,910	3,973	37,093	16,280
2002	. 3,837	3,913	37,001	16,506
2003	. 3,824	3,838	36,814	16,694
2004	. 3,830	3,822	36,458	17,054
2005		3,828	36,248	17,358
2006		3,891	36,269	17,549
2007		4.046	36,296	17,597
2008		3,988	36,438	17,395
2009		4,018	36,657	17,000
2009		4,018	36,867	17,252
2010	4,005	4,073	50,007	17,000
2011	. 4,088	4,075	36,918	16,873
2012	. 4,132	4,098	37,008	16,722
2013	. 4,124	4,143	37,083	16,656
2014	. 4,007	4,136	36,973	16,754
2015	. 4,018	4,019	36,924	16,814
Projected				
2016	. 4,032	4.030	36,976	16,779
2017		4.044	36,968	16,750
2018		4,027	36,921	16,681
2019		4,030	36,902	16,665
2020		4,000	36,890	16,762
			· · · · · · · · · · · · · · · · · · ·	,
2021		4,090	36,862	16,878
2022		4,120	36,874	16,942
2023		4,148	37,030	16,885
2024		4,175	37,202	16,816
2025	. 4,210	4,201	37,382	16,715
2026	. 4,228	4,223	37,598	16,607

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. As the Census Bureau projections were not updated to reflect the most recent 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 2015 to the total Census Bureau projection for 2015.

SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved September 21, 2016 from <a href="https://www2.census.gov/programs-surveys/popest/datasets/2010-2015/">https://www2.census.gov/programs-surveys/popest/datasets/2010-2015/</a>; and Population Projections, retrieved August 4, 2015, from <a href="https://www.census.gov/programs-surveys/popproj.html">https://www2.census.gov/programs-surveys/popest/datasets/2010-2015/</a>; and Population Projections, retrieved August 4, 2015, from <a href="https://www.census.gov/programs-surveys/popproj.html">https://www.census.gov/programs-surveys/popest/datasets/2010-2015/</a>; and Population Projections, retrieved August 4, 2015, from <a href="https://www.census.gov/programs-surveys/popproj.html">https://www.census.gov/programs-surveys/popproj.html</a>. (This table was prepared March 2017.)

#### Table B-3. Actual and projected college-age populations, by selected ages: 2001 through 2026

[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
1	2	3	4	5	6
Actual					
2001	4,106	28,081	18,866	20,689	45,101
2002	4,087	28,598	18,752	20,705	44,706
2003	4,206	29,121	18,872	20,545	44,251
2004	4,218	29,474	19,193	20,220	43,881
2005	4,228	29,609	19,629	19,787	43,594
2006	4,303	29,758	20,200	19,343	43,325
2007	4,397	29,973	20,640	19,231	42,879
2008	4,590	30,355	21,003	19,365	42,275
2009	4,537	30,687	21,184	19,708	41,573
2010	4,493	30,918	21,249	20,132	41,066
2011	4,404	31,242	21,397	20,592	40,750
2012	4,361	31,510	21,485	20,983	40,640
2013	4,296	31,631	21,675	21,349	40,600
2014	4,229	31,581	22,068	21,592	40,587
2015	4,219	31,303	22,519	21,715	40,634
Projected					
2016	4,227	30,994	23,019	21,900	40,668
2017	4,243	30,790	23,491	22,055	41,021
2018	4,326	30,751	23,776	22,298	41,569
2019	4,276	30,693	23,894	22,724	42,128
2020	4,187	30,601	23,741	23,206	42,722
2021	4,217	30,604	23,484	23,739	43,419
2022	4,260	30,657	23,266	24,216	44,005
2023	4,264	30,705	23,140	24,507	44,649
2024	4,288	30,762	23,062	24,633	45,342
2025	4,334	30,782	23,121	24,490	45,978
2026	4,326	30,842	23,193	24,242	46,728

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. As the Census Bureau projections were not updated to reflect the most recent 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 2015 to the total Census Bureau projection for 2015.

SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved September 21, 2016 from <a href="https://www2.census.gov/programs-surveys/popest/datasets/2010-2015/;">https://www2.census.gov/programs-surveys/popest/datasets/2010-2015/;</a>; and Population Projections, retrieved August 4, 2015, from <a href="https://www.census.gov/programs-surveys/popproj.html">https://www.census.gov/programs-surveys/popest/datasets/2010-2015/;</a>; and Population Projections, retrieved August 4, 2015, from <a href="https://www.census.gov/programs-surveys/popproj.html">https://www.census.gov/programs-surveys/popest/datasets/2010-2015/;</a>; and Population Projections, retrieved August 4, 2015, from <a href="https://www.census.gov/programs-surveys/popproj.html">https://www.census.gov/programs-surveys/popproj.html</a>. (This table was prepared March 2017.)

# Table B-4. Actual and projected fall enrollment in public elementary and secondary schools, change in fall enrollment from previous year, resident population, and fall enrollment as a ratio of the population: School years 2001–02 through 2026–27

School year	Fall enrollment (in thousands)	Change in fall enrollment from previous year (in thousands)	Resident population (in millions)	Fall enrollment as a ratio of the population
1	2	3	4	5
Actual           2001-02           2002-03           2003-04           2004-05           2005-06           2005-06           2007-08           2008-09           2009-10	47,672	468	285.2	0.167
	48,183	511	287.9	0.167
	48,540	357	290.6	0.166
	48,795	255	293.2	0.166
	49,113	318	295.9	0.166
	49,316	203	298.8	0.165
	49,293	-23	301.7	0.163
	49,266	-23	304.5	0.162
	49,261	-25	307.2	0.161
2010–11	49,484	123	309.8	0.160
	49,522	37	312.1	0.159
	49,771	249	314.4	0.158
	50,045	273	316.7	0.158
	50,313	268	319.2	0.158
2015–16 2016–17 2017–18 2018–19 2018–19 2019–20	50,485 50,625 50,710 50,759 50,843	172 140 85 50 84	321.7 324.1 326.8 329.4 332.0	0.157 0.156 0.155 0.154 0.153
2020-21           2021-22           2022-23           2023-24           2024-25	50,996	153	334.6	0.152
	51,152	156	337.2	0.152
	51,301	149	339.8	0.151
	51,455	154	342.4	0.150
	51,562	107	345.0	0.149
2025–26	51,632	71	347.5	0.149
2026–27	51,738	106	350.0	0.148

NOTE: Resident population includes civilian population and armed forces personnel residing with the United States: it excludes armed forces personnel overseas. Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. As the Census Bureau projections were not updated to reflect the most recent 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 2015 to the total Census Bureau projection for 2015. SOURCE: U.S. Department of Commerce, Census Bureau, Population Estimates, retrieved September 21, 2016 from https://www2.census.gov/programs-surveys/popest/datasets/2010-2015/; and Population Projections, retrieved August 4, 2015, from https://www.census.gov/programssurveys/popproj.html. U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1996–97 through 2014–15; and National Elementary and Secondary Enrollment Projection Model, 1972 through 2026. (This table was prepared March 2017.)

#### Table B-5. Actual and projected macroeconomic measures of the economy: School years 2001–02 through 2026–27

School year	Disposable income per capita in constant 2015–16 dollars <sup>1</sup>	Education revenue receipts from state sources per capita in constant 2015–16 dollars <sup>2</sup>	Consumer Price Index <sup>3</sup>
1	2	3	4
Actual			
2001–02		\$969	0.748
2002–03		974	0.764
2003–04		958	0.781
2004–05 2005–06		969 980	0.804 0.835
2005–00	. 30,007	900	0.035
2006–07		1,030	0.856
2007–08		1,055	0.888
2008–09		1,008	0.901
2009–10		926	0.910
2010–11	. 39,861	928	0.928
2011–12	. 40,456	903	0.955
2012–13	. 40,691	895	0.971
2013–14		923	0.986
2014–15 <sup>4</sup>	. 41,891	897	0.993
2015–16 <sup>4</sup>	. 42,821	917	1.000
Projected			
2016–17		929	1.019
2017–18	. 44,228	941	1.045
2018–19		954	1.070
2019–20		965	1.096
2020–21	. 46,681	975	1.123
2021–22	. 47,470	987	1.151
2022–23	. 48,251	998	1.180
2023–24	. 49,045	1,008	1.209
2024–25		1,017	1.239
2025–26		1,025	1.270
2026–27	. 51,041	1,027	1.293

<sup>1</sup>Based on the price deflator for personal consumption expenditures, Bureau of Labor Statistics, U.S. Department of Labor.
<sup>2</sup>Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics,

<sup>2</sup>Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistic U.S. Department of Labor.
 <sup>3</sup>Consumer Price Index adjusted to a school-year basis (July through June).

<sup>4</sup>Consumer Price Index adjusted to a school-year basis (July through June <sup>4</sup>Education revenue receipts from state sources per capita is a projection. 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

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 1999–2000 through 2013–14; Revenue Receipts From State Sources Projections Model, 1971–72 through 2026–27; and IHS Global Inc., "U.S. Quarterly Macroeconomic Model, November 2016 Short-Term Baseline Projections." (This table was prepared March 2017.) This page intentionally left blank.

# 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 survey types, 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 the sampling variability of an estimate. Standard errors can be used to produce confidence intervals. For example, from table A-11, an estimated 93.1 percent of public school teachers reported that they worked full time in 2011–12. This figure has an estimated standard error of 0.46 percent. Therefore, the estimated 95 percent confidence interval for this statistic is approximately 92.15 to 93.98 percent (93.1  $\pm$  1.96 [0.46]). That is, if the processes of selecting a sample, collecting the data, and constructing the confidence interval were repeated, it would be expected that in 95 out of 100 samples from the same population, the confidence interval would contain the true full-time working rate.

Analysis of standard errors can help assess how valid a comparison between two estimates might be. The *standard error of a difference* between two independent sample estimates is equal to the square root of the sum of the squared standard errors of the estimates. The standard error (*se*) of the difference between independent sample estimates *a* and *b* is

$$se_{a-b} = (se_a^2 + se_b^2)^{1/2}$$

Note that some 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**

The Common Core of Data (CCD) is NCES's primary database on public elementary and secondary education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts containing data designed to be comparable across all states. This database can be used to select samples for other NCES surveys and provide basic information and descriptive statistics on public elementary and secondary schools and schooling in general.

The CCD collects statistical information annually from approximately 100,000 public elementary and secondary schools and approximately 18,000 public school districts (including supervisory unions and regional education service agencies) in the 50 states, the District of Columbia, Department of Defense (DoD) dependents schools, the Bureau of Indian Education (BIE), Puerto Rico, American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands. Three categories of information are collected in the CCD survey: general descriptive information on schools and school districts; data on students and staff; and fiscal data. The general school and district descriptive information includes name, address, phone number, and type of locale; the data on students and staff include selected demographic characteristics; and the fiscal data pertain to revenues and current expenditures.

The ED*Facts* data collection system is the primary collection tool for the CCD. NCES works collaboratively with the Department of Education's Performance Information Management Service to develop the CCD collection procedures and data definitions. Coordinators from state education agencies (SEAs) submit the CCD data at different levels (school, agency, and state) to the ED*Facts* collection system. Prior to submitting CCD files to ED*Facts*, SEAs must collect and compile information from their respective local education agencies (LEAs) through established administrative records systems within their state or jurisdiction.

Once SEAs have completed their submissions, the CCD survey staff analyzes and verifies the data for quality assurance. Even though the CCD is a universe collection and thus not subject to sampling errors, nonsampling errors can occur. The two potential sources of nonsampling errors are nonresponse and inaccurate reporting. NCES attempts to minimize nonsampling errors through the use of annual training of SEA coordinators, extensive quality reviews, and survey editing procedures. In addition, each year, SEAs are given the opportunity to revise their state-level aggregates from the previous survey cycle.

The CCD survey consists of five components: The Public Elementary/Secondary School Universe Survey, the Local Education Agency (School District) Universe Survey, the State Nonfiscal Survey of Public Elementary/Secondary Education, the National Public Education Financial Survey (NPEFS), and the School District Finance Survey (F-33). The following sections describe the CCD surveys that were used in preparing this report.

## State Nonfiscal Survey of Public Elementary/Secondary Education

The State Nonfiscal Survey of Public Elementary/Secondary Education for the 2014–15 school year provides state-level, aggregate information about students and staff in public elementary and secondary education. It includes data from the 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, the Northern Mariana Islands, Guam, and American Samoa. The DoD dependents schools (overseas and domestic) and the BIE are also included in the survey universe. This survey covers public school student membership by grade, race/ethnicity, and state or jurisdiction and covers number of staff in public schools by category and state or jurisdiction. Beginning with the 2006–07 school year, the number of diploma

recipients and other high school completers are no longer included in the State Nonfiscal Survey of Public Elementary/ Secondary Education file. These data are now collected through the Local Education Agency (School District) Universe Survey and published in the public-use Common Core of Data State Dropout and Completion Data File.

#### National Public Education Financial Survey

The purpose of the National Public Education Financial Survey (NPEFS) is to provide district, state, and federal policymakers, researchers, and other interested users with descriptive information about revenues and expenditures for public elementary and secondary education. The data collected are useful to (1) chief officers of state education agencies; (2) policymakers in the executive and legislative branches of federal and state governments; (3) education policy and public policy researchers; and (4) the public, journalists, and others.

Data for NPEFS are collected from state education agencies (SEAs) in the 50 states, the District of Columbia, Puerto Rico, American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands. The data file is organized by state or jurisdiction and contains revenue data by funding source; expenditure data by function (the activity being supported by the expenditure) and object (the category of expenditure); average daily attendance data; and total student membership data from the CCD State Nonfiscal Survey of Public Elementary/Secondary Education.

Further information on the nonfiscal CCD data may be obtained from

Patrick Keaton Administrative Data Division Elementary and Secondary Branch National Center for Education Statistics 550 12th Street SW Washington, DC 20202 <u>patrick.keaton@ed.gov</u> <u>http://nces.ed.gov/ccd</u>

Further information on the fiscal CCD data may be obtained from

Stephen Cornman Administrative Data Division Elementary and Secondary Branch National Center for Education Statistics 550 12th Street SW Washington, DC 20202 <u>stephen.cornman@ed.gov</u> <u>http://nces.ed.gov/ccd</u>

## Integrated Postsecondary Education Data System

The Integrated Postsecondary Education Data System (IPEDS) surveys approximately 7,500 postsecondary institutions, including universities and colleges, as well as institutions offering technical and vocational education beyond the high school level. IPEDS, an annual universe collection that began in 1986, replaced the Higher Education General Information Survey (HEGIS).

IPEDS consists of interrelated survey components that provide information on postsecondary institutions, student enrollment, programs offered, degrees and certificates conferred, and both the human and financial resources involved in the provision of institutionally based postsecondary education. Prior to 2000, the IPEDS survey had the following subject-matter components: Graduation Rates; Fall Enrollment; Institutional Characteristics; Completions; Salaries, Tenure, and Fringe Benefits of Full-Time Faculty; Fall Staff; Finance; and Academic Libraries (in 2000, the Academic Libraries component became a survey separate from IPEDS). Since 2000, IPEDS survey components occurring in a particular collection year have been organized into three seasonal collection periods: fall, winter, and spring. The Institutional Characteristics and Completions components first took place during the fall 2000 collection; the Employees by Assigned Position (EAP), Salaries, and Fall Staff components first took place during the winter 2001–02 collection; and the Enrollment, Student Financial Aid, Finance, and Graduation Rates components first took place during the spring 2001 collection. In the winter 2005–06 data collection year, the Enrollment component was broken into two separate components: 12-Month Enrollment (taking place in the fall collection) and Fall Enrollment (taking place in the spring collection). In the 2011–12 IPEDS data collection year, the Student Financial Aid component was moved to the winter data collection to aid in the timing of the net price of attendance calculations displayed on the College Navigator

(<u>http://nces.ed.gov/collegenavigator</u>). In the 2012–13 IPEDS data collection year, the Human Resources component was moved from the winter data collection to the spring data collection, and in the 2013–14 data collection year, the Graduation Rates and Graduation Rates 200% components were moved from the spring data collection to the winter data collection.

Beginning in 2008–09, the first-professional degree category was combined with the doctor's degree category. However, some degrees formerly identified as first-professional that take more than two full-time-equivalent academic years to complete, such as those in Theology (M.Div, M.H.L./Rav), are included in the Master's degree category. Doctor's degrees were broken out into three distinct categories: research/scholarship, professional practice, and other doctor's degrees.

IPEDS race/ethnicity data collection also changed in 2008–09. The "Asian" race category is now separate from a "Native Hawaiian or Other Pacific Islander" category, and a new category of "Two or more races" is added.

The degree-granting institutions portion of IPEDS is a census of colleges that award associate's or higher degrees and 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 are gathered in a census of all postsecondary institutions. Beginning in 1997, the survey was restricted to institutions participating in Title IV programs.

The classification of institutions offering college and university education changed as of 1996. Prior to 1996, institutions that had courses leading to an associate's or higher degree or that had courses accepted for credit toward those degrees were considered higher education institutions. 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 newer standard includes institutions that award associate's or higher degrees and that are eligible to participate in Title IV federal financial aid programs. Tables that contain any data according to this standard are titled "degree-granting" institutions. Time-series tables may contain data from both series, and they are noted accordingly. The impact of this change on data collected in 1996 was not large. Also, degrees awarded at the bachelor's level or higher were not heavily affected. The largest impact was on private 2-year college enrollment. In contrast, most of the data on public 4-year colleges were affected to a minimal extent. The impact on enrollment in public 2-year colleges was noticeable in certain states, such as Arizona, Arkansas, Georgia, Louisiana, and Washington, but was relatively small at the national level. Overall, total enrollment for all institutions was about one-half of 1 percent higher in 1996 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 NCES's *Education Directory, Colleges and Universities.* 

HEGIS surveys collected information on institutional characteristics, faculty salaries, finances, enrollment, and degrees. Since these surveys, like IPEDS, 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.

The NCES Taskforce for IPEDS Redesign recognized that there were issues related to the consistency of data definitions as well as the accuracy, reliability, and validity of other quality measures within and across surveys. The IPEDS redesign in 2000 provided institution-specific web-based data forms. While the new system shortened data processing time and provided better data consistency, it did not address the accuracy of the data provided by institutions.

Beginning in 2003–04 with the Prior Year Data Revision System, prior-year data have been available to institutions entering current data. This allows institutions to make changes to their prior-year entries either by adjusting the data or by providing missing data. These revisions allow the evaluation of the data's accuracy by looking at the changes made.

NCES conducted a study (NCES 2005-175) of the 2002–03 data that were revised in 2003–04 to determine the accuracy of the imputations, track the institutions that submitted revised data, and analyze the revised data they submitted. When institutions made changes to their data, it was assumed that the revised data were the "true" data. The data were analyzed for the number and type of institutions making changes, the type of changes, the magnitude of the changes, and the impact on published data.

Because NCES imputes for missing data, imputation procedures were also addressed by the Redesign Taskforce. For the 2003–04 assessment, differences between revised values and values that were imputed in the original files were compared (i.e., revised value minus imputed value). These differences were then used to provide an assessment of the effectiveness of imputation procedures. The size of the differences also provides an indication of the accuracy of imputation procedures. To assess the overall impact of

changes on aggregate IPEDS estimates, published tables for each component were reconstructed using the revised 2002–03 data. These reconstructed tables were then compared to the published tables to determine the magnitude of aggregate bias and the direction of this bias.

Since fall 2000 and spring 2001, IPEDS data collections have been web-based. Data have been provided by "keyholders," institutional representatives appointed by campus chief executives, who are responsible for ensuring that survey data submitted by the institution are correct and complete. Because Title IV institutions are the primary focus of IPEDS and because these institutions are required to respond to IPEDS, response rates for Title IV institutions have been high (data on specific components are cited below). More details on the accuracy and reliability of IPEDS data can be found in the *Integrated Postsecondary Education Data System Data Quality Study* (NCES 2005-175).

Further information on IPEDS may be obtained from

Richard Reeves Administrative Data Division Postsecondary Branch National Center for Education Statistics 550 12th Street SW Washington, DC 20202 <u>richard.reeves@ed.gov</u> <u>http://nces.ed.gov/ipeds</u>

#### Fall (12-Month Enrollment)

The 12-month period during which data are collected is July 1 through June 30. Data are collected by race/ethnicity, gender, and level of study (undergraduate or postbaccalaureate) and include unduplicated headcounts and instructional activity (contact or credit hours). These data are also used to calculate a full-time-equivalent (FTE) enrollment based on instructional activity. FTE enrollment is useful for gauging the size of the educational enterprise at the institution. Prior to the 2007–08 IPEDS data collection, the data collected in the 12-Month Enrollment component were part of the Fall Enrollment component, which is conducted during the spring data collection period. However, to improve the timeliness of the data, a separate 12-Month Enrollment survey component was developed in 2007. These data are now collected in the fall for the previous academic year. The response rate for the 12-Month Enrollment component of the fall 2015 data collection was nearly 100 percent. Data from only 1 of 7,169 Title IV institutions that were expected to respond to this component contained item nonresponse, and these missing items were imputed.

Further information on the IPEDS 12-Month Enrollment component may be obtained from

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#### Fall (Completions)

This survey was part of the HEGIS series throughout its existence. However, the degree classification taxonomy was revised in 1970–71, 1982–83, 1991–92, 2002–03, and 2009–10. Collection of degree data has been maintained through IPEDS.

Degrees-conferred trend tables arranged by the 2009–10 classification are included in the *Projections of Education Statistics* to provide consistent data from 1970–71 through the most recent year. Data on associate's degrees, by field of study, cannot be made comparable with figures from years prior to 1982–83. 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; for the fall 2015 Completions component, it rounded to 100 percent. Because of the high response rate, there was no need to conduct a nonresponse bias analysis. Imputation methods for the fall 2015 Completions component are discussed in the *2015–16 Integrated Postsecondary Education Data System (IPEDS) Methodology Report* (NCES 2016-111).

The *Integrated Postsecondary Education Data System Data Quality Study* (NCES 2005-175) indicated that most Title IV institutions supplying revised data on completions in 2003–04 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 component may be obtained from

Imani Stutely Administrative Data Division Postsecondary Branch National Center for Education Statistics 550 12th Street SW Washington, DC 20202 <u>imani.stutely@ed.gov</u> <u>http://nces.ed.gov/ipeds</u>

#### Spring (Fall Enrollment)

This survey has been part of the HEGIS and IPEDS series since 1966. Response rates have been relatively high, generally exceeding 85 percent. Beginning in 2000, with web-based data collection, higher response rates were attained. In the spring 2016 data collection, the Fall Enrollment component covered fall 2015. Of the 7,146 institutions that were expected to respond, 7,134 responded, for a response rate that rounded to 100 percent. Data collection procedures for the Fall Enrollment component of the spring 2016 data collection are presented in *Enrollment and Employees in Postsecondary Institutions, Fall 2015; and Financial Statistics and Academic Libraries, Fiscal Year 2015: First Look (Provisional Data)* (NCES 2017-024).

Beginning with the fall 1986 survey and the introduction of IPEDS (see above), the survey was redesigned. The survey allows (in alternating years) for the collection of age and residence data. Beginning in 2000, the survey collected instructional activity and unduplicated headcount data, which are needed to compute a standardized, full-time-equivalent (FTE) enrollment statistic for the entire academic year. As of 2007–08, the timeliness of the instructional activity data has been improved by collecting these data in the fall as part of the 12-Month Enrollment component instead of in the spring as part of the Fall Enrollment component.

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. (The CIP is a taxonomic coding scheme that contains titles and descriptions of primarily postsecondary instructional programs.)

Further information on the IPEDS Fall Enrollment component may be obtained from

Bao Le Administrative Data Division Postsecondary Branch National Center for Education Statistics 550 12th Street SW Washington, DC 20202 <u>bao.le@ed.gov</u> <u>http://nces.ed.gov/ipeds</u>

## Private School Universe Survey

The purposes of the Private School Universe Survey (PSS) data collection activities are (1) to build an accurate and complete list of private schools to serve as a sampling frame for NCES sample surveys of private schools and (2) to report data on the total number of private schools, teachers, and students in the survey universe. Begun in 1989, the PSS has been conducted every 2 years, and data for the 1989–90, 1991–92, 1993–94, 1995–96, 1997–98, 1999–2000, 2001–02, 2003–04, 2005–06, 2007–08, 2009–10, 2011–12, and 2013–14 school years have been released. A First Look report on the 2013–14 PSS data, *Characteristics of Private Schools in the United States: Results From the 2013–14 Private School Universe Survey* (NCES 2016-243) was published in November 2016.

The PSS produces data similar to that of the Common Core of Data 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 PSS criteria of a private school (i.e., the 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 by 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.

Of the 40,302 schools included in the 2009–10 sample, 10,229 were found ineligible for the survey. Those not responding numbered 1,856, and those responding numbered 28,217. The unweighted response rate for the 2009–10 PSS survey was 93.8 percent.

Of the 39,325 schools included in the 2011–12 sample, 10,030 cases were considered as out-of-scope (not eligible for the PSS). A total of 26,983 private schools completed a PSS interview (15.8 percent completed online), while 2,312 schools refused to participate, resulting in an unweighted response rate of 92.1 percent.

Of the 40,298 schools included in the 2013–14 PSS, 10,659 cases were considered as out-of-scope (not eligible for the PSS). A total of 24,566 private schools completed a PSS interview (34.1 percent completed online), while 5,073 schools refused to participate resulting in an unweighted response rate of 82.9 percent.

Further information on the PSS may be obtained from

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#### Schools and Staffing Survey

The Schools and Staffing Survey (SASS) is a set of related questionnaires that collect descriptive data on the context of public and private elementary and secondary education. Data reported by districts, schools, principals, and teachers provide a variety of statistics on the condition of education in the United States that may be used by policymakers and the general public. The SASS system covers a wide range of topics, including teacher demand, teacher and principal characteristics, teachers' and principals' perceptions of school climate and problems in their schools, teacher and principal compensation, district hiring and retention practices, general conditions in schools, and basic characteristics of the student population.

SASS data are collected through a mail questionnaire with telephone and in-person field follow-up. SASS has been conducted by the Census Bureau for NCES since the first administration of the survey, which was conducted during the 1987–88 school year. Subsequent SASS administrations were conducted in 1990–91, 1993–94, 1999–2000, 2003–04, 2007–08, and 2011–12.

SASS is designed to produce national, regional, and state estimates for public elementary and secondary schools, school districts, principals, teachers, and school library media centers and national and regional estimates for public charter schools, as well as principals, teachers, and school library media centers within these schools. For private schools, the sample supports national, regional, and affiliation estimates for schools, principals, and teachers.

From its inception, SASS has had four core components: school questionnaires, teacher questionnaires, principal questionnaires, and school district (prior to 1999–2000, "teacher demand and shortage") questionnaires. A fifth component, school library media center questionnaires, was introduced in the 1993–94 administration and has been included in every subsequent administration of SASS. School library data were also collected in the 1990–91 administration of the survey through the school and principal questionnaires.

School questionnaires used in SASS include the Public and Private School Questionnaires; teacher questionnaires include the Public and Private School Teacher Questionnaires; principal questionnaires include the Public and Private School Principal (or School Administrator) Questionnaires; and school district questionnaires include the School District (or Teacher Demand and Shortage) Questionnaires.

Although the four core questionnaires and the school library media questionnaires have remained relatively stable over the various administrations of SASS, the survey has changed to accommodate emerging issues in elementary and secondary education. Some questionnaire items have been added, some have been deleted, and some have been reworded.

During the 1990–91 SASS cycle, NCES worked with the Office of Indian Education to add an Indian School Questionnaire to SASS, and it remained a part of SASS through 2007–08. The Indian School Questionnaire explores the same school-level issues that the Public and Private School Questionnaires explore, allowing comparisons among the three types of schools. The 1990–91, 1993–94, 1999–2000, 2003–04, and 2007–08 administrations of SASS obtained data on Bureau of Indian Education (BIE) schools (schools funded or operated by the BIE), but the 2011–12 administration did not obtain BIE data. SASS estimates for all survey years presented in this report exclude BIE schools, and as a result, estimates in this report may differ from those in previously published reports.

The SASS teacher surveys collect information on the characteristics of teachers, such as their age, race/ethnicity, years of teaching experience, average number of hours per week spent on teaching activities, base salary, average class size, and highest degree earned. These teacher-reported data may be combined with related information on their school's characteristics, such as school type (e.g., public traditional, public charter, Catholic, private other religious, and private nonsectarian), community type, and school enrollment size. The teacher questionnaires also ask for information on teacher opinions regarding the school and teaching environment. In 1993–94, about 53,000 public school teachers and 10,400 private school teachers were sampled. In 1999–2000, about 56,300 public school teachers, 4,400 public charter school teachers, and 10,800 private school teachers were sampled. In 2007–08, about 48,400 public school teachers and 8,200 private school teachers were sampled. In 2011–12, about 51,100 public school teachers and 7,100 private school teachers were sampled. Weighted overall response rates in 2011–12 were 61.8 percent for public school teachers and 50.1 percent for private school teachers.

The SASS 2011–12 sample of schools was confined to the 50 states and the District of Columbia and excludes the other jurisdictions, the Department of Defense overseas schools, the BIE schools, and schools that do not offer teacher-provided classroom instruction in grades 1–12 or the ungraded equivalent. The SASS 2011–12 sample included 10,250 traditional public schools, 750 public charter schools, and 3,000 private schools.

The public school sample for the 2011–12 SASS was based on an adjusted public school universe file from the 2009–10 Common Core of Data, a database of all the nation's public school districts and public schools. The private school sample for the 2011–12 SASS was selected from the 2009–10 Private School Universe Survey (PSS), as updated for the 2011–12 PSS. This update collected membership lists from private school associations and religious denominations, as well as private school lists from state education departments. The 2011–12 SASS private school frame was further augmented by the inclusion of additional schools that were identified through the 2009–10 PSS area frame data collection.

The NCES data product 2011–12 Schools and Staffing Survey (SASS) Restricted-Use Data Files (NCES 2014-356) is available. (Information on how to obtain a restricted-use data license is located at <u>http://nces.ed.gov/pubsearch/licenses.asp</u>.) This DVD contains eight files (Public School District, Public School Principal, Public School, Public School Teacher, Public School Library Media Center, Private School Principal, Private School, and Private School Teacher) in multiple formats. It also contains a six-volume User's Manual, which includes a codebook for each file.

Further information on SASS may be obtained from

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### Teacher Follow-Up Survey

The Teacher Follow-up Survey (TFS) is a follow-up survey of selected elementary and secondary school teachers who participate in the NCES Schools and Staffing Survey (SASS). Its purpose is to determine how many teachers remain at the same school, move to another school, or leave the profession in the year following a SASS administration. It is administered to elementary and secondary teachers in the 50 states and the District of Columbia. The TFS uses two questionnaires, one for teachers who left teaching since the previous SASS administration and another for those who are still teaching either in the same school as last year or in a different school. The objective of the TFS is to focus on the characteristics of each group in order to answer questions about teacher mobility and attrition.

The 2008–09 TFS is different from any previous TFS administration in that it also serves as the second wave of a longitudinal study of first-year teachers. Because of this, the 2008–09 TFS consists of four questionnaires. Two are for respondents who were first-year public school teachers in the 2007–08 SASS and two are for the remainder of the sample.

The 2012–13 TFS sample was made up of teachers who had taken the 2011–12 SASS survey. The 2012–13 TFS sample contained about 5,800 public school teachers and 1,200 private school teachers. The weighted overall response rate using the initial basic weight for private school teachers was notably low (39.7 percent), resulting in a decision to exclude private school teachers from the 2012–13 TFS data files. The weighted overall response rate for public school teachers was 49.9 percent (50.3 percent for current and 45.6 percent for former teachers). Further information about the 2012–13 TFS, including the analysis of unit nonresponse bias, is available in the First Look report *Teacher Attrition and Mobility: Results From the 2012–13 Teacher Follow-up Survey* (NCES 2014-077).

Further information on the TFS may be obtained from

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# **Bureau of Economic Analysis**

#### National Income and Product Accounts

The National Income and Product Accounts (NIPAs), produced by the Bureau of Economic Analysis, are a set of economic accounts that provide information on the value and composition of output produced in the United States during a given period. NIPAs present measures of economic activity in the United States, including production, income distribution, and personal savings. NIPAs also include data on employee compensation and wages. These estimations were first calculated in the early 1930s to help the government design economic policies to combat the Great Depression. Most of the NIPA series are published quarterly, with annual reviews of estimates from the three most recent years conducted in the summer.

Revisions to the NIPAs have been made over the years to create a more comprehensive economic picture of the United States. For example, in 1976, consumption of fixed capital (CFC) estimates shifted to a current-cost basis. In 1991, NIPAs began to use gross domestic product (GDP) instead of gross national product (GNP) as the primary measure of U.S. production. (At that time, virtually all other countries were already using GDP as their primary measure of production.) In the 2003 comprehensive revision, a more complete and accurate measure of insurance services was adopted. The incorporation of a new classification system for personal consumption expenditures (PCE) was among the changes contained in the 2009 comprehensive revision. The comprehensive revision of 2013 included the treatment of research and development expenditures by business, government, and nonprofit institutions serving households as fixed investment. As was the case in previous years, the most recent revisions, made in 2015, were the result of the incorporation of newly available and revised source data and the adoption of improved estimating methods.

NIPAs are slowly being integrated with other federal account systems, such as the federal account system of the Bureau of Labor Statistics.

Further information on NIPAs may be obtained from

U.S. Department of Commerce Bureau of Economic Analysis <u>www.bea.gov</u>

## **Bureau of Labor Statistics**

#### **Consumer Price Indexes**

The Consumer Price Index (CPI) represents changes in prices of all goods and services purchased for consumption by urban households. Indexes are available for two population groups: a CPI for All Urban Consumers (CPI-U) and a CPI for Urban Wage Earners and Clerical Workers (CPI-W). Unless otherwise specified, data are adjusted for inflation using the CPI-U. These values are generally adjusted to a school-year basis by averaging the July through June figures. Price indexes are available for the United States, the four Census regions, size of city, cross-classifications of regions and size classes, and 26 local areas. The major uses of the CPI include as an economic indicator, as a deflator of other economic series, and as a means of adjusting income.

Also available is the Consumer Price Index research series using current methods (CPI-U-RS), which presents an estimate of the CPI-U from 1978 to the present that incorporates most of the improvements that the Bureau of Labor Statistics has made over that time span into the entire series. The historical price index series of the CPI-U does not reflect these changes, though these changes do make the present and future CPI more accurate. The limitations of the CPI-U-RS include considerable uncertainty surrounding the magnitude of the adjustments and the several improvements in the CPI that have not been incorporated into the CPI-U-RS for various reasons. Nonetheless, the CPI-U-RS can serve as a valuable proxy for researchers needing a historical estimate of inflation using current methods. This series has not been used in this report.

Further information on consumer price indexes may be obtained from Bureau of Labor Statistics

U.S. Department of Labor 2 Massachusetts Avenue NE Washington, DC 20212 <u>http://www.bls.gov/cpi</u>

#### **Employment and Unemployment Surveys**

Statistics on the employment and unemployment status of the population and related data are compiled by the Bureau of Labor Statistics (BLS) using data from the Current Population Survey (CPS) (see below) and other surveys. The CPS, a monthly household survey conducted by the U.S. Census Bureau for the Bureau of Labor Statistics, provides a comprehensive body of information on the employment and unemployment experience of the nation's population, classified by age, sex, race, and various other characteristics.

Further information on unemployment surveys may be obtained from

Bureau of Labor Statistics U.S. Department of Labor 2 Massachusetts Avenue NE Washington, DC 20212 <u>cpsinfo@bls.gov</u> <u>http://www.bls.gov/bls/employment.htm</u>

# **Census Bureau**

#### **Current Population Survey**

The Current Population Survey (CPS) is a monthly survey of about 60,000 households conducted by the U.S. Census Bureau for the Bureau of Labor Statistics. The CPS is the primary source of information of labor force statistics for the U.S. noninstitutionalized population (e.g., it excludes military personnel and their families living on bases and inmates of correctional institutions). In addition, supplemental questionnaires are used to provide further information about the U.S. population. Specifically, in October, detailed questions regarding school enrollment and school characteristics are asked. In March, detailed questions regarding income are asked. The current sample design, introduced in July 2001, includes about 72,000 households. Each month about 58,900 of the 72,000 households are eligible for interview, and of those, 7 to 10 percent are not interviewed because of temporary absence or unavailability. Information is obtained each month from those in the household who are 15 years of age and older, and demographic data are collected for children 0–14 years of age. In addition, supplemental questions regarding school enrollment are asked about eligible household members ages 3 and older in the October survey. Prior to July 2001, data were collected in the CPS from about 50,000 dwelling units. The samples are initially selected based on the decennial census files and are periodically updated to reflect new housing construction.

A major redesign of the CPS was implemented in January 1994 to improve the quality of the data collected. Survey questions were revised, new questions were added, and computer-assisted interviewing methods were used for the survey data collection. Further information about the redesign is available in *Current Population Survey, October 1995: (School Enrollment Supplement) Technical Documentation* at <a href="http://www.census.gov/prod/techdoc/cps/cpsoct95.pdf">http://www.census.gov/prod/techdoc/cps/cpsoct95.pdf</a>.

Caution should be used when comparing data from 1994 through 2001 with data from 1993 and earlier. Data from 1994 through 2001 reflect 1990 census-based population controls, while data from 1993 and earlier reflect 1980 or earlier censusbased population controls. Changes in population controls generally have relatively little impact on summary measures such as means, medians, and percentage distributions. They can have a significant impact on population counts. For example, use of the 1990 census-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 will differ from those for earlier years by more than what could be attributed to actual changes in the population. These differences could be disproportionately greater for certain subpopulation groups than for the total population.

Beginning in 2003, race/ethnicity questions expanded to include information on people of two or more races. Native Hawaiian/Pacific Islander data are collected separately from Asian data. The questions have also been worded to make it clear that self-reported data on race/ethnicity should reflect the race/ethnicity with which the responder identifies, rather than what may be written in official documentation.

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; methods for deriving standard errors can be found within the CPS technical documentation at <a href="http://www.census.gov/programs-surveys/cps/technical-documentation/complete.html">http://www.census.gov/programs-surveys/cps/technical-documentation/complete.html</a>. The CPS data are subject to both nonsampling and sampling errors.

Prior to 2009, standard errors were estimated using the generalized variance function. The generalized variance function is a simple model that expresses the variance as a function of the expected value of a survey estimate. Beginning with March 2009 CPS data, standard errors were estimated using replicate weight methodology. Those interested in using CPS household-level supplement replicate weights to calculate variances may refer to *Estimating Current Population Survey (CPS) Household-Level Supplement Variances Using Replicate Weights* at <a href="http://thedataweb.rm.census.gov/pub/cps/supps/HH-level\_Use\_of\_the\_Public\_Use\_Replicate\_Weight\_File.doc">http://thedataweb.rm.census.gov/pub/cps/supps/HH-level\_Use\_of\_the\_Public\_Use\_Replicate\_Weight\_File.doc</a>.

Further information on CPS may be obtained from

Education and Social Stratification Branch Population Division Census Bureau U.S. Department of Commerce 4600 Silver Hill Road Washington, DC 20233 http://www.census.gov/cps

#### Dropouts

Each October, the Current Population Survey (CPS) includes supplemental questions on the enrollment status of the population ages 3 years and over as part of the monthly basic survey on labor force participation. In addition to gathering the information on school enrollment, with the limitations on accuracy as noted below under "School Enrollment," the survey data permit calculations of dropout rates. Both status and event dropout rates are tabulated from the October CPS. Event rates describe the proportion of students who leave school each year without completing a high school program. Status rates provide cumulative data on dropouts among all young adults within a specified age range. Status rates are higher than event rates because they include all dropouts ages 16 through 24, regardless of when they last attended school.

In addition to other survey limitations, dropout rates may be affected by survey coverage and exclusion of the institutionalized population. The incarcerated population has grown more rapidly and has a higher dropout rate than the general population. Dropout rates for the total population might be higher than those for the noninstitutionalized population if the prison and jail populations were included in the dropout rate calculations. On the other hand, if military personnel, who tend to be high school graduates, were included, it might offset some or all of the impact from the theoretical inclusion of the jail and prison populations.

Another area of concern with tabulations involving young people in household surveys is the relatively low coverage ratio compared to older age groups. CPS undercoverage results from missed housing units and missed people within sample households. Overall CPS undercoverage for October 2015 is estimated to be about 11 percent. CPS coverage varies with age, sex, and race. Generally, coverage is larger for females than for males and larger for non-Blacks than for Blacks. This differential coverage is a general problem for most household-based surveys. Further information on CPS methodology may be found in the technical documentation at <u>http://www.census.gov/cps</u>.

Further information on the calculation of dropouts and dropout rates may be obtained from *Trends in High School Dropout* and *Completion Rates in the United States: 2013* (NCES 2016-117) at <u>http://nces.ed.gov/pubs2016/2016117rev.pdf</u> or by contacting

Joel McFarland Annual Reports and Information Staff National Center for Education Statistics 550 12th Street SW Washington, DC 20202 joel.mcfarland@ed.gov

#### School Enrollment

Each October, the Current Population Survey (CPS) includes supplemental questions on the enrollment status of the population ages 3 years and over. Prior to 2001, the October supplement consisted of approximately 47,000 interviewed households. Beginning with the October 2001 supplement, the sample was expanded by 9,000 to a total of approximately 56,000 interviewed households. The main sources of nonsampling variability in the responses to the supplement are those inherent in the survey instrument. The question of current enrollment may not be answered accurately for various reasons. Some respondents may not know current grade information for every student in the household, a problem especially prevalent for households with members in college or in nursery school. Confusion over college credits or hours taken by a student may make it difficult to determine the year in which the student is enrolled. Problems may occur with the definition of nursery school (a group or class organized to provide educational experiences for children) where respondents' interpretations of "educational experiences" vary.

For the October 2015 basic CPS, the household-level nonresponse rate was 12.9 percent. The person-level nonresponse rate for the school enrollment supplement was an additional 8.9 percent. Since the basic CPS nonresponse rate is a household-level rate and the school enrollment supplement nonresponse rate is a person-level rate, these rates cannot be combined to derive an overall nonresponse rate. Nonresponding households may have fewer persons than interviewed ones, so combining these rates may lead to an overestimate of the true overall nonresponse rate for persons for the school enrollment supplement.

Further information on CPS methodology may be obtained from http://www.census.gov/cps.

Further information on the CPS School Enrollment Supplement may be obtained from

Education and Social Stratification Branch Census Bureau U.S. Department of Commerce 4600 Silver Hill Road Washington, DC 20233 http://www.census.gov/topics/education/school-enrollment.html

### Decennial Census, Population Estimates, and Population Projections

The Decennial Census is a universe survey mandated by the U.S. Constitution. It is a questionnaire sent to every household in the country, and it is composed of seven questions about the household and its members (name, sex, age, relationship, Hispanic origin, race, and whether the housing unit is owned or rented). The Census Bureau also produces annual estimates of the resident population by demographic characteristics (age, sex, race, and Hispanic origin) for the nation, states, and counties, as well as national and state projections for the resident population. The reference date for population estimates is July 1 of the given year. With each new issue of July 1 estimates, the Census Bureau revises estimates for each year back to the last census. Previously published estimates are superseded and archived.

Further information on the Decennial Census may be obtained from http://www.census.gov.

#### National Population Projections

The 2014 National Population Projections, the first based on the 2010 Census, provide projections of resident population and projections of the United States resident population by age, sex, race, and Hispanic origin from 2014 through 2060. The following is a general description of the methods used to produce the 2014 National Population Projections.

The projections were produced using a cohort component method beginning with an estimated base population for July 1, 2013. First, components of population change (mortality, fertility, and net international migration) were projected. Next, for each passing year, the population is advanced one year of age and the new age categories are updated using the projected survival rates and levels of net international migration for that year. A new birth cohort is then added to form the population under one year of age by applying projected age specific fertility rates to the average female population aged 10 to 54 years and updating the new cohort for the effects of mortality and net international migration.

The assumptions for the components of change were based on time series analysis. Initially, demographic models were used to summarize historical trends. Further information on the methodologies used to produce the 2014 National Population Projections may be obtained from <u>https://www.census.gov/programs-surveys/popproj.html</u>.

#### 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:

- $P_{I}$  = population at the end of the period
- $P_{o}$  = 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 the cohort-component method was applied to 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 (ages 15 to 49). 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 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 on Census Bureau projections may be obtained from

Population Division Census Bureau U.S. Department of Commerce Washington, DC 20233 <u>http://www.census.gov</u>

## **OTHER SOURCES**

#### IHS Global Inc.

IHS Global 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 IHS Global Inc. 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

IHS Global Inc. 15 Inverness Way East Englewood, CO 80112 http://www.ihsglobalinsight.com

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# Appendix E List of Abbreviations

ADA	Average daily attendance
CCD	Common Core of Data
СРІ	Consumer Price Index
CPS	Current Population Survey
CV	Coefficient of Variation
D.W. statistic	Durbin-Watson statistic
FTE	Full-time-equivalent
HEGIS	Higher Education General Information Survey
IPEDS	Integrated Postsecondary Education Data System
IPEDS-C	Integrated Postsecondary Education Data System, Completions Survey
IPEDS-EF	Integrated Postsecondary Education Data System, Fall Enrollment Survey
MAPE	Mean absolute percentage error
NCES	National Center for Education Statistics
PreK	Prekindergarten
PreK–8	Prekindergarten through grade 8
PreK–12	Prekindergarten through grade 12
PSS	Private School Survey
SASS	Schools and Staffing Survey

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# Appendix F Glossary

# Α

*Alternative school* A public elementary/secondary school that serves students whose needs cannot be met in a regular, special education, or vocational school; may provide nontraditional education; and may serve as an adjunct to a regular school. Although alternative schools fall outside the categories of regular, special education, and vocational education, they may provide similar services or curriculum. Some examples of alternative schools are schools for potential dropouts; residential treatment centers for substance abuse (if they provide elementary or secondary education); schools for chronic truants; and schools for students with behavioral problems.

*Associate's degree* A degree granted for the successful completion of a sub-baccalaureate program of studies, usually requiring at least 2 years (or equivalent) of full-time college-level study. This includes degrees granted in a cooperative or work-study program.

*Autocorrelation* Correlation of the error terms from different observations of the same variable. Also called Serial correlation.

Average daily attendance (ADA) The aggregate attendance of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered days in session.

Average daily membership (ADM) The aggregate membership of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered as days in session. The average daily membership for groups of schools having varying lengths of terms is the average of the average daily memberships obtained for the individual schools. Membership includes all pupils who are enrolled, even if they do not actually attend.

# В

*Bachelor's degree* A degree granted for the successful completion of a baccalaureate program of studies, usually requiring at least 4 years (or equivalent) of full-time college-level study. This includes degrees granted in a cooperative or work-study program.

*Breusch-Godfrey serial correlation LM test* A statistic testing the independence of errors in least-squares regression against alternatives of first-order and higher degrees of serial correlation. The test belongs to a class of asymptotic tests known as the Lagrange multiplier (LM) tests.

# С

*Capital outlay* Funds for the acquisition of land and buildings; building construction, remodeling, and additions; the initial installation or extension of service systems and other built-in equipment; and site improvement. The category also encompasses architectural and engineering services including the development of blueprints.

*Certificate* A formal award certifying the satisfactory completion of a postsecondary education program. Certificates can be awarded at any level of postsecondary education and include awards below the associate's degree level.

*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.

**Coefficient of variation (CV)** Represents the ratio of the standard error to the estimate. For example, a CV of 30 percent indicates that the standard error of the estimate is equal to 30 percent of the estimate's value. The CV is used to compare the amount of variation relative to the magnitude of the estimate. A CV of 30 percent or greater indicates that an estimate should be interpreted with caution. For a discussion of standard errors, see Appendix A: Guide to Sources.

*Cohort* A group of individuals that have a statistical factor in common, for example, year of birth.

**Cohort-component method** A method for estimating and projecting a population that is distinguished by its ability to preserve knowledge of an age distribution of a population (which may be of a single sex, race, and Hispanic origin) over time.

**College** A postsecondary school that offers general or liberal arts education, usually leading to an associate's, bachelor's, master's, or doctor's degree. Junior colleges and community colleges are included under this terminology.

**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. Indexes vary for specific areas or regions, periods of time, major groups of consumer expenditures, and population groups. The CPI reflects spending patterns for two population groups: (1) all urban consumers and urban wage earners and (2) clerical workers. CPIs are calculated for both the calendar year and the school year using the U.S. All Items CPI for All Urban Consumers (CPI-U). The calendar year CPI is the same as the annual CPI-U. The school year CPI is calculated by adding the monthly CPI-U figures, beginning with July of the first year and ending with June of the following year, and then dividing that figure by 12.

**Control of institutions** A classification of institutions of elementary/secondary or postsecondary education by whether the institution is operated by publicly elected or appointed officials and derives its primary support from public funds (public control) or is operated by privately elected or appointed officials and derives its major source of funds from private sources (private control).

*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, benefits, student transportation, school books and materials, and energy costs. Beginning in 1980–81, expenditures for state administration are excluded.

*Instruction expenditures* Includes expenditures for activities related to the interaction between teacher and students. Includes salaries and benefits for teachers and instructional aides, textbooks, supplies, and purchased services such as instruction via television. Also included are tuition expenditures to other local education agencies.

*Administration expenditures* Includes expenditures for school administration (i.e., the office of the principal, full-time department chairpersons, and graduation expenses), general administration (the superintendent and board of education and their immediate staff), and other support services expenditures.

*Transportation* Includes expenditures for vehicle operation, monitoring, and vehicle servicing and maintenance.

*Food services* Includes all expenditures associated with providing food to students and staff in a school or school district. The services include preparing and serving regular and incidental meals or snacks in connection with school activities, as well as the delivery of food to schools.

*Enterprise operations* Includes expenditures for activities that are financed, at least in part, by user charges, similar to a private business. These include operations funded by sales of products or services, together with amounts for direct program support made by state education agencies for local school districts.

#### Current expenditures per pupil in average daily

*attendance* Current expenditures for the regular school term divided by the average daily attendance of full-time pupils (or full-time equivalency of pupils) during the term. See also Current expenditures and Average daily attendance.

# D

**Degree** An award conferred by a college, university, or other postsecondary education institution as official recognition for the successful completion of a program of studies. Refers specifically to associate's or higher degrees conferred by degree-granting institutions. See also Associate's degree, Bachelor's degree, Master's degree, and Doctor's degree.

**Degree/certificate-seeking student** A student enrolled in courses for credit and recognized by the institution as seeking a degree, certificate, or other formal award. High school students also enrolled in postsecondary courses for credit are not considered degree/certificate-seeking. See also Degree and Certificate.

**Degree-granting institutions** Postsecondary institutions that are eligible for Title IV federal financial aid programs and 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.

**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.

**Department of Defense (DoD) dependents schools** Schools that are operated by the Department of Defense Education Activity (a civilian agency of the U.S. Department of Defense) and provide comprehensive prekindergarten through 12th-grade educational programs on military installations both within the United States and overseas.

**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,  $y_i$ is expressed as a function of variables x1, x2, ... xk, plus a stochastic term, then y is known as the "dependent variable." **Disposable personal income** Current income received by people less their contributions for social insurance, personal tax, and nontax payments. It is the income available to people 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. Includes such degrees as the Doctor of Education (Ed.D.); the Doctor of Juridical Science (S.J.D.); the Doctor of Public Health (Dr.P.H.); and the Doctor of Philosophy (Ph.D.) in any field, such as agronomy, food technology, education, engineering, public administration, ophthalmology, or radiology. The doctor's degree classification encompasses three main subcategories research/scholarship degrees, professional practice degrees, and other degrees—which are described below.

**Doctor's degree**—research/scholarship A Ph.D. or other doctor's degree that requires advanced work beyond the master's level, including the preparation and defense of a dissertation based on original research, or the planning and execution of an original project demonstrating substantial artistic or scholarly achievement. Examples of this type of degree may include the following and others, as designated by the awarding institution: the Ed.D. (in education), D.M.A. (in musical arts), D.B.A. (in business administration), D.Sc. (in science), D.A. (in arts), or D.M. (in medicine).

Doctor's degree—professional practice A doctor's degree that is conferred upon completion of a program providing the knowledge and skills for the recognition, credential, or license required for professional practice. The degree is awarded after a period of study such that the total time to the degree, including both preprofessional and professional preparation, equals at least 6 full-timeequivalent academic years. Some doctor's degrees of this type were formerly classified as first-professional degrees. Examples of this type of degree may include the following and others, as designated by the awarding institution: the D.C. or D.C.M. (in chiropractic); D.D.S. or D.M.D. (in dentistry); L.L.B. or J.D. (in law); M.D. (in medicine); O.D. (in optometry); D.O. (in osteopathic medicine); Pharm.D. (in pharmacy); D.P.M., Pod.D., or D.P. (in podiatry); or D.V.M. (in veterinary medicine).

*Doctor's degree—other* A doctor's degree that does not meet the definition of either a doctor's degree—research/ scholarship or a doctor's degree—professional practice.

**Double exponential smoothing** A method that takes a single smoothed average component of demand and smoothes it a second time to allow for estimation of a trend effect.

**Dropout** The term is used to describe both the event of leaving school before completing high school and the status of an individual who is not in school and who is not a high school completer. High school completers include both

graduates of school programs as well as those completing high school through equivalency programs such as the General Educational Development (GED) program. Transferring from a public school to a private school, for example, is not regarded as a dropout event. A person who drops out of school may later return and graduate but is called a "dropout" at the time he or she leaves school. Measures to describe these behaviors include the event dropout rate (or the closely related school persistence rate), the status dropout rate, and the high school completion rate.

**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.

# Ε

*Econometrics* The quantitative examination of economic trends and relationships using statistical techniques, and the development, examination, and refinement of those techniques.

*Elementary school* A school classified as elementary by state and local practice and composed of any span of grades not above grade 8.

*Elementary/secondary school* Includes only schools that are part of state and local school systems, and also most nonprofit private elementary/secondary schools, both religiously affiliated and nonsectarian. Includes regular, alternative, vocational, and special education schools. U.S. totals exclude federal schools for American Indians, and federal schools on military posts and other federal installations.

*Enrollment* The total number of students registered in a given school unit at a given time, generally in the fall of a year.

*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.

*Expenditures, Total* For elementary/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, extension of credit, or as agency transactions. 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 among the governments.

*Expenditures per pupil* Charges incurred for a particular period of time divided by a student unit of measure, such as average daily attendance or fall enrollment.

*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.

# F

*Financial aid* Grants, loans, assistantships, scholarships, fellowships, tuition waivers, tuition discounts, veteran's benefits, employer aid (tuition reimbursement), and other monies (other than from relatives or friends) provided to students to help them meet expenses. Except where designated, includes Title IV subsidized and unsubsidized loans made directly to students.

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

*First-professional degree* NCES no longer uses this classification. Most degrees formerly classified as first-professional (such as M.D., D.D.S., Pharm.D., D.V.M., and J.D.) are now classified as doctor's degrees—professional practice. However, master's of divinity degrees are now classified as master's degrees.

*First-time student (undergraduate)* A student who has no prior postsecondary experience (except as noted below) attending any institution for the first time at the undergraduate level. Includes students enrolled in the fall term who attended college for the first time in the prior summer term, and students who entered with advanced standing (college credits earned before graduation from high school).

*Fiscal year* A period of 12 months for which accounting records are compiled. Institutions and states may designate their own accounting period, though most states use a July 1 through June 30 accounting year. The yearly accounting period for the federal government begins on October 1 and ends on the following September 30. The fiscal year is designated by the calendar year in which it ends; e.g., fiscal year 2006 begins on October 1, 2005, and ends on September 30, 2006. (From fiscal year 1844 to fiscal year 1976, the federal fiscal year began on July 1 and ended on the following June 30.)

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

*Forecasting* Assessing the magnitude 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.

*For-profit institution* A private institution in which the individual(s) or agency in control receives compensation other than wages, rent, or other expenses for the assumption of risk.

FTE teacher See Instructional staff.

*Full-time enrollment* The number of students enrolled in postsecondary education courses with total credit load equal to at least 75 percent of the normal full-time course load. At the undergraduate level, full-time enrollment typically includes students who have a credit load of 12 or more semester or quarter credits. At the postbaccalaureate level, full-time enrollment includes students who typically have a credit load of 9 or more semester or quarter credits, as well as other students who are considered full time by their institutions.

*Full-time-equivalent (FTE) enrollment* For postsecondary institutions, enrollment of full-time students, plus the full-time equivalent of part-time students. The full-time equivalent of the part-time students is estimated using different factors depending on the type and control of institution and level of student.

*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.

# G

*Geographic region* One of the four regions of the United States used by the U.S. Census Bureau, as follows:

Northeast Connecticut (CT) Maine (ME) Massachusetts (MA) New Hampshire (NH) New Jersey (NJ) New York (NY) Pennsylvania (PA) Rhode Island (RI) Vermont (VT) Midwest

Illinois (IL) Indiana (IN) Iowa (IA) Kansas (KS) Michigan (MI) Minnesota (MN) Missouri (MO) Nebraska (NE) North Dakota (ND) Ohio (OH) South Dakota (SD) Wisconsin (WI)

*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 are working towards a master's or doctor's degree and students who are in postbaccalaureate classes but not in degree programs.

# Н

*High school* A secondary school offering the final years of high school work necessary for graduation, usually includes grades 10, 11, 12 (in a 6-3-3 plan) or grades 9, 10, 11, and 12 (in a 6-2-4 plan).

*High school completer* An individual who has been awarded a high school diploma or an equivalent credential, including a General Educational Development (GED) certificate.

*High school diploma* A formal document regulated by the state certifying the successful completion of a prescribed secondary school program of studies. In some states or communities, high school diplomas are differentiated by type, such as an academic diploma, a general diploma, or a vocational diploma.

*High school equivalency certificate* A formal document certifying that an individual has met the state requirements for high school graduation equivalency by obtaining satisfactory scores on an approved examination and meeting other performance requirements (if any) set by a state education agency or other appropriate body. One particular version of this certificate is the General Educational Development (GED) test. The GED test is a comprehensive test used primarily to appraise the educational development of students who have not completed their formal high school education and who may earn a high school equivalency certificate by achieving satisfactory scores. GEDs are awarded by the states or other agencies, and the test is developed and distributed by the GED Testing Service (a joint venture of the American Council on Education and Pearson).

*Higher education* Study beyond secondary school at an institution that offers programs terminating in an associate's, bachelor's, or higher degree.

## I

*Income tax* Taxes levied on net income, that is, on gross income less certain deductions permitted by law. These taxes can be levied on individuals or on corporations or unincorporated businesses where the income is taxed distinctly from individual income.

*Independent variable* In regression analysis, a random variable, *y*, is expressed as a function of variables *x1*, *x2*, ... *xk*, plus a stochastic term; the *x*'s are known as "independent variables."

*Inflation* A rise in the general level of prices of goods and services in an economy over a period of time, which generally corresponds to a decline in the real value of money or a loss of purchasing power. See also Constant dollars and Purchasing Power Parity indexes.

*Instruction (elementary and secondary)* Instruction encompasses all activities dealing directly with the interaction between teachers and students. Teaching may be provided for students in a school classroom, in another location such as a home or hospital, and in other learning situations such as those involving co-curricular activities. Instruction may be provided through some other approved medium, such as the Internet, television, radio, telephone, and correspondence.

*Instructional staff* Full-time-equivalent number of positions, not the number of different individuals occupying the positions during the school year. In local schools, includes all public elementary and secondary (junior and senior high) day-school positions that are in the nature of teaching or in the improvement of the teaching-learning situation; includes consultants or supervisors of instruction, principals, teachers, guidance personnel, librarians, psychological personnel, and other instructional staff, and excludes administrative staff, attendance personnel, clerical personnel, and junior college staff.

*Interest on debt* Includes expenditures for long-term debt service interest payments (i.e., those longer than 1 year).

Interpolation See Linear interpolation.

# L

*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.

*Lead time* When forecasting a statistic, the number of time periods since the last time period of actual data for that statistic used in producing the forecast.

*Level of school* A classification of elementary/secondary schools by instructional level. Includes elementary schools, secondary schools, and combined elementary and secondary school. See also Elementary school, Secondary school, and Combined elementary and secondary school.

*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.

Local education agency (LEA) See School district.

# Μ

Master's degree A degree awarded for successful completion of a program generally requiring 1 or 2 years of full-time college-level study beyond the bachelor's degree. One type of master's degree, including the Master of Arts degree, or M.A., and the Master of Science degree, or M.S., is awarded in the liberal arts and sciences for advanced scholarship in a subject field or discipline and demonstrated ability to perform scholarly research. A second type of master's degree is awarded for the completion of a professionally oriented program, for example, an M.Ed. in education, an M.B.A. in business administration, an M.F.A. in fine arts, an M.M. in music, an M.S.W. in social work, and an M.P.A. in public administration. Some master's degrees—such as divinity degrees (M.Div. or M.H.L./Rav), which were formerly classified as "first-professional"-may require more than 2 years of full-time study beyond the bachelor's degree.

*Mean absolute percentage error (MAPE)* The average value of the absolute value of errors expressed in percentage terms.

*Migration* Geographic mobility involving a change of usual residence between clearly defined geographic units, that is, between counties, states, or regions.

*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.

# Ν

#### Non-degree-granting institutions Postsecondary

institutions that participate in Title IV federal financial aid programs but do not offer accredited 4-year or 2-year degree programs. Includes some institutions transitioning to higher level program offerings, though still classified at a lower level.

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

*Nursery school* An instructional program for groups of children during the year or years preceding kindergarten, which provides educational experiences under the direction of teachers. See also Prekindergarten and Preschool.

# 0

*Ordinary least squares (OLS)* The estimator that minimizes the sum of squared residuals.

### Ρ

**Parameter** A quantity that describes a statistical population.

**Part-time enrollment** The number of students enrolled in postsecondary education courses with a total credit load less than 75 percent of the normal full-time credit load. At the undergraduate level, part-time enrollment typically includes students who have a credit load of less than 12 semester or quarter credits. At the postbaccalaureate level, part-time enrollment typically includes students who have a credit load of less than 9 semester or quarter credits.

**Personal income** Current income received by people from all sources, minus their personal contributions for social insurance. Classified as "people" 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 and military pensions, but excludes transfers among people.

**Postbaccalaureate enrollment** The number of students working towards advanced degrees and of students enrolled in graduate-level classes but not enrolled in degree programs. See also Graduate enrollment.

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

#### Postsecondary institutions (basic classification by level)

**4-year institution** An institution offering at least a 4-year program of college-level studies wholly or principally creditable toward a baccalaureate degree.

**2-year institution** An institution offering at least a 2-year program of college-level studies which terminates in an associate degree or is principally creditable toward a baccalaureate degree. Data prior to 1996 include some institutions that have a less-than-2-year program, but were designated as institutions of higher education in the Higher Education General Information Survey.

*Less-than-2-year institution* An institution that offers programs of less than 2 years' duration below the baccalaureate level. Includes occupational and vocational schools with programs that do not exceed 1,800 contact hours.

**Prekindergarten** Preprimary education for children typically ages 3–4 who have not yet entered kindergarten. It may offer a program of general education or special education and may be part of a collaborative effort with Head Start.

**Preschool** An instructional program enrolling children generally younger than 5 years of age and organized to provide children with educational experiences under professionally qualified teachers during the year or years immediately preceding kindergarten (or prior to entry into elementary school when there is no kindergarten). See also Nursery school and Prekindergarten.

*Primary school* A school with at least one grade lower than 5 and no grade higher than 8.

**Private institution** An institution that is controlled by an individual or agency other than a state, a subdivision of a state, or the federal government, which is usually supported primarily by other than public funds, and the operation of whose program rests with other than publicly elected or appointed officials.

**Private nonprofit institution** An institution in which the individual(s) or agency in control receives no compensation other than wages, rent, or other expenses for the assumption of risk. These include both independent nonprofit institutions and those affiliated with a religious organization.

*Private for-profit institution* An institution in which the individual(s) or agency in control receives compensation other than wages, rent, or other expenses for the assumption of risk (e.g., proprietary schools).

**Private school** Private elementary/secondary schools surveyed by the Private School Universe Survey (PSS) are assigned to one of three major categories (Catholic, other religious, or nonsectarian) and, within each major category, one of three subcategories based on the school's religious affiliation provided by respondents.

*Catholic* Schools categorized according to governance, provided by Catholic school respondents, into parochial, diocesan, and private schools.

Other religious Schools that have a religious orientation or purpose but are not Roman Catholic. Other religious schools are categorized according to religious association membership, provided by respondents, into Conservative Christian, other affiliated, and unaffiliated schools. Conservative Christian schools are those "Other religious" schools with membership in at least one of four associations: Accelerated Christian Education, American Association of Christian Schools, Association of Christian Schools International, and Oral Roberts University Education Fellowship. Affiliated schools are those "Other religious" schools not classified as Conservative Christian with membership in at least 1 of 11 associations-Association of Christian Teachers and Schools, Christian Schools International, Evangelical Lutheran Education Association, Friends Council on Education, General Conference of the Seventh-Day Adventist Church, Islamic School League of America, National Association of Episcopal Schools,

National Christian School Association, National Society for Hebrew Day Schools, Solomon Schechter Day Schools, and Southern Baptist Association of Christian Schools or indicating membership in "other religious school associations." Unaffiliated schools are those "Other religious" schools that have a religious orientation or purpose but are not classified as Conservative Christian or affiliated.

*Nonsectarian* Schools that do not have a religious orientation or purpose and are categorized according to program emphasis, provided by respondents, into regular, special emphasis, and special education schools. Regular schools are those that have a regular elementary/secondary or early childhood program emphasis. Special emphasis schools are those that have a Montessori, vocational/technical, alternative, or special program emphasis. Special education schools are those that have a special education program emphasis.

*Projection* In relation to a time series, an estimate of future values based on a current trend.

*Public school or institution* A school or institution controlled and operated by publicly elected or appointed officials and deriving its primary support from public funds.

**Pupil/teacher ratio** The enrollment of pupils at a given period of time, divided by the full-time-equivalent number of classroom teachers serving these pupils during the same period.

# R

 $R^2$  The coefficient of determination; the square of the correlation coefficient between the dependent variable and its ordinary least squares (OLS) estimate.

**Racial/ethnic group** Classification indicating general racial or ethnic heritage. Race/ethnicity data are based on the *Hispanic* ethnic category and the race categories listed below (five single-race categories, plus the *Two or more races* category). Race categories exclude persons of Hispanic ethnicity unless otherwise noted.

*White* A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

*Black or African American* A person having origins in any of the black racial groups of Africa. Used interchangeably with the shortened term *Black*.

*Hispanic or Latino* A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. Used interchangeably with the shortened term *Hispanic*.

*Asian* A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam. Prior to 2010–11, the Common Core of Data (CCD) combined Asian and Pacific Islander categories. *Native Hawaiian or Other Pacific Islander* A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. Prior to 2010–11, the Common Core of Data (CCD) combined Asian and Pacific Islander categories. Used interchangeably with the shortened term *Pacific Islander*.

*American Indian or Alaska Native* A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

*Two or more races* A person identifying himself or herself as of two or more of the following race groups: White, Black, Asian, Native Hawaiian or Other Pacific Islander, or American Indian or Alaska Native. Some, but not all, reporting districts use this category. "Two or more races" was introduced in the 2000 Census and became a regular category for data collection in the Current Population Survey (CPS) in 2003. The category is sometimes excluded from a historical series of data with constant categories. It is sometimes included within the category "Other."

*Region* See Geographic region.

*Regression analysis* A statistical technique for investigating and modeling the relationship between variables.

**Regular school** A public elementary/secondary or charter school providing instruction and education services that does not focus primarily on special education, vocational/technical education, or alternative education.

**Resident population** Includes civilian population and armed forces personnel residing within the United States; excludes armed forces personnel residing overseas.

**Revenue** 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, and 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.

*Rho* A measure of the correlation coefficient between errors in time period *t* and time period *t* minus 1.

# S

*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. Excludes schools that have closed or are planned for the future. *School district* An education agency at the local level that exists primarily to operate public schools or to contract for public school services. Synonyms are "local basic administrative unit" and "local education agency."

*Secondary enrollment* The total number of students registered in a school beginning with the next grade following an elementary or middle school (usually 7, 8, or 9) and ending with or below grade 12 at a given time.

*Senior high school* A secondary school offering the final years of high school work necessary for graduation.

*Serial correlation* Correlation of the error terms from different observations of the same variable. Also called Autocorrelation.

*Special education school* A public elementary/secondary school that focuses primarily on special education for children with disabilities and that adapts curriculum, materials, or instruction for students served.

**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.

**Student** An individual for whom instruction is provided in an educational program under the jurisdiction of a school, school system, or other education institution. No distinction is made between the terms "student" and "pupil," though "student" may refer to one receiving instruction at any level while "pupil" refers only to one attending school at the elementary or secondary level. A student may receive instruction in a school facility or in another location, such as at home or in a hospital. Instruction may be provided by direct student-teacher interaction or by some other approved medium such as television, radio, telephone, and correspondence.

**Student membership** Student membership is an annual headcount of students enrolled in school on October 1 or the school day closest to that date. The Common Core of Data (CCD) allows a student to be reported for only a single school or agency. For example, a vocational school (identified as a "shared time" school) may provide classes for students from a number of districts and show no membership.

# Т

Teacher see Instructional staff.

*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.

*Type of school* A classification of public elementary and secondary schools that includes the following categories: regular schools, special education schools, vocational schools, and alternative schools. See also Regular school, Special education school, vocational school, and Alternative school.

#### U

Unadjusted dollars See Current dollars.

**Undergraduate students** Students registered at an institution of postsecondary education who are working in a baccalaureate degree program or other formal program below the baccalaureate, such as an associate's degree, vocational, or technical program.

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

## V

Variable A quantity that may assume any one of a set of values.

# Y

*Years out* In forecasting by year, the number of years since the last year of actual data for that statistic used in producing the forecast.

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