How Does the EPE Research Center Calculate Graduation Rates?

The Cumulative Promotion Index (CPI)

The Editorial Projects in Education Research Center uses the **Cumulative Promotion Index** (CPI) method to calculate graduation rates. The CPI represents graduating from high school as a process rather than a single event. Specifically, it captures the four key steps a student must take in order to graduate: three grade-to-grade promotions (9 to 10, 10 to 11, and 11 to 12) and ultimately earning a diploma (grade 12 to graduation).

The depiction below illustrates the CPI formula for calculating graduation rates. The class of 2004-05, the most recent year of data available, is used as an example.

$$\text{CPI} = \frac{\text{10th graders, fall 2005}}{\text{9th graders, fall 2004}} \times \frac{\text{11th graders, fall 2005}}{\text{10th graders, fall 2004}} \times \frac{\text{12th graders, fall 2005}}{\text{11th graders, fall 2004}} \times \frac{\text{Diploma recipients, spring 2005}}{\text{12th graders, fall 2004}}$$

By multiplying grade-specific promotion ratios together, the CPI estimates the likelihood that a 9th grader will complete high school on time with a regular diploma, given the schooling conditions prevailing during a particular school year. The CPI counts only students receiving standard high school diplomas as graduates, following the definition of a graduate established by the No Child Left Behind Act.

We can use a simplified example to further demonstrate how the center calculates the CPI. Let us suppose that a particular school district currently has 100 students enrolled in each grade from 9 through 12. We will also assume that 5 percent of students currently in grades 9, 10, and 11 will drop out of school this year and that 5 percent of seniors will fail to earn a diploma at the end of the year. So, for example, we would count 100 9th graders at our starting point but only 95 10th graders the following fall.

$$\text{CPI} = \frac{95}{100} \times \frac{95}{100} \times \frac{95}{100} \times \frac{95}{100} = .815$$

Carrying out the calculation (shown above), we arrive at a graduation rate of 81.5 percent for this district. Given conditions in this hypothetical district (an effective 5 percent annual attrition rate for students at each grade level), only about 82 out of every 100 9th graders would be expected to finish high school with a diploma.

The CPI can be calculated for public school districts that have students enrolled in the secondary grades (9 through 12). State and national statistics are generated by aggregating the district-level data upward.

Notes on the Methodology

The EPE Research Center calculates graduation rates using data from the Common Core of Data (CCD), an annual census of public schools and school districts in the United States conducted by the U.S. Department of Education. Detailed methodological descriptions of the CCD can be found in technical documentation published by the National Center for Education Statistics (available online at nces.ed.gov/ccd). For the 2004-05 school year, diploma counts for Alabama were not reported to the CCD. The EPE Research Center obtained those data from the state education agency.

The center's goal is to provide a direct measure of the graduation rate for each of the roughly 11,000 school districts in the nation that enroll high school students. It was possible to do this for districts serving the vast majority (96 percent) of all public school students nationwide. But in a small number of cases—for example, if a particular piece of information needed to calculate the CPI indicator was missing—the center could not directly compute the graduation rate.

To avoid the unintentional disclosure of information about individual students, the EPE Research Center does not report results for very small demographic subgroups, those with fewer than five students in a given category. Additional procedures are employed to ensure that results are only reported in situations where sufficient data are available for a reliable calculation.