

Technical Details

Policy Note No. 28

"Trends in Postsecondary School Attendance, Kentucky and the United States, 1993-97 and 2003-07"

Data

This analysis is based on data from the Education and School Enrollment Supplement, or October Supplement, to the Current Population Survey.¹ Detailed information about this national survey of non-institutionalized people is available on the Census Bureau's Web site.²

We analyzed data in the mid-1990s and mid-2000s for both Kentucky and United States. The samples were comprised of data on the traditional postsecondary schooling age, those people who were 18 to 24 years old at the time of the survey. At the state level, the sample sizes for this limited segment of the population were too small for analytical purposes. To increase the sample sizes for greater statistical accuracy, we pooled five years of data in each time period. The two periods analyzed were comprised of pooled data from 1993-97 and 2003-07 in order to estimate how the probabilities differed over the ten year period in which significant reform efforts in postsecondary education had taken place in Kentucky at that time.

Dependent Variable

School Attendance. The dependent variable is based on the combination of the answers to two questions asked in the October Supplement Survey:

1. *Is [reference person] attending or enrolled in regular school? (Regular school includes elementary school and schooling which leads to a high school diploma or college university or professional school degree.)*
2. *Excluding regular college courses and on the job training is [reference person] taking any business, vocational, technical, secretarial, trade or correspondence courses?*

Although, "high school" is included in the first question, a separate question asked if the reference person had attended high school or college in the previous week and those people answering "high school" were excluded from the final analysis. If a person answered "yes" to either question, the dependent variable was set to "1" and "0" otherwise.

Models

We used Probit models to model the probability that someone 18 to 24 years old attended school at the postsecondary education level. The probability that the dependent variable would be "1" was modeled as a function of a person's age, family income, educational attainment, race and ethnicity, and residence in a rural or urban area. Four models were generated for the two time periods for both Kentucky and the United States. Table A.1 lists each variable used, its description, and the summary statistics of each used to calculate the probability of school attendance for the "average" 18- to 24-year-old in Kentucky and the United States. Table A.2 presents the parameter estimates for each of the four models.

All four models have strong predictive power. In each case, the model accurately predicts, within a few percentage points, the actual probability of attending school at the postsecondary level for the average person in each of the four 18 to 24 year old samples defined by the time period and the geographic level analyzed. For instance, the 2003-07 Kentucky model predicts a school attendance probability rate of 39 percent and the actual rate for this population is 41 percent. This predictive power extends to the remaining three samples analyzed in this study.

¹ CURRENT POPULATION SURVEYS, OCTOBER 1968-2007: SCHOOL ENROLLMENT [machine-readable data files]/conducted by the Bureau of the Census for the Bureau of Labor Statistics. Washington: Bureau of the Census [produces and distributor], 1968-2008. Los Angeles, CA: Unicon Research Corporation [producer and distributor of CPS Utilities], 2008.

² Technical documentation for the data used can be found at <<http://www.census.gov/apsd/techdoc/cps/cpsoct07.pdf>>.

TABLE A.1
Independent Variable Names, Description, and Summary Statistics,
Kentucky and the U.S., 1993-97 and 2003-07

Variable Name	Description of Variable	KY 1993-97	KY 2003-07	US 1993-97	US 2003-07
AGE	Age of person	20.84	21.00	21.02	21.00
WHITE	"1" if white non-Hispanic, "0" otherwise	89%	87%	67%	62%
MALE	"1" if male, "0" if female	47%	47%	50%	50%
METRO	"1" if in a metropolitan area, "0" otherwise	44%	53%	80%	85%
GRADE	Grade level attained ³	39.02	39.36	39.26	39.39
LOWEST*	"1" if family income in the lowest third based on Kentucky incomes, ⁴ "0" otherwise	29%	25%	26%	20%
MIDDLE	"1" if family income in the middle third, "0" otherwise	29%	30%	28%	28%
HIGHEST	"1" if family income in the highest third, "0" otherwise	30%	28%	38%	34%

**the reference group for the income category includes all observations indicating a "missing value" for income.*

TABLE A.2
Probit Model Parameter Estimates,*
Kentucky and the U.S., 1993-97 and 2003-07

Variable Name	KY 1993-97	KY 2003-07	US 1993-97	US 2003-07
INTERCEPT	-3.82	-3.13	-2.81	-1.52
AGE	-0.25	-0.28	-0.29	-0.29
WHITE	-0.18	1.03	1.02	0.06
MALE	-0.18	-0.03	-0.01	-0.08
METRO	-0.08	0.38	0.17	0.18
GRADE	0.23	0.21	0.21	0.18
LOWEST	-0.42	0.16	-0.05	-0.02
MIDDLE	-0.46	0.03	-0.17	-0.19
HIGHEST	0.04	0.50	0.21	0.16

**All parameter estimates are statistically significant at the 99 percent confidence level or better.*

³ Coding for educational attainment levels correspond to: 31, Less than 1st grade; 32, 1st, 2nd, 3rd, or 4th grade; 33, 5th or 6th grade; 34, 7th or 8th grade; 35, 9th grade; 36, 10th grade; 37, 11th grade; 38, 12th grade, no diploma; 39, High school graduate including a diploma or GED; 40, Some college but no degree; 41, Associate's degree in college for an occupational or vocational program; 42, Associates degree in college for an academic program; 43, Bachelor's degree in college; 44, Master's degree; 45, Professional school degree; 46, Doctorate degree.

⁴ In 1993-97, the three income categories as estimated by dividing the data into thirds based on family income levels are less than \$15,000 (lowest), \$15,000 to \$34,999 (middle), and \$35,000 and higher (highest). In 2003-07, the three income categories are less than \$20,000 (lowest), \$20,000 to \$49,999 (middle), and \$50,000 and higher (highest).

