DOCUMENT RESUME

ED 317 131                                                    HE 023 342

TITLE           Higher Education Enrollment: Fall 1987 to Fall 1993.
                Targeted Forecast.
INSTITUTION     National Center for Education Statistics (ED),
                Washington, DC.
REPORT NO       CS-89-644
PUB DATE        Jul 89
NOTE            5p.; Data Series: TF-89-3.1.
PUB TYPE        Statistical Data (110)

EDRS PRICE      MF01/PC01 Plus Postage.
DESCRIPTORS     *Enrollment Projections; *Enrollment Rate; Full Time
                Students; Graduate Study; Higher Education; National
                Surveys; Part Time Students; Private Colleges;
                Professional Education; Public Colleges; Research
                Methodology; Trend Analysis; Undergraduate Study

ABSTRACT
                Total higher education enrollment in fall 1989 is
projected at 13.1 million, nearly 2% over the previous year.
Full-time enrollment is expected to remain around 7.4 million, with
part-time enrollment increasing from 5.5 million in 1988 to 5.7
million in 1989. Enrollment at public institutions will rise from
10.0 million in 1988 to .0.2 million in 1989; at private colleges
enrollment will be 2.9 million, up from 2.8 million. At four-year
institutions, enrollment is projected to increase from 8.0 million
(1988) to 8.2 million (1989). In the next five years, total
enrollment will fluctuate, ending with 13.0 million in 1993. Public
institution enrollment will be 10.2 million in 1993, and enrollment
at private institutions will be about 2.9 million. Part-time students
are expected to number 5.8 million. In 1993, undergraduate enrollment
is projected at 11.2 million, graduate enrollment at 1.6 million, and
first-professional enrollment at 283,000. These data are also
displayed in tables, and notes on survey methodology are provided.
(MSE)

# NATIONAL CENTER FOR EDUCATION STATISTICS

## Targeted Forecast                                    July 1989

## Higher Education Enrollment: Fall 1987 to Fall 1993

### 1989 Higher Education Enrollment

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The National Center for Education Statistics (NCES) projects that total enrollment in institutions of higher education will be 13.1 million in fall 1989, nearly 2 percent more than the estimated 12.8 million college students enrolled in 1988.

Although the number of full-time students is projected to remain around 7.4 million, NCES forecasts that part-time enrollment will increase from 5.5 miliion in 1988 to 5.7 million in 1989.

Enrollment at public insitutions is projected to rise from 10.0 million in 1988 to 10.2 million in 1989. Enrollment in private colleges is projected to be 2.9 million in 1989. An estimated 2.8 million students enrolled in private institutions in 1988.

At 4-year institutions, enrollment is projected to increase from 8.0 million in 1988 to 8.2 million in 1989.

### 5-Year Outlook

In the next 5 years (1989 through 1993), NCES projects that total enrollment in institutions of higher education will fluctuate, ending with 13.0 million in 1993.

Enrollment at public institutions is projected to be 10.2 million in 1993; enrr iment at private institutions will be around 2.9 million.

The number of part-time students is expected to be 5.8 million in 1993.

In 1993, undergraduate enrollment is projected to be 11.2 million, graduate enrollment 1.6 million, and first-professional enrollment 283,000.

U. S. Department of Education
Office of Educational Research and Improvement          CS 89-644

# Forecast

## Higher education enrollment, by student characteristics, with forecasts:
## Fall 1987 to fall 1993

### (In thousands)

| Status of data | Year | Total | Sex of student | | Attendance status | | Level of enrollment | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Men | Women | Full-time | Part-time | Under-graduate | Graduate | First pro-fessional |
| Actual | 1987 | 12,768 | 5,932 | 6,836 | 7,232 | 5,537 | 11,047 | 1,451 | 268 |
| Estimate | 1988 | 12,849 | 5,946 | 6,904 | 7,371 | 5,478 | 11,137 | 1,444 | 268 |
| Forecast | 1989 | 13,087 | 5,984 | 7,103 | 7,377 | 5,710 | 11,275 | 1,533 | 279 |
| | 1990 | 13,213 | 6,010 | 7,203 | 7,428 | 5,785 | 11,387 | 1,545 | 281 |
| | 1991 | 13,233 | 6,002 | 7,231 | 7,378 | 5,855 | 11,390 | 1,561 | 282 |
| | 1992 | 13,126 | 5,952 | 7,174 | 7,274 | 5,852 | 11,284 | 1,560 | 282 |
| | 1993 | 13,026 | 5,920 | 7,106 | 7,179 | 5,847 | 11,179 | 1,564 | 283 |

NOTE: Includes 4-year and 2-year institutions of higher education. These forecasts were prepared April 1989. Details may not add to totals due to rounding.

## Higher education enrollment, by institutional characteristics, with forecasts:
## Fall 1987 to fall 1993

### (In thousands)

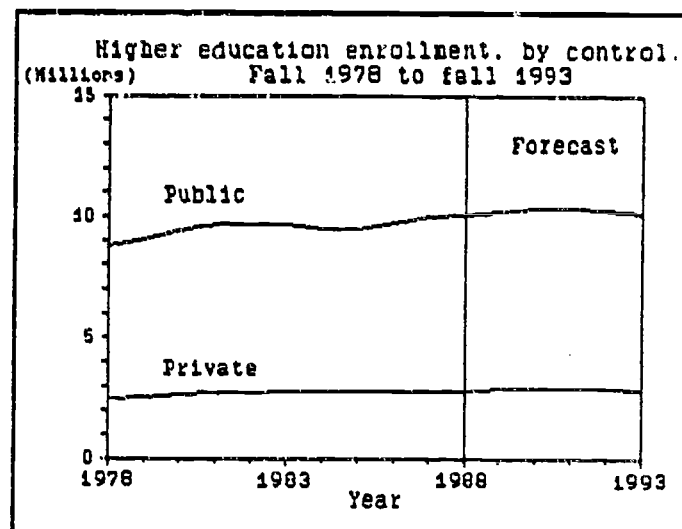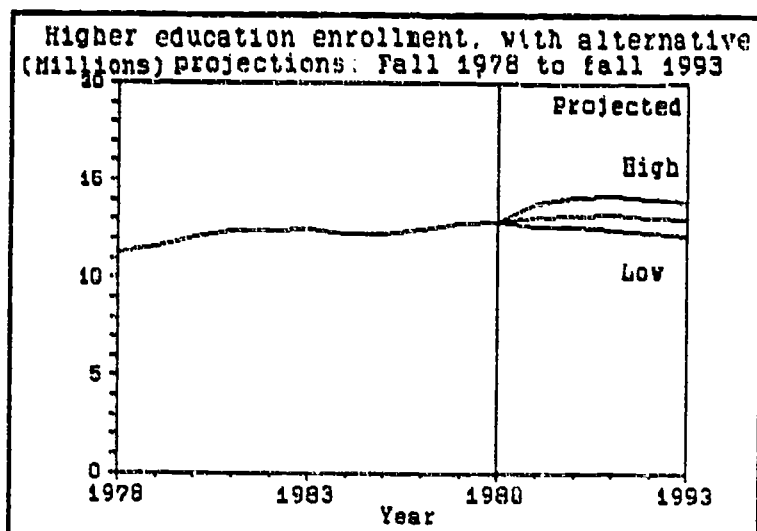| Status of data | Year | Total | Type of institution | | Control of institution | |
|---|---|---|---|---|---|---|
| | | | 4-year | 2-year | Public | Private |
| Actual | 1987 | 12,768 | 7,990 | 4,776 | 9,975 | 2,793 |
| Estimate | 1988 | 12,849 | 8,027 | 4,822 | 10,045 | 2,804 |
| Forecast | 1989 | 13,087 | 8,212 | 4,875 | 10,188 | 2,899 |
| | 1990 | 13,213 | 8,289 | 4,924 | 10,291 | 2,922 |
| | 1991 | 13,233 | 8,298 | 4,935 | 10,308 | 2,925 |
| | 1992 | 13,126 | 8,224 | 4,902 | 10,228 | 2,898 |
| | 1993 | 13,026 | 8,147 | 4,879 | 10,154 | 2,872 |

NOTE: Includes 4-year and 2-year institutions of higher education. These forecasts were prepared April 1989. Details may not add to totals due to rounding.

Higher education enrollment, with alternative
(Millions) projections: Fall 1978 to fall 1993

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20
         │                                    Projected
         │                                    High
  15      │
         │
  10  ·   │                                    Low
         │
   5      │
         │
   0  ┼─────────────────────────────────────────
     1978      1983         1980         1993
                     Year
```

Higher education enrollment, by control,
(Millions)          Fall 1978 to fall 1993

```
15 ┬
         │                              Forecast
         │
         │       Public
  10      │
         │
   5      │
         │       Private
         │
   0  ┼─────────────────────────────────────────
     1978      1983         1988         1993
                     Year
```

# Technical Notes

## Methodology

Projections of enrollments in institutions of higher education were developed by means of the NCES Interactive Forecasting Model (IFMOD), an age-specific enrollment rate model. For each age group, by sex and attendance status, enrollment rates were calculated and projected into the future. The projections presented in the tables on page 2 are based on the middle alternative assumption. This assumes that the enrollment rates will either remain constant at levels consistent with most recent rates or increase based on past trends. These projected enrollment rates were then applied to age-specific population projections from the Bureau of the Census.

Single exponential smoothing was the projection technique used to forecast the enrollment rates.

Percent changes were calculated using unrounded numbers.

Since projections depend on the properties of the statistical methodologies and the validity of the assumptions made, two other alternative projections were developed for total higher education enrollment to denote the uncertainty involved in making projections. For example, under the low alternative, which assumes constant enrollment rates over the projection period, total higher education enrollment is expected to decrease to 12.2 million by 1993. In contrast, the high alternative assumes an increase in enrollment rates over the projection period, resulting in a rise in enrollment to 13.9 million by 1993.

Alternative projections of total enrollment in institutions of higher education: Fall 1989 to fall 1993

(In thousands)

| Year | Low alternative | High alternative |
|------|-----------------|------------------|
| 1989 | 12,653 | 13,847 |
| 1990 | 12,616 | 14,099 |
| 1991 | 12,509 | 14,187 |
| 1992 | 12,323 | 14,042 |
| 1993 | 12,194 | 13,920 |

For further details on the methods used to develop these forecasts, see *Projections of Education Statistics to 2000*, forthcoming.

## Forecast Accuracy

The mean absolute percentage error (MAPE) was used to measure forecast accuracy. An analysis of projection errors (differences between actual and projected numbers), based on five editions of *Projections of Education Statistics*, indicates that MAPEs for total enrollment in institutions of higher education were 0.4 percent for 1 year ahead, 2.3 percent for 2 years ahead, and 5.0 percent for 4 years ahead. For the 1-year-ahead prediction, this means that one would expect the forecast to be within 0.4 percent of the actual value, on the average.

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## Sources of Data

The enrollment data used in these forecasts were obtained from the "Fall Enrollment in Colleges and Universities" survey of the Higher Education General Information Survey (HEGIS), the Integrated Postsecondary Education Data System (IPEDS), and the Higher Education Early National Estimates System conducted by the U.S. Department of Education, National Center for Education Statistics. Population data were obtained from *Current Population Reports*, "Estimates of the Population of the United States," (Series P-25) and unpublished tabulations by the U.S. Department of Commerce, Bureau of the Census.

## Acknowledgments

The Center acknowledges the contributions of the reviewers of this targeted forecast: Michael Cohen, Charles Cowan, and Nancy Schantz of the National Center for Education Statistics.

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