STUDENT ENGAGEMENT AND THE ECONOMIC RETURNS TO COLLEGE

Philip Babcock & Mindy Marks, University of California, Riverside

INTRODUCTION

The influence of schooling on future wages is one of the most studied relationships in economics. One common finding is that the wage premium for a year of college dropped during the 1970s and then rose steeply from 1980 to the present. In previous studies, however, time invested in schooling is proxied crudely by "years" of schooling or a dummy variable for degree attainment. We begin by questioning a key assumption implicit in these studies: Does a year of college in the 2000s represent the same time investment as a year of college in previous decades? We find that time investment associated with a full-time "year of college" has fallen markedly over time. We then argue that this finding calls into question previous estimates of the changes in the return to post-secondary education.

We extend the analysis to explore possible explanations for the declining study times of college students in the aggregate and for different subgroups of students. Is the downward effort trend explained primarily by decreases in effort within major or by migration from majors that require more study time to majors that require less study time? Do changes in composition of the student population explain changes in time investment? Do patterns of effort investment vary by gender or by socioeconomic status? Results shed new light on the causes of wage inequality, the return to schooling, skill-biased technological change, and human capital formation.

SUMMARY OF STUDY

To investigate long-run changes in study time and class time investments by full-time college students, we examine data from 5 time periods, 2003-2005, 1995-1997, 1987-1989, 1981, and 1961. We use the Higher Education Research Institute's (HERI) College Student Surveys (CSS) for the most recent time periods, 2003-2005 and 1995-1997, and HERI's Follow-up Surveys (FUS) for 1987-1989. We augment this with background information from Cooperative Institutional Research Program (CIRP) Freshman Surveys for these same years. For the 1981 sample we use the 1981 college module from the National Longitudinal Survey of Youth, 1979. Data for time use in the earliest time period, 1961, comes from Project Talent. For simplicity here, we will refer to the multiyear samples by their midpoints (e.g., the 2003-2005 dataset is the "2004 sample").

Because some of these surveys differ in scope and content, they are not all directly comparable with one another. We divide the datasets into subsamples for which compatible data exist, then regress weighted study time cumulative distribution values (at common truncation points) on time dummies. Specifically, we draw inferences about changes in time investment (by major) from 1961 to 1981, from 1988 to 1996, and from 1996 to 2004. The 1961 and 1981 surveys are nationally representative random samples with similar time use questions; students report the hours per week they study. We argue that these data may be compared directly. The HERI data (the 1988, 1996, and 2004 samples) differ in that the respondents answer time-use questions by selecting from among time ranges. Also, schools surveyed in the HERI samples

change from year to year. To avoid confounding time trends in effort investment with non-random changes in the composition of the sample, we focus on a consistent set of schools and look for changes over time in effort investment in these schools.

Finally, we calculate approximate adjustment factors that allow for comparisons of "a year of college" across decades, using 1961 as the base year. We use U.S. Census data to estimate changes in the return to a "1961 year" of college education over time.

SUMMARY OF FINDINGS

We find that study time matters for future wages. A one-standard deviation increase in time spent studying in college is associated with increases in hourly wages of 6-10 percentage points.

Yet study time is falling overall and within major, across race, gender, and family background, for all types of 4-year colleges. Study times fell in every major in almost every time period observed. Long-run effort trends appear to be driven largely by decreases in study time within major, and not an artifact of changes over time in major choices. The variance in study times between majors, however, appears to have risen over time. For example, engineering majors now spend significantly more time studying than non-engineering majors, whereas in 1961 the difference was much smaller. In 1961, women studied marginally less than men. Now, they appear to study significantly more. White students' study time choices appear similar to the choices of Black students and Asian students in recent years, but time trends appear to differ.

Lastly, we find that the time-adjusted return to college is much higher in recent years than previous estimates indicate, while the dip between 1970 and 1980 in the estimated return to a "year" of college is smaller if one accounts for changes in time investment. We conclude that the effect of skill-biased technological change may be significantly larger than previously thought.

IMPLICATIONS FOR POLICY & PRACTICE

If postsecondary institutions hope to raise the amount of human capital they impart, they need to better incentivize students. The very large increase over time in the wage return to a college education has not induced higher effort choices. One possibility is that there exist perverse incentives--for faculty, students, or both--that lead to low effort choices for students. Further research on specific institutional incentives and effort elicitation is warranted.

On the other hand, the long-run benefits of postsecondary education appear high and rising. We find that the 2005 wage return to a time-adjusted "year" of college education is 27%, nearly twice what previous estimates indicate. Now more than ever, postsecondary education appears to increase productivity.

Changes in the relative wage return to an engineering degree may not adequately explain the entire difference in study time trends between engineering and non-engineering majors. Thus, it may be possible to look to engineering disciplines for policies and practices that have better

maintained academic engagement. This is a subject for future research.

Finally, we conclude that the wage gap between male and female workers may have been underestimated in the existing literature. Because women study more than men, a female worker with the same number of years of schooling as a male worker will have more human capital. This measure is not observed and thus not accounted for in wage regressions. Including this variable would lead to larger estimated wage gaps.

REFERENCES

Babcock, P. & Marks, M. (2006). Student engagement and the economic returns to college. Working paper.

Claudia, G. & L. Katz (2001). Decreasing (and then increasing) inequality in America: A tale of two half-centuries. In F. Welch (ed.). *The Causes and Consequences of Increasing Income Inequality.* Chicago: University of Chicago Press.