

Higher Education and Return on Investment

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The value of higher education

It is generally accepted that those with higher levels of education will be able to secure better jobs with higher salaries. But have the benefits of a four-year degree course changed over time?

Higher education in the US brings with it many benefits which can have a positive impact on life outcomes for an individual in terms of both financial security and social mobility – with a knock-on benefit for wider society. However, the perceived cost of the four-year undergraduate education system can act as a deterrent to many would-be students. The level of the return on investment, in terms of better paid jobs and more rewarding careers, is dependent on many factors, including choice of subject. This study looks at how that return on investment has shifted over time, with a particular emphasis on the changes in some degree fields and for certain racial and demographic groups.

About this study

The British Council commissioned Ipsos Public Affairs to complete a review of published data and conduct research on return on investment for US graduates who had undertaken a four-year degree course. The research examines the economic benefits of a bachelor's degree by seeking to calculate return on investment, and further investigates whether this return has increased or decreased over time. A comparison of the fortunes of graduates who completed their studies in 1993 and 2008 respectively allowed analysis of whether there had been shifts in returns, broken down by different degree majors, racial group, gender and the educational background of graduates' parents.

The report is based on how data is categorised by the Baccalaureate and Beyond Longitudinal Study¹, the analysis was segmented as follows:

Baccalaureate degree fields	Demographic groups as defined by race	Parents educational background of graduates
Humanities	White	High school or less/don't know
Behavioural and social sciences	Black	2 year/Associates degree
Business and accounting	Hispanic/Latino	Bachelor's degree
Computer, Mathematical and Natural Sciences (CMNS)	Asian/Pacific Islander	Postgraduate degree
Engineering	American Indian/Alaskan Native	

Cost a barrier to higher education

Cost is the reason most often cited for not enrolling in college, followed by a lack of certainty over career plans. Latest figures show that a four-year college education costs up to around \$24,000 in fees and tuition alone.² Not surprisingly, many young people do not want to make a substantial financial investment for a degree that is not helpful for their career. However, many people do not know what college will cost and are therefore unable to estimate whether this investment will prove to be worthwhile in terms of projected earnings. This is despite assumptions that those who have completed a degree will earn more than

¹ National Center for Education Statistics, *Baccalaureate and Beyond Longitudinal Study 2012*

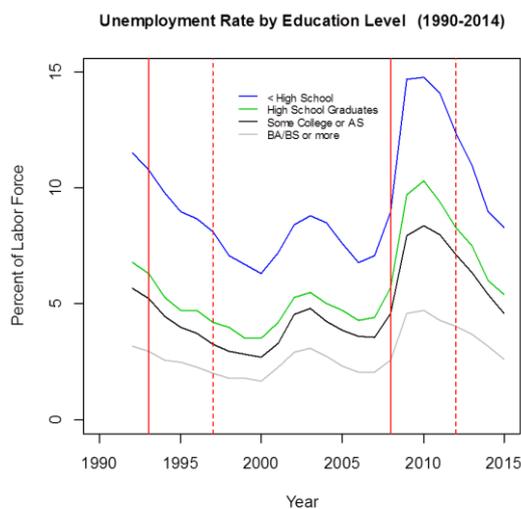
² The College Board, *Annual Survey of Colleges 2015–16*

those who have not attended college.³ The feeling that their educational level is holding them back is stronger among African Americans and Hispanics than it is Caucasian non-college graduates and this feeling is supported by research which shows that more educated people have *lower rates of unemployment, shorter spells of unemployment, more desirable jobs, and higher incomes.*⁴ If it can be demonstrated that investment in higher education can yield a healthy return, it could have a positive impact in encouraging more people to improve their life chances through further education.

Ipsos based its analysis on two data sets from the US Department of Education’s National Center for Education Statistics Baccalaureate and Beyond research program. This allowed a comparison of graduates who completed their studies in 1993 and 2008, showing how the return on investment had changed over time and further allowed analysis of how the demographic profile of graduates had changed over the period.

Increased unemployment levels

It should be noted that the 1993 and the 2008 cohorts graduated into very different labor markets, with the 2008 graduates emerging to a sudden spike in unemployment following the global financial crisis. However, the graph below shows that unemployment rates were lower for graduates than for those with lower levels of education, suggesting that individuals with higher levels of education are better insulated against unemployment.



Source: US Bureau of Labor Statistics, published annual rates

Education has become more inclusive

The analysis of the student population suggests that the US postsecondary educational system had become more inclusive over this 15-year period. This was shown through a number of findings:

³ Kelly, A (2015) *High Costs, Uncertain Benefits: What Do Americans Without a College Degree Think About Postsecondary Education?* American Enterprise Institute.

⁴ Tamborini, CR, ChangHwan K and Sakamoto, A (2015) Education and Lifetime Earnings in the United States. *Demography* 52 4/2015: 1,383–1,407; <https://www.ssa.gov/retirementpolicy/research/education-earnings.html>

- There was a statistically significant increase in the representation of African Americans, Hispanics/Latinos and Asian Pacific Islanders, relative to Caucasians between 1993 and 2008. In 1993 the percentage of white graduates was 85 per cent, by 2008 it had fallen to 77 per cent.
- The proportion of women completing undergraduate degrees also increased over the period, with women making up 58 per cent of all graduates in 2008, compared in 54 per cent in 1993. Despite this increase in uptake, women still do not match their male counterparts in lifetime earnings within any demographic or educational attainment group.
- There was an increase in the representation of graduates from more modest household education levels in 2008, specifically in the proportion of graduates whose parents held a two-year post-secondary education credential, which rose from 18 per cent to 24 per cent of all graduates.

An increased return

In respect of the central question as to whether the costs of a four-year college degree are worth the investment, the headline finding was that students who graduated in 2008 had an increased return on investment compared to those that graduated in 1993.

This increased return on investment was more marked in some demographic groups and for students who majored in particular subjects.

In particular, the research found:

- Return on investment increased for undergraduates obtaining degrees in the Humanities, Behavioral /Social Sciences, and Computer, Mathematical, and Natural Sciences. There were also increases for Business and Accounting and Engineering, but these increases were considered to be less statistically significant.
- Among Humanities undergraduates, the increase in return on investment was disproportionately experienced by males. There was also limited evidence that the increase may have been disproportionately experienced by graduates from higher education level households.
- Among Behavioral/Social Sciences undergraduates, gains in return on investment for the 2008 were disproportionately experienced among Caucasians (and, within Caucasian graduates, more Caucasian males than females). There is also some evidence to indicate that this trend was true of African American Behavioral/Social Sciences graduates.
- Among Computer, Mathematical, and Natural Sciences undergraduates, gains in return on investment for the 2008 cohort were disproportionately experienced by African Americans and Hispanics (combined), and students from both the highest and the lowest household education levels. In essence, for Computer, Mathematical, and Natural Sciences undergraduates in particular, there appears to have been notable gains by students who were traditionally underrepresented in the undergraduate population.

This research also examines the background of those that attend college and measure the return on investment for these people. Among disadvantaged groups, higher education can be a vehicle for increased opportunity and there is some evidence to suggest that when individuals from the most disadvantaged households complete college they benefit the most from that achievement in terms of relative earnings. This is not because these individuals earn more over their lifetimes than their more-advantaged counterparts, but because disadvantaged people who do *not* go to college earn so little.⁵

A breakdown of return on investment by subject crossed with race, gender and parents' education level found:

- For African Americans and Hispanics the largest gains for the 2008 versus 1993 cohorts were among those receiving undergraduate degrees in the Humanities, Business and Accounting, Engineering, and Computer, Mathematical, and Natural Sciences subject areas.
- Males tended to see larger return on investment gains than females in Humanities, and Behavioral/Social Sciences. Among Caucasians only, males outgained females in Computer, Mathematical, and Natural Sciences; among African Americans and Hispanics only, males outgained females in Engineering.
- Graduates from the lowest household education levels, tended to see large gains within Engineering, Business and Accounting, and Computer, Mathematical, and Natural Sciences.

Postgraduate education

A major difference between the 2008 and 1993 baccalaureate cohorts was a significant increase in the number who went on to complete a postgraduate degree, with the 2008 cohort around ten times more likely to have done so. The research found that 2008 graduates who had obtained a postgraduate qualification were four times more likely than 1993 graduates to be working full time than part time. In contrast, 2008 graduates who did not complete postgraduate education were slightly more likely to be unemployed or working part time than their 1993 equivalents.

Conclusion

The research suggests that investment in a college education confirms significant economic benefits. Ipsos also found that there was an increase in the perceived relevance of an undergraduate degree to the respondents' job. Despite this, many graduates do not actually believe that a degree is necessary for them to do their jobs. The most dramatic increase in relevance was found by those who had gone on to complete a master's degree, having chosen to do so in fields directly related to their undergraduate degree.

⁵ Brand, J and Yu, X (2010) Who benefits most from college? Evidence for negative selection in heterogeneous economic returns to higher education. *American Sociological Review* 75/2: 273–302.

Whilst this research contains some interesting findings, it is important to note that it deals with only two moments in time and as such is relevant to a very fixed period in US economic history. The increase in the proportion of students for different racial groups and educational backgrounds is encouraging for efforts to support inclusion in the US education system.

About the research

This research analyses data on students who had attended college in 1993 and in 2008, specifically to determine whether students who had graduated some 15 years later were experiencing a better rate of return on the investment in their education. Students were surveyed four years after graduation, giving sufficient time for them to settle on their careers. Ipsos defined ROI as the ratio of self-reported earnings four years after graduation divided by an approximation of the student's total cost of college. Analysis of return on investment was limited to US citizens who, four years following receipt of their degree, were employed full time, held only a BA or BS degree, and reported paying something for their education in their final year of college.

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