

Is a College Cap and Gown a Financial Ball and Chain?

August 2011

Classroom Edition

An informative and accessible economic essay with a classroom application.

*Includes the full version of the Liber8 Newsletter,
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*Prepared by the Economic Education Group of the
Federal Reserve Bank of St. Louis*



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"A college education is not a quantitative body of memorized knowledge salted away in a card file. It is a taste for knowledge, a taste for philosophy, if you will, a capacity to explore, to question, to perceive relationships, between fields of knowledge and experience."

—A. Whitney Griswold, president of Yale University, 1951-63

The cost of a four-year college education has risen roughly 150 percent since 1980.¹ For this and other reasons, more and more students must take out student loans to finance their education. Upon graduation, many find they have accrued a sizable debt. Given the significant expense, some question the value of earning a college degree. However, along with the rising cost, the lifetime earnings difference between college and high school graduates has widened. The increased earnings potential of a bachelor's degree allows a college graduate to recover the cost of college over time and eventually surpass the earnings of those with only a high school diploma.

The College Board estimates that for the 2010-11 school year the average cost of a four-year college education is \$37,000 per year at a private nonprofit university and \$16,000 per year at a public university.² Over the past decade, the real cost of attending a four-year university increased an average of 3.6 percent per year. In contrast, for the same period, real personal income increased an average of only 2.1 percent per year ([Chart 1](#)). Consequently, more families turn to student loans for college funding. The College Board estimates that the percentage of students with [federal student loans](#) increased from 27 percent in 2004-05 to 35 percent in 2009-10.³ While estimates vary, a typical 2009 college graduate accumulated \$24,000 in student loan debt, up 6 percent from the previous year.⁴

For college to be a good investment, the benefits of a degree (e.g., higher pay) must outweigh the opportunity cost of attending. In this case, the opportunity cost is the sum of tuition and housing costs plus the wages that would have been earned from working directly after graduating from high school.⁵ Recent data show that while the cost of college increased, the labor-market value of a bachelor's degree climbed to an all-time high ([Charts 2 and 3](#)). In 2008, college graduates earned on average 77 percent more than high school graduates.⁶ Also, from 1998 to 2008 the difference between the median earnings of those with a bachelor's degree and those with only a high school diploma increased by approximately 23 percent. This increased earnings potential allows college graduates to "catch up" relatively quickly in terms of net lifetime earnings.

According to the College Board, recent college graduates who completely financed their education with student loans will earn enough by age 33 to cover the cost of those loans *and* match the to-date lifetime earnings of those the same age with only a high school diploma.⁷ Thus, the opportunity cost of attending college is recovered over time. A college degree also lowers the probability of unemployment: From 1998 to 2011 the average [unemployment rate](#) for those with at least a bachelor's degree was half that of those with only a high school diploma. Overall, a college degree still remains a wise investment.

—By Lowell R. Ricketts, Research Associate

¹ Figures are listed in inflation-adjusted (real) terms. Costs are defined as the sum of published tuition and fees plus room and board charges. Data are from the College Board Advocacy and Policy Center. ["Trends in College Pricing 2010."](#) 2010.

² College Board Advocacy and Policy Center. ["Trends in College Pricing 2010."](#) 2010, p. 15.

³ College Board Advocacy and Policy Center. ["Trends in Student Aid 2010."](#) 2010, p. 15.

⁴ The Project on Student Debt. ["Student Debt and the Class of 2009."](#) October 2010, p. 1.

⁵ The opportunity cost of *money*—the accrued return from the next best investment to paying tuition out of pocket—should also be considered.

⁶ Baum, Sandy; Ma, Jennifer and Payea, Kathleen. ["Education Pays 2010: The Benefits of Higher Education for Individuals and Society."](#) College Board Advocacy and Policy Center, p. 16.

⁷ Baum, Sandy; Ma, Jennifer and Payea, Kathleen. ["Education Pays 2010: The Benefits of Higher Education for Individuals and Society."](#) College Board, p. 13. This estimate takes into account several factors such as years in school, total student loan debt, and time employed. The actual "breakeven" point will vary depending on an individual's specific circumstances.

The views expressed are those of the author and do not necessarily reflect the official positions of the Federal Reserve Bank of St. Louis, the Federal Reserve System, or the Board of Governors.

Recent Articles and Further Reading on Financing Higher Education

[“Cap in Hand: The High Cost of Higher Education,”](#) by Ed English. Federal Reserve Bank of Atlanta *EconSouth*, First Quarter, 2011.

This article discusses reasons for tuition inflation and its likely continued trajectory.

[“As College Costs Rise, Student Loans Are Harder to Find.”](#) Federal Reserve Bank of St. Louis *Inside the Vault*, Fall 2009.

This article provides a simple overview of college costs, types of college loans available, and the challenges of obtaining loans.

[“Education and Earnings,”](#) by Douglas C. Smith. Federal Reserve Bank of St. Louis *Liber8 Newsletter*, August 2009.

This article discusses the strong link between education and earnings.

Free Data Sources and Resources

Resource: *What's It Worth? The Economic Value of College Majors*, by Anthony P. Carnevale, Jeff Strohl, and Michelle Melton

Description: Provides data on the returns to education by major and gender and race within majors.

Published by: Georgetown University, Center on Education and the Workforce, 2010

Location: <http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/whatsitworth-complete.pdf>

Resource: Digest of Education Statistics, 2010

Description: Extensive data on American education, including enrollment, expenditures, and educational attainment. Includes a chapter with international comparisons.

Published by: National Center for Education Statistics, U.S. Department of Education Institute of Education Sciences

Location: <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2011015>

Resource: *Recruiting Trends 2010-2011*, by Phil Gardner, Ian Render, and Noelle Sciarini

Description: Explores the job market for recent college graduates based on a survey of 4,600 employers. Data include hiring by industry sector and starting salaries in 2010-11.

Published by: Career Services and the Collegiate Employment Research Institute, Michigan State University

Location: <http://www.ceri.msu.edu/wp-content/uploads/2010/11/2010-11%20RT.pdf>

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Name_____ Period_____

Federal Reserve Bank of St. Louis *Liber8*:
“Is a College Cap and Gown a Financial Ball and Chain?”

After reading the article “Is a College Cap and Gown a Financial Ball and Chain?” answer the following questions.

1. Given the rising cost, how have many students chosen to pay for a college education?
2. How has the cost of obtaining a college education risen compared with the ability to pay for it (average real personal income)?
3. What is the opportunity cost of attending college?

Enter the specified information from the article.

The Rising Cost of College	
Percentage change in the cost of a college education since 1980	
Average annual cost at a four-year private nonprofit university (2010-11)	
Average annual cost at a four-year public university (2010-11)	
Percentage annual increase in the real cost of attending a four-year university over the past decade	
Percentage of students with federal student loans in 2009-10	
Accumulated student loan debt of a typical 2009 college graduate	

4. Suppose a friend who recently read the above statistics declared she wasn’t planning to attend college after high school because (1) the cost of a college education was simply too high, and (2) she wouldn’t be able to work full time and didn’t want to essentially give up four years of income. Using information from the essay, write a brief explanation of why it might be in her best financial interest to earn a college degree despite the high and rising cost.

Teacher's Guide

Federal Reserve Bank of St. Louis *Liber8*: "Is a College Cap and Gown a Financial Ball and Chain?"

After reading the article "Is a College Cap and Gown a Financial Ball and Chain?" answer the following questions.

1. Given the rising cost, how have many students chosen to pay for a college education?

Many students have taken out student loans to finance their education.

2. How has the cost of obtaining a college education risen compared with the ability to pay for it (average real personal income)?

Real personal income has increased an average of 2.1 percent per year, while the real cost of attending a four-year university has increased an average of 3.6 percent per year.

Teacher note: The word "real" means that the data have been adjusted for inflation.

3. What is the opportunity cost of attending college?

The opportunity cost is the wages that a student could earn from working full time rather than attending college.

Enter the specified information from the article.

The Rising Cost of College	
Percentage change in the cost of a college education since 1980	150%
Average annual cost at a four-year private nonprofit university (2010-11)	\$37,000
Average annual cost at a four-year public university (2010-11)	\$16,000
Percentage annual increase in the real cost of attending a four-year university over the past decade	3.6%
Percentage of students with federal student loans in 2009-10	35%
Accumulated student loan debt of a typical 2009 college graduate	\$24,000

4. Suppose a friend who recently read the above statistics declared she wasn't planning to attend college after high school because (1) the cost of a college education was simply too high, and (2) she wouldn't be able to work full time and didn't want to essentially give up four years of income. Using information from the essay, write a brief explanation of why it might be in her best financial interest to earn a college degree despite the high and rising cost.

Although the cost of a college education is high, so are the benefits. In 2008, college graduates earned on average 77 percent more than high school graduates. From 1998 to 2008, the difference between the median annual earnings of those with a bachelor's degree and those with only a high school diploma increased by about 23 percent. Although delaying work for four years means an initial lag in terms of income for college graduates, they catch up very quickly—usually by age 33. Finally, as a group, workers with at least a bachelor's degree have an unemployment rate that is about half that of those with only a high school diploma.

For Further Discussion

Read the following to your students and lead a discussion using the questions provided.

Job-market signaling is an important process that matches workers and employers. It occurs when a potential employee conveys information about him or herself to an employer. Economist Michael Spence was awarded a Nobel Prize¹ in economics for his research on job-market signaling. In his model, employers seek workers who are highly productive and information that indicates this productivity. Potential employees send a signal about their productivity to employers by acquiring certain academic credentials. Spence's research shows that it can make sense for highly productive workers to signal their productivity to employers by getting a formal education.² The informational value of a college degree is that employers assume more education is an indicator of greater ability. Thus, employers in general are more likely to hire workers with a formal education.

What information does a college degree convey to employers? In other words, what qualities or skills might college-educated workers have that their non-college-educated peers do not have?

It is widely assumed that those with a college degree have developed skills and knowledge sufficient to warrant their given degree. Because many degrees require a liberal arts component, there is the added expectation that college graduates have a broad base of knowledge and thinking skills. In addition, because of the work involved, obtaining a college degree is generally believed to further indicate one's ability to set goals, work efficiently, and meet deadlines. These are characteristics and skills that transfer well to the job market and are very important to employers.

From the employers' perspective, why would they be more willing to pay higher wages to workers with a college education?

Workers with knowledge, skills, and good work habits are likely to be more productive than workers without those characteristics. Because highly productive workers enable businesses to earn higher profits, employers are willing to pay those workers more than their less-productive peers.

¹ For more on Michael Spence, see http://nobelprize.org/nobel_prizes/economics/laureates/2001/spence.html.

² Library of Economics and Media. The Concise Encyclopedia of Economics: Michael Spence; <http://www.econlib.org/library/Enc/bios/Spence.html>.