

\$100 Bills Lying on the Ground

Government Funding of Higher Education Pays for Itself Many Times Over

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Economists often joke that there is a reason we never see a \$100 bill lying on the ground: someone else would have picked it up, and probably very quickly. That's why a Ph.D. in economics doesn't help you get rich quick in the stock market (much to my father-in-law's disappointment). Sometimes, however, there are situations in public policy where there are figurative \$100 bills lying around waiting to be picked up. Public investment in college students is one such case. To the government, each potential college graduate is a figurative \$560,000 bill lying on the ground. True, it costs \$74,500 to pick it up, but that's obviously a great deal.

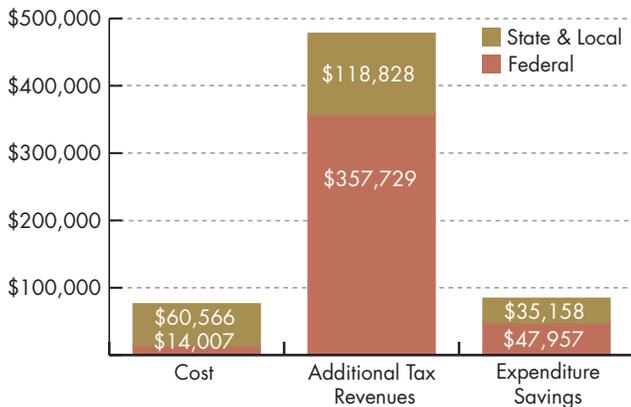
Indeed, this deal is made more than 2 million times a year nationally, as new college graduates start creating all sorts of positive fiscal effects in federal, state and local budgets. There are many more figurative \$560,000 bills still waiting to be picked up. But instead of making more of these \$74,500 investments, public investment in college education is a falling priority.

Investing in Students

Presumably the reason there are still \$560,000 bills lying around is that picking them up requires substantial upfront investment. Like any other good investment though, the upfront costs are more than recovered later. There are numerous public benefits reaped from public investment in college education: the creation of knowledge, greater prosperity, better health, longer life expectancy, increased civic participation, reduced crime, etc. These benefits to society probably recover the public cost of investment in college education many times over. But the government cost is also more than recovered in another important, and more easily measured, dimension.

Unlike public investments in, say, fire protection or disease prevention, investment in college students creates *direct* fiscal payoffs to governments in terms of additional tax revenues and reductions in expenditures on various social-insurance programs. In this way, government funding of higher education pays for itself many times over—specifically, 7.5 times over. Even ignoring the various benefits to individuals and society, public investment in college students is a very sound use of tax dollars.

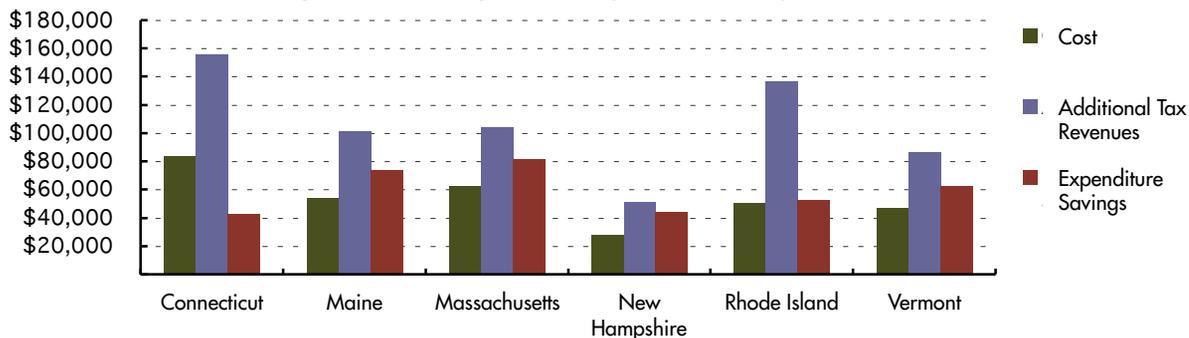
National Fiscal Effects per Four-Year-Equivalent Degree



Fiscal Impacts

It is well known that college education leads to higher earnings, so it is hardly surprising that it also leads to greater tax revenues. But the magnitude of this effect is probably not fully appreciated. Over the course of an average lifetime, a four-year-equivalent degree leads to about \$476,500 in additional income, payroll, property and sales taxes. The magnitude of the college-attainment effects on various public spending programs may be surprising as well. Each four-year-equivalent degree leads to lower spending on various welfare programs, Medicaid, Medicare, Supplemental Security, unemployment compensation, worker's compensation, incarceration

State & Local Fiscal Effects per Four-Year-Equivalent Degree in New England



and public health care. The sum of these savings over an average lifetime is conservatively estimated to be more than \$83,000.

The public cost per four-year-equivalent degree is very generously estimated to be about \$74,500. (This estimate is generous in part because it does not count degrees from *private* colleges, but does include the cost of publicly funded financial aid going to students on private campuses.) Thus, public spending on higher education actually leads to a reduction in total government spending. The fiscal savings in corrections and Medicaid alone (\$41,500) add up to more than half of total public spending on college education. This is particularly ironic given that increasing corrections and Medicaid expenditures are frequently blamed for crowding out public funding for higher education.

The above comparisons, however, do not take into account the “time value” of money. The upfront costs matter relatively more in present value than the benefits over a work career. But the fiscal benefits are so much greater than the costs that it takes less than 10 years to recoup the government investment. In other words, the public investment in a traditional-age college graduate is recovered before that student celebrates his 32nd birthday. The real rate of return associated with the numbers above is 10.3 percent (i.e., 10.3 percent above the rate of inflation). Moreover, the fiscal benefits are conservatively estimated, while the fiscal costs are generously estimated.

In addition, the above estimate is only the direct fiscal return from college attainment. Indirect effects on tax revenues and government expenditures through higher education’s effect on economic growth are not included. The estimated fiscal return also does not include any economic benefits from publicly sponsored university research, from university public service and extension activities, from graduates of private colleges, or from the effect of colleges and college education on entrepreneurial activity and job creation. Even so, it is

Why the Estimated Investment is Generous

Why is the \$74,500 price tag per degree generous? Mainly because the total investment includes all public funding for higher education: appropriations for operations and capital costs at state colleges, public college endowment revenues and federal grants and loans, even financial aid to students in private colleges. But this total is divided by the number of degrees earned at public institutions *only*. The public cost per degree from *all* colleges is, still generously, about \$48,000. For more, see “The Fiscal Impacts of College Attainment” available at <http://www.bos.frb.org/economic/neppc/index.htm>

difficult to conceive of another type of investment that can systematically match the 10.3 percent rate of return on public investment in higher education.

Impacts on States

Alas, there is a catch. While most public investment in college education occurs at the state level, most of the fiscal benefits accrue at the federal level. Indeed, more than 72 percent of those figurative \$560,000 bills go to the federal government, while the federal share of funding for all higher education is less than 19 percent. Thus, the fiscal return to individual states is substantially less than the 10.3 percent noted above.

At the individual state level, each potential college graduate is only a figurative \$154,000 bill lying on the ground, and it costs about \$60,500 to pick it up. Still, that’s a pretty good deal. The fiscal rate of return is, conservatively, 3.3 percent (3.1 percent after taking interstate migration of college graduates into account).

In New England, however, the fiscal payoff to state investment in college education is generally higher than this. After taking net interstate migration of college graduates into account, the fiscal rates of return range from 3.1 percent in Connecticut to 5 percent in Rhode Island. New England states realize greater expenditure savings per college graduate than the rest of the nation, largely because corrections costs are relatively high in New England. Indeed, the lifetime reduction in state and local spending programs per degree exceeds the state investment per degree in all New England states except Connecticut. A potential college graduate in New England creates more than the national state average of \$154,000 in total fiscal benefits, except in New Hampshire and Vermont, where the average graduates yield \$95,500 and \$150,000 in fiscal benefits, respectively.

The goal of public investment policy though is not to achieve the highest rate of return, but rather, to take advantage of as many good investment opportunities as possible. And this the New England states clearly are not doing. In state support for higher education from 1980 through 2005, the New England states ranked 50th, 49th, 48th, 47th, 44th, and 41st. This hurts both the future economic prospects of our youth who cannot afford a college education and the pocketbooks of New England taxpayers.

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