

Lifetime Costs to Educate Georgia Students and Related Tax Revenues

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Introduction

Increased levels of education frequently lead to significant differences in wages paid. In 2017, the Current Population Survey indicates that a person with a bachelor's degree earned a median income of \$24,000 more per year than a person with a high school diploma.¹ While educational attainment usually leads to higher pay, each additional year of schooling also represents additional public dollars spent to educate that student. These students become workers and taxpayers, nonetheless, and contribute to the economy in many ways. In this brief and visualization, we examine 12 typical paths through Georgia's public education into the workforce. We provide the cost to educate each student, the year at which each student's taxes paid become equivalent to the amount to educate them, and the amount of taxes paid by age 65 above and beyond the cost of their public education.

These estimates represent long-run fiscal impacts for these specific and representative paths. There are vast and potentially infinite numbers of available education paths, and the expenditures and taxes paid here only address these 12 specific examples. We do not analyze whether an additional year of education directly causes increases in earnings. For these 12 example students, we assume they earn the average amount in wages for people with their degree in their geographic area.

Data and Methodology

COST TO EDUCATE

Four of the 12 students received a bachelor's degree, four received an associate's degree, and four received a high school degree. They all started kindergarten in the 1999-2000 school year and completed their

¹ U.S. Census Bureau. Current Population Survey. 2017 Annual Social and Economic Supplement. National median income for a graduate with a bachelor's degree in 2016 was \$50,625, in contrast with \$26,312 for a high school graduate and \$17,815 for a high school dropout.

levels of educational attainment on schedule. One from each level of educational attainment attended a suburban school district, a small city district, a town district, and a rural district. The median-spending district in each level of urbanization represented the spending assigned to the students for that type of district, beginning in kindergarten. The college students attended the two- or four-year University System of Georgia institution closest to them. Regional Educational Service Agencies (RESAs) and charter schools operating outside of standard school districts are beyond the scope of the analysis.

- School district spending per full-time equivalent student are from the Georgia Department of Education.
- Spending has been adjusted for inflation using the Consumer Price Index from the Bureau of Labor Statistics (BLS).²
- Urban classifications came from the National Center for Education Statistics.
- Data on state spending on college students are from the Integrated Postsecondary Education Data Systems.³

FORECASTING LIFETIME INCOME

We calculate each student's income five years after completing school based on what the average person with their level of educational attainment earned where they lived. Each student's future income is based on the typical lifetime income curve individuals have followed in Georgia through their earning years based on the data and assumptions below.

- Annual income data by educational attainment five years after graduating college are from the Georgia's Governor's Office of Student Achievement (GOSA).⁴

Income levels for five years after high school graduation are from BLS.

- The BLS data on income by age by educational attainment determined the shape of the student's lifetime income curves for all years after graduating, controlling for the estimated income five years after graduation from college.

LIFETIME TAXES PAID

Based on these lifetime income estimates, in 2016 dollars, we calculate state and local taxes paid that people with those levels of income were likely to pay after graduation through retirement at age 65 in 2060. The current state income tax tables were used to calculate state income taxes are based on their income estimate. We used average expenditures on certain items for people with similar incomes to calculate state and local sales taxes paid. We used average median home values to calculate school district property taxes.

- Consumer expenditure estimates are from the Consumer Expenditure Survey data from the BLS.⁵
- Median home values by income levels are from American Community Survey.
- School district property tax assessment and millage rates were applied to the median home values estimates and are from the Georgia Department of Revenue.
- We assume renters also are paying property taxes because the property taxes paid by landlords are implicitly included in rent paid to the local school system.
- The sum of state income taxes, state and local sales taxes, and school district property taxes represent our estimate of annual taxes paid.

² Consumer price index from the Bureau of Labor Statistics. www.bls.gov/cpi/

³ National Center for Education Statistics Common Core of Data. nces.ed.gov/

⁴ Georgia Governor's Office of Student Achievement Higher Learning and Earnings Data Dashboard. gosa.georgia.gov/georgia-higher-learning-and-earnings

⁵ Consumer Expenditure Surveys from the Bureau of Labor Statistics. www.bls.gov/cex/

Range of Findings

COST TO EDUCATE

The range of the cost of educating these students range from \$100,800 for rural high school students to \$129,400 for suburban four-year college graduates (Table 1). Within this set of examples, suburban and city students were associated with higher lifetime education expenditures compared to the town and rural students. Cost to educate increased with additional years of education within each of level of urbanization.

BREAKEVEN AGES

Breakeven ages, the age at which student’s taxes paid first exceeds associated lifetime public education expenditures, ranged from age 44 to age 63 within these

12 example students (Table 1). In every case, the student eventually had paid more in lifetime taxes than the cost to educate them before they were 65. For each level of urbanization, higher educational attainment indicated higher lifetime cost to educate and earlier breakeven ages.

NET TAXES PAID

Net taxes paid, the amount of taxes paid by age 65 minus total cost to educate ranged from \$6,100 to \$151,400 (Table 1). The suburban student with a bachelor’s degree had the highest amount of net taxes paid and had the second highest cost to educate. High school graduates had the lowest net taxes paid within each of the urbanization categories and the fourth lowest overall.

Table 1. Lifetime Fiscal Picture of 12 Example Georgia Public School Students

LEVEL OF URBANIZATION	EDUCATIONAL ATTAINMENT	COST TO EDUCATE ¹	BREAKEVEN AGE ²	TAXES PAID MINUS COST TO EDUCATE AT 65 ³
Suburb	4-year College	\$129.3	44	\$151.4
Suburb	2-year College	\$121.7	44	\$131.6
Suburb	High School Graduate	\$113.7	51	\$59.6
Small City	4-year College	\$133.6	51	\$79.4
Small City	2-year College	\$118.4	52	\$65.7
Small City	High School Graduate	\$111.5	63	\$6.1
Town	4-year College	\$125.5	45	\$134.4
Town	2-year College	\$119.2	48	\$89.9
Town	High School Graduate	\$110.4	54	\$39.4
Rural	4-year College	\$118.4	47	\$108.6
Rural	2-year College	\$108.6	49	\$82.2
Rural	High School Graduate	\$100.8	59	\$19.4

¹ Lifetime associated public education expenditures in thousands of dollars

² Age when taxes paid first exceeds cost to educate

³ Thousands of dollars

About the Authors

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