

NOTES AND SOURCES

COLLEGE IS WORTH THE COST: The Return

Higher Education Pays

Data represent the estimated net cumulative lifetime earnings (less college costs and debt accrued) for Hoosiers with at least some college compared to Hoosiers with a high school diploma. Earnings data were estimated by obtaining average annual earnings data from the Census Bureau by educational attainment and age groups for Hoosiers ages 25-64. The earnings start date was assumed to be 18 for those with a high school diploma, 20 for those with an associate degree or some college, and 22 for those with a bachelor's degree (assumption of direct college enrollment after high school graduation and on time college degree completion). The average cost of college after financial aid (IPEDS average net price) less average student loans were factored into costs incurred during school for Hoosiers with some college, associate, and bachelor's degrees. Costs associated with student loan payments based on average loan debt and average interest rates (4.66%) over a ten-year period factored into costs incurred 10 years after graduation.

Sources: (1) US Census Bureau, American Community Survey (2016) via IPUMS USA, University of Minnesota, www.ipums.org; (2) IPEDS (2015), Integrated Postsecondary Education Data System; (3) Debt data obtained through special data collection from Indiana Public Colleges; (4) US Bureau of Labor Statistics, Labor Force Status of 2016 High School Graduates and 2015-16 High School Dropouts

COLLEGE IS WORTH THE COST: The Investment

Indiana vs. the Nation

Data represent the average annual increase in in-state tuition and fees between 2006 and 2016. Data are in 2016 dollars.

Source: Tuition and Fees by Sector and State over Time, College Board: Trends in College Pricing

Annual Percentage Change

Data represent the annual percentage change in tuition and fees at Indiana public colleges.

Source: Indiana Commission for Higher Education Tuition and Mandatory Fees Survey

HIGHER EDUCATION STRENGTHENS THE ECONOMY

Consumer Spending and Taxes

Estimates are based on ratios of average spending to average consumption computed through the Bureau of Labor Statistics' Consumer Expenditure Survey, 2014. To estimate lifetime spending and tax revenue, consumption to income ratios were applied to earnings data of Hoosier graduates 25-64 by age group and attainment level (American Community Survey 2016). Methodology based on national Brookings study: <https://www.brookings.edu/research/what-colleges-do-for-local-economies-a-direct-measure-based-on-consumption/> Compared to national Brookings study, earnings data for Indiana's ROI report were NOT net present value adjusted. In addition, data for Indiana's ROI report did not examine full-time, full-year workers; only about half of individuals work full-time, full-year for all years between 25 to 64.

Estimated state financial aid impact of \$13+ billion was obtained by taking average annual workforce counts and applying them to financial impact multipliers displayed in the "Additional Dollars" chart.

Unemployment Claims

Unemployment claim percentages by educational attainment taken from study on Hoosier unemployment claimant data. Zimmer (2016). "Which Hoosiers are Successfully Navigating the Unemployment System?" <http://www.ibrc.indiana.edu/ibr/2017/fall/article1.html>.

Working-age population shares are based on data from the American Census Bureau, American Community Survey (1 year estimates, 2006-2016).

Key Facts: (1) Carnevale, Jayasundera & Gulish (2016). "America's Divided Recovery: College Haves and Have-Nots"

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STATE FINANCIAL AID IS WORTH THE COST

Economic Impact

Data represent the estimated share of the workforce produced by Indiana public colleges who were touched by state financial aid dollars. Data represent students who were identified to be employed in Indiana working for employers that participate in unemployment insurance and new hire data submissions. Additionally, workforce information is limited to records that could be linked to data in the Management Performance Hub Education and Workforce Database (EWD). Data were based on annual averages of workforce counts from 2008 to 2015. Students were de-duplicated in financial aid groups using the following logic: 1) Any 21st Century Scholar funding = 21st Century Scholar, 2) Any Frank O'Bannon Funding after considering 21st Century Scholar funding = Frank O'Bannon, 3) Other State Financial Aid Program funding.

Sources: (1) Linked higher education and workforce data sourced through Management Performance Hub Education and Workforce Database (EWD); (2) State financial aid status data sourced through legacy and current state financial aid systems (GRADS and ScholarTrack)

Estimated state financial aid impact of \$3.5 billion was obtained by taking average workforce counts obtained from estimating the share of the workforce who were touched by state financial aid dollars and applying them to financial impact multipliers displayed in the "Consumer and Taxes" section.

Student Impact

Cumulative Wages of State Aid Recipients: Data represent the average cumulative wages of 2011-2013 graduates who obtained a 21st Century Scholarship or Frank O'Bannon Grant dollars, Indiana's primary need-based financial aid programs. Cumulative wages of graduates represent wages of graduates earned 1, 2, and 3 years after graduation of those with at least 2 quarters of wage records in a particular year. Wages were converted to 2016 dollars based on the year associated with 1, 2, and 3 years after graduation for the student. Important note: employment wages do not include graduates who work out of state, who are self-employed, or who work for the federal government.

Sources: Matched higher education and workforce data obtained through the Management Performance Hub; State Financial Aid data were obtained through legacy and current state financial aid systems (GRADS and ScholarTrack)

Key Facts: Data represent state financial aid recipients graduating between 2008 and 2015 at Indiana public colleges who were identified to have went on and received a higher-level credential.

Sources: CHEDSS, Indiana Commission for Higher Education Data Submission System; State Financial Aid data were obtained through legacy and current state financial aid systems (GRADS and ScholarTrack)

ON-TIME COMPLETION SAVES TIME AND MONEY

On-Time Completion Savings

Up-front costs:

$([\text{avg. cost after financial aid (IPEDS avg. net price)}] - [\text{avg. student loans per year}]) * [\text{number of years to graduation}]$

Principal: $[\text{average student loans per year}] * [\text{number of years to graduation}]$

Interest: Interest payments on principal assuming average interest rates (4.66%) and paying debt off in 10 years after graduation

Note: Average debt per year is estimated as average debt calculated using data submitted by institution divided by average time to graduation

Sources: (1) Average Net Price sourced through IPEDS, Integrated Postsecondary Education Data System; (2) Debt data sourced through special data collection from public institutions; (3) average time to degree data sourced through CHEDSS, Indiana Commission for Higher Education Data Submission System

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INDIVIDUAL DECISIONS MATTER

Unpacking Total Annual Price

Annual price data (2015) and individual components of annual price (2015) sourced through IPEDS, Integrated Postsecondary Data Education System. Sector data were obtained by weighting institutional data by IPEDS financial aid cohort sizes.

The Cost of Student Debt

See “On-Time Completion Saves Time and Money” section.

Student Debt in Perspective: Average new car payment (2017) sourced from <https://www.edmunds.com/car-news/auto-industry/auto-loan-lengths-soar-to-record-high-edmunds-finds.html>; average mortgage payment (2017) sourced from US Census Bureau American Housing Survey.

Five-Year Wages of Top Programs

Data represent median wages five years after graduation for graduates of the most popular programs in each degree level at Indiana public colleges (bachelor’s for four-year and associate for two-year institutions). See “About the Data” section for information about annualized wages of Indiana public college graduates.

COLLEGE HAS VALUE BEYOND DOLLARS AND CENTS

Reducing Teenage Risky Behavior

Sources: (1) Kearney & Levine (2014) “Income Inequality, Social Mobility, and the Decision to Drop out of High School”; (2) Kearney & Levine (2012) “Why is the Teen Birth Rate in the United States So High and Why Does It Matter?”

Strengthening Communities

Sources: (3) Young, Elizabeth (2011) “The Impacts of Educational Attainment, Professional Interests, and Residency on Community Involvement and Civic Engagement”; (4) Coley & Sum (2012) “Fault Lines in Our Democracy”

Opioids and Substance Abuse

Sources: (5) Vice Chairman’s Staff of the Joint Economic Committee (2017) “The Numbers Behind the Opioid Crisis”; (6) Carpenter, McClellan & Rees (2016) “Economic Conditions, Illicit Drug Use, and Substance Use Disorders in the United States”; (7) Blum et al (2014) “Drug Abuse Relapse Rates Linked to Level of Education: Can We Repair Hypodopaminergic-Induced Cognitive Decline With Nutrient Therapy?”

ABOUT THE DATA

Workforce Data Limitations

All workforce information (typical salary, industry of employment) is based SOLELY on students who are employed in Indiana working for employers that participate in unemployment insurance and new hire data submissions. Additionally, workforce information is limited to records that could be linked to data in the Management Performance Hub Education and Workforce Database (EWD). Finally, workforce data are reported only for programs in which 30 or more students in at least two groups (Year 1, 5, or 10) were employed in Indiana. SOURCE: Management Performance Hub Education and Workforce Database (EWD)

Cohorts

All cohorts represent Indiana resident students who graduated from an Indiana public college during the year range specified below for each measured period: Year 1: graduated between 2013 and 2015; Year 5: graduated between 2009 and 2011; Year 10: graduated between 2004 and 2006. A student is counted only once between 2004 and 2015 in the latest year and institution at which the student completed a credential. If a student earned more than one degree in a given measured period, the student is counted at the highest degree level.

SOURCE: CHEDSS Annual Data Submissions to the Indiana Commission for Higher Education

Typical Annual Salary after Graduation

Represents the median salary for each measured period (Years 1, 5, and 10 after graduation). Wages are annualized after 2 quarters of wages. Year 1 is based on 2-5 quarters of wages; Year 5 is based on 18-21 quarters of wages; and Year 10 is based on 38-41 quarters of wages. SOURCE: Management Performance Hub Education and Workforce Database (EWD)

Industries of Employment

Represents the four-digit NAICS (North American Industry Classification System) codes in which a percentage of 2008-2015 Indiana resident graduates in each college program area (two-digit CIP code) were employed Year 1 after graduation. Note that in some cases, NAICS code names have been slightly modified for space reasons. Data are reported only for industries in which at least five 2009-2013 Indiana resident graduates were employed one year post-graduation. SOURCE: Management Performance Hub Education and Workforce Database (EWD)

Average Student Investment

Annual cost of college BEFORE financial aid: represents, for 2014-2015, the total annual cost of attendance, before financial aid, for in-state, full-time, first-time undergraduate degree-seeking students. Total price is based on students living on campus (for institutions with on-campus housing) or students living off campus, not with parents. SOURCE: Integrated Postsecondary Education Database (IPEDS)

Annual cost of college AFTER financial aid: represents, for 2014-2015, the total annual cost of attendance after financial aid (aid that students do not need to pay back) for in-state, full-time, first-time undergraduate degree-seeking students. Sector data were obtained by weighting institutional data by IPEDS financial aid cohort sizes. SOURCE: Integrated Postsecondary Education Database (IPEDS)

Average Student Debt (for students with college debt) and Percentage with Debt

Calculations include only Indiana resident students who graduated with bachelor's degrees (for four-year institutions) or associate degrees (for two-year institutions) in 2014-2015 who started at the institution as first-time students. Average debt is calculated by dividing the total amount of debt amassed by bachelor's or associate graduates with college loan debt by the total number of those graduates. The percentage with debt is calculated by dividing the total number of bachelor's or associate graduates by the number of graduates with college loan debt. These calculations do not include Indiana resident students who graduated in 2014-2015 but did not start as a first-time student at the institution of completion. SOURCE: Special data submission by Indiana public colleges and universities, October 2017.