

KEY TAKEAWAYS

Figure 1: Up-front costs: $([\text{avg. cost after financial aid (IPEDS avg. net price)}] - [\text{avg. student loans per year}]) \times [\text{number of years to graduation}]$ Principal: $[\text{average student loans per year}] \times [\text{number of years to graduation}]$

Int 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

HIGHER EDUCATION PAYS

Figures 2 & 5: 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 factoring in average annual workforce counts.

Estimates for 99% of jobs created after the Great Recession comes from Carnevale, Jayasundera & Gulish (2016). "America's Divided Recovery: College Haves and Have-Nots."

Figure 3: 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. The data model assumes that high school graduates begin earning at age 18 and that college students do not work while in school. In reality, about 32% of full-time students and 72% of part-time students are employed while in college. Similarly, not all high school graduates are fully employed or self-supporting at age 18. The projections are based on the "net" cost of college after financial aid. For students who complete on time, the average cost after financial aid to attend a four-year Indiana public college is about \$11,500 per year, and the net cost to attend a two-year public college is about \$7,300. The model also assumes that students incur average levels of student debt, that interest does not start accruing until after graduation, and that loans are paid off at average interest rates over a ten year period. About 2/3 of Hoosier students rely on student loans to finance their education. On average, students at four-year Indiana public colleges accumulate about \$27,000 in loans (excluding interest), compared to about \$17,000 for students who attend two-year public colleges.

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.

Figure 4: 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).

COLLEGE INVESTMENT IS WORTH THE COST

Figure 6: Source: Indiana Commission for Higher Education Tuition and Mandatory Fees Survey

Figure 7: Data represent the average annual increase in in-state tuition and fees between 2009 and 2019. Data are in 2018 dollars. Source: Tuition and Fees by Sector and State over Time, College Board: Trends in College Pricing

EARNINGS HIGHER, POVERTY LOWER

Figure 8: US Census Bureau, 2013-2017 American Community Survey 5-Year Estimates.

SOCIAL AND COMMUNITY IMPACT

Figure 9: <https://www.in.gov/isdh/25194.htm>

Sources: (1) Kearney & Levine (2012) "Why is the Teen Birth Rate in the United States So High and Why Does It Matter?"; (2) Blum et al (2014) "Drug Abuse Relapse Rates Linked to Level of Education: Can We Repair Hypodopaminergic-Induced Cognitive Decline With Nutrient Therapy?"; (3) Vice Chairman's Staff of the Joint Economic Committee (2017) "The Numbers Behind the Opioid Crisis"; (4) Carpenter, McClellan & Rees (2016) "Economic Conditions, Illicit Drug Use, and Substance Use Disorders in the United States"; (5) Young, Elizabeth (2011) "The Impacts of Educational Attainment, Professional Interests, and Residency on Community Involvement and Civic

Engagement"; (6) Coley & Sum (2012) "Fault Lines in Our Democracy"; (7) File, Thom (2018) "Characteristics of Voters in the Presidential Election of 2016."

FINANCIAL AID

Figure 10: Up-front costs: $([\text{avg. cost after financial aid (IPEDS avg. net price)}] - [\text{avg. student loans per year}]) \times [\text{number of years to graduation}]$ Principal: $[\text{average student loans per year}] \times [\text{number of years to graduation}]$

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.

Figure 11: 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.

Figure 12: The Institute for College Access & Success's Project on Student Debt

Figure 13: 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)

Figure 14: See Data Notes for Figures 2 & 3. 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)

Figure 15: Sources: Matched higher education and workforce data obtained through the Management Performance Hub.

Figures 16 & 17: CHE analysis

INDUSTRY SNAPSHOT

Figure 18: 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 following notes for information about annualized wages of Indiana public college graduates.

ROI-AT-A-GLANCE

Figures 19-25:

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)

Workforce Data Limitations

All workforce information (typical salary, industry of employment, county of employment, etc.) 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). Indiana unemployment insurance and new hire data submissions are estimated to cover roughly 90% of Indiana's workforce.

Cohorts

All cohorts represent students who graduated from Indiana public colleges during the fiscal year range specified. The below fiscal year ranges outline the availability of 1, 3, 5, and 10 year post-graduation employment and education outcomes:

- 1 year after graduation: 2005 - 2017
- 3 years after graduation: 2005 - 2015
- 5 years after graduation: 2005 - 2013
- 10 years after graduation: 2005 - 2008

In some cases, the latest three years of available cohort data are collapsed to produce employment and education outcome summaries for a rolling three-year cohort. These rolling three-year cohorts represent students who graduated from an Indiana public college during the fiscal year range specified below for

each measured period: Year 1: graduated between 2015 - 2017, Year 3: graduated between 2013 - 2015, Year 5: graduated between 2011 - 2013, Year 10: graduated between 2006 - 2008.

Continued Enrollment

Cohort students are considered in the "continued enrollment" category if students are found with a degree-seeking enrollment record at any Indiana public college in the academic year x # of years after graduation.

Employment

Cohort students are considered in the "employed" category if students meet all three of the following criteria x # of years after graduation:

- Students are NOT considered enrolled as outlined in the "continued enrollment" section above.
- Students have at least 3 to 4 quarters of wages after graduation beginning two quarters after their graduation date. Calculations begin 2 quarters after graduation to give students a few gap months to find employment.
- Students have annualized wages at or above \$13,195 (prevailing federal minimum wage: \$7.25/hour*35 hours/week*52 weeks/year)
- To compute annualized wages, wages are summed across all jobs in the 4 quarters after graduation beginning two quarters after graduation:
- If the student has three quarters of wages, the sum of the wages across all jobs are multiplied by 4/3 to compute an annualized wage.
- If the student has four quarters of wages, the sum of the wages across all jobs represents the annualized wage.

Note: all quarterly wages are converted to 2018 CIP-U dollars before summing across all jobs. CIP-U indices are published by the Bureau of Labor Statistics (BLS).

Industries of Employment

For students who are considered employed as outlined in the "employment" section above, the industry of employment

represents the four-digit NAICS (North American Industry Classification System) codes associated with employment x # of years after graduation. Specifically, the industry of employment represents the NAICS code associated with the student's "main job" x # of years after graduation. Main job refers to the job for which the graduate had the highest earnings quarter.

Average Student Investment

Annual cost of college BEFORE financial aid: represents, for 2017-2018, 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 2017-2018, 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 2017-18 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 2017-2018 but did not start as a first-time student at the institution of completion.