

EXECUTIVE SUMMARY

Demonstrating the Value of Chaffey College

AUGUST 2014

ANALYSIS OF THE ECONOMIC IMPACT & RETURN ON INVESTMENT OF EDUCATION

Chaffey College (Chaffey) creates value in many ways. The college plays a key role in helping students increase their employability and achieve their individual potential. It provides students with the skills they need to have a fulfilling and prosperous career. Further, it supplies an environment for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

However, the contribution of Chaffey consists of more than just influencing the lives of students. The college serves a range of industries in the Chaffey Community College District and supports local businesses. Society as a whole in California benefits from an expanded economy and improved quality of life. The benefits created by Chaffey extend as far as the state and local government, in the form of increased tax revenues and public sector savings.

The purpose of this study is to investigate the regional economic impacts created by Chaffey on the local business community and the benefits that the college generates in return for the investments made by its key stakeholder groups—students, society, and taxpayers. The following two analyses are presented:

- **REGIONAL ECONOMIC IMPACT ANALYSIS**
- **INVESTMENT ANALYSIS**

All results reflect student and financial data for Fiscal Year (FY) 2012-13. Impacts on the local business community are reported under the regional economic impact analysis, and the return on investment to students, society, and taxpayers are reported under the investment analysis. Both analyses are described more fully in the following sections.

REGIONAL ECONOMIC IMPACT ANALYSIS

Chaffey promotes economic growth in the Chaffey Community College District in a variety of ways. The college is an employer and a buyer of goods and services, and the living expenses of students from outside of the region benefit local businesses. In addition, Chaffey is a primary source of education to local residents and a supplier of trained workers to local industry.



The regional economic impact analysis examines the impact of Chaffey on the local business community through increased consumer spending and enhanced business productivity. Results are measured in terms of added income and are organized according to the following three effects:

1. Impact of college operations;
2. Impact of the spending of students who relocated to the region, and;
3. Impact of the increased productivity of former students that were employed in the regional workforce during the analysis year.

IMPACT OF COLLEGE OPERATIONS

Chaffey is an important employer in the Chaffey Community College District. In FY 2012-13, the college employed 1,116 full-time and part-time faculty and staff. Of these, 73% lived in the Chaffey Community College District. Total payroll at Chaffey was \$75.8 million, much of which was spent in the region for groceries, eating out, clothing, and other household expenses.

Chaffey is itself a large-scale buyer of goods and services. In FY 2012-13 the college spent \$67.2 million to cover its expenses for facilities, professional services, and supplies.

The total income that Chaffey created during the analysis year as a result of its day-to-day operations was \$90.4 million. This figure represents the college's payroll, the multiplier effects generated by the spending of the college and its employees, and a downward adjustment to account for funding that the college received from local sources.

JOB EQUIVALENTS BASED ON INCOME

Job equivalents are a measure of the average-wage jobs that a given amount of income can potentially support. They are calculated by dividing income by the average income per worker in the region. Based on the added income created by Chaffey, the job equivalents are as follows:

Effect of college operations = **2,029** job equivalents

Effect of student spending = **3** job equivalents

Effect of student productivity = **11,220** job equivalents

Overall, the added income created by Chaffey and its students supported **13,251** job equivalents.

INCOME CREATED BY CHAFFEY IN FY 2012-13 (ADDED INCOME)

<div>\$90.4 MILLION Effect of college operations</div>
<div>\$127.4 THOUSAND Effect of student spending</div>
<div>\$499.8 MILLION Effect of student productivity</div>
<div>\$590.3 MILLION Total effect</div>

IMPACT OF STUDENT SPENDING

Less than 1% of Chaffey’s students relocated to the Chaffey Community College District to attend college in FY 2012-13. These students would not have come to the region if the college did not exist. While attending, out-of-region students spent \$446,021 to purchase groceries, rent accommodation, pay for transportation, and so on. A significant portion of these expenditures occurred in the region, generating \$127,389 in new income in the economy during the analysis year.

IMPACT OF STUDENT PRODUCTIVITY

Chaffey’s greatest impact results from the education and training it provides for local residents. Since the college was established, students have studied at Chaffey and entered the workforce with new skills. Today thousands of former students are employed in the Chaffey Community College District.

During the analysis year, Chaffey’s former students generated \$499.8 million in added income in the region. This figure represents the higher wages that students earned during the year, the increased output of the businesses that employed the students, and the multiplier effects that occurred as students and their employers spent money at other businesses.

TOTAL IMPACT

The overall effect of Chaffey on the local business community during the analysis year amounted to \$590.3 million, equal to the sum of the college operations effect, the student spending effect, and the student productivity effect. This added income was equal to approximately 0.7% of the region’s Gross Regional Product.

INVESTMENT ANALYSIS

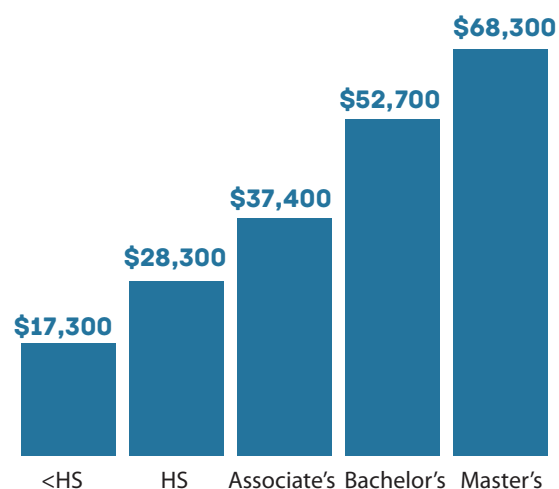
Investment analysis is the process of evaluating total costs and measuring these against total benefits to determine whether or not a proposed venture will be profitable. If benefits outweigh costs, then the investment is worthwhile. If costs outweigh benefits, then the investment will lose money and is considered unprofitable. This study considers Chaffey as an investment from the perspectives of students, society, and taxpayers. The backdrop for the analysis is the entire California economy.

STUDENT PERSPECTIVE

In 2012-13, Chaffey served 23,285 credit students and 314 non-credit students. In order to attend college, students paid for tuition, fees, books, and supplies. They also gave up money that they would have otherwise earned had they been working instead of attending college. The total investment made by Chaffey's students in FY 2012-13 amounted to \$118.4 million, equal to \$26.9 million in out-of-pocket expenses plus \$91.5 million in forgone time and money.

In return for their investment, Chaffey's students will receive a stream of higher future wages that will continue to grow through their working lives. As shown in Figure 1, mean income levels at the midpoint of the average-aged worker's career increase as people achieve higher levels of education. For example, the average associate's degree completer from Chaffey will see an increase in earnings of \$9,100 each year compared to someone with a high school diploma or equivalent. Over a working lifetime, this increase in earnings amounts to an undiscounted value of approximately \$409,500 in higher income.

FIGURE 1. ANNUAL INCOME BY EDUCATION LEVEL AT CAREER MIDPOINT IN THE CHAFFEY COMMUNITY COLLEGE DISTRICT





The present value of the higher future wages that Chaffey's students will receive over their working careers is \$595.2 million. Dividing this value by the \$118.4 million in student costs yields a benefit-cost ratio of 5.0. In other words, for every \$1 students invest in Chaffey in the form of out-of-pocket expenses and forgone time and money, they receive a cumulative of \$5.00 in higher future wages. The average annual rate of return for students is 18.0%. This is an impressive return compared, for example, to the less than 1% return per annum that is generally expected from saving money in today's standard bank savings accounts.

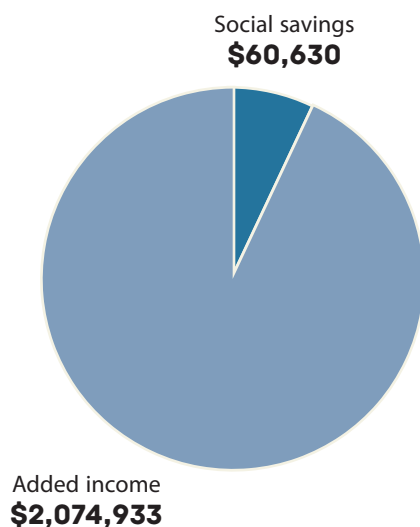
SOCIAL PERSPECTIVE

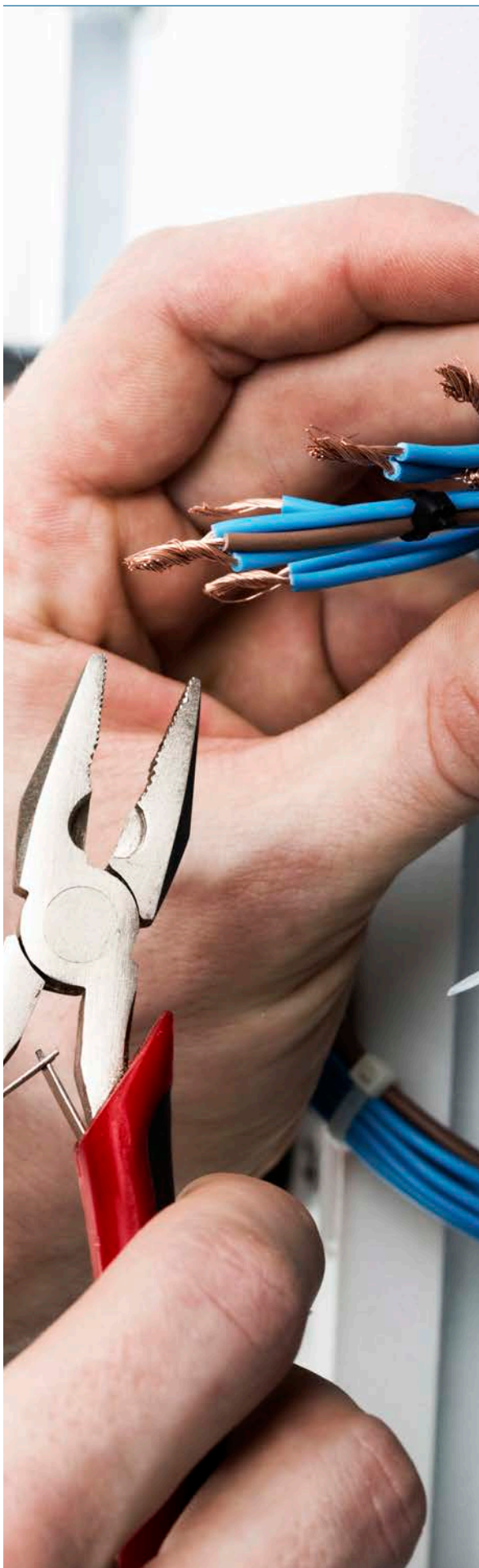
Society as a whole in California benefits from the presence of Chaffey in two major ways. The first and largest benefit that society receives is the added income created in the state. As discussed in the previous section, students earn more because of the skills they acquire while attending Chaffey. Businesses also earn more because the enhanced skills of students make them more productive. Together, higher student wages and increased business output stimulate increases in income across the state, thereby raising prosperity in California and expanding the economic base for society as a whole.

Benefits to society also consist of the savings generated by the improved lifestyles of students. Education is statistically correlated with a variety of lifestyle changes that generate social savings across three main categories: 1) health, 2) crime, and 3) unemployment. Health savings include avoided medical costs associated with smoking, alcoholism, obesity, drug abuse, and mental disorders. Crime savings include reduced security expenditure and insurance administration, lower victim costs, and reduced criminal justice system expenditures. Unemployment savings include the reduced demand for income assistance and welfare benefits.

Figure 2 shows the present value of the added income and social savings that will occur in California over the working lifetimes of Chaffey's 2012-13 students. Added income amounts to a present value of \$2.1 billion due to the increased lifetime incomes of students and associated increases in business output. Social

**FIGURE 2. PRESENT VALUE OF
ADDED INCOME AND SOCIAL
SAVINGS IN CALIFORNIA
(THOUSANDS)**





savings amount to \$60.6 million, the sum of health, crime, and unemployment savings in California. Altogether, total benefits to society equal \$2.1 billion (in present value terms).

Society invested \$252.4 million in Chaffey educations during the analysis year. This includes all Chaffey expenditures, all student expenditures, and all student opportunity costs. For every dollar of this investment, society as a whole in California will receive a cumulative value of \$8.50 in benefits, equal to the \$2.1 billion in benefits divided by the \$252.4 million in costs. These benefits will occur for as long as Chaffey's 2012-13 students remain employed in the state workforce.

TAXPAYER PERSPECTIVE

From the taxpayer perspective, benefits consist primarily of the taxes that state and local government will collect from the added income created in the state. As Chaffey's 2012-13 students earn more, they will make higher tax payments. Employers will also make higher tax payments as they increase their output and purchase more supplies and services. By the end of the students' working careers, state and local government will have collected a present value of \$154.7 million in added taxes.

A portion of the savings enjoyed by society also accrues to state and local taxpayers. Students are more employable, so the demand for welfare and unemployment benefits reduces. Improved health habits lower the students' demand for national health care services. Students are also less likely to commit crimes, so the demand for law enforcement services reduces. All of these benefits will generate a present value of \$25.9 million in savings to state and local taxpayers.

Total benefits to taxpayers equal \$180.6 million, equal to the sum of the added taxes and public sector savings. Comparing this to the taxpayer costs of \$85.6 million—equal to the funding that Chaffey received from state and local government during the analysis year—yields a benefit-cost ratio of 2.1. This means that for every \$1 of public money invested in Chaffey, taxpayers receive a cumulative value of \$2.10 over the course of the students' working lives. The average annual rate of return is 4.9%, a solid investment that compares favorably with other long-term investments in both the private and public sectors.

TABLE 2. SUMMARY OF INVESTMENT ANALYSIS RESULTS

STUDENT PERSPECTIVE	
\$595,187	Benefits (thousands)
\$118,377	Costs (thousands)
\$476,810	Net present value (thousands)
5.0	Benefit-cost ratio
18.0%	Rate of return

SOCIAL PERSPECTIVE	
\$2,135,563	Benefits (thousands)
\$252,372	Costs (thousands)
\$1,883,191	Net present value (thousands)
8.5	Benefit-cost ratio
16.5%	Rate of return

TAXPAYER PERSPECTIVE	
\$180,583	Benefits (thousands)
\$85,612	Costs (thousands)
\$94,971	Net present value (thousands)
2.1	Benefit-cost ratio
4.9%	Rate of return

SUMMARY OF INVESTMENT ANALYSIS RESULTS

Table 2 presents the results of the investment analysis for all three of Chaffey’s major stakeholder groups—students, society, and taxpayers. As shown, students receive great value for their educational investment. At the same time, the investment made by state and local taxpayers in the college creates a wide range of benefits to society and returns more to government budgets than it costs.



CONCLUSION



The results of this study demonstrate that Chaffey creates value from multiple perspectives. The college benefits local businesses by increasing consumer spending in the region and supplying a steady flow of qualified, trained workers into the workforce. It enriches the lives of students by raising their lifetime incomes and helping them achieve their individual potential. It benefits society as a whole in California by creating a more prosperous economy and generating a variety of savings through the improved lifestyles of students. Finally, it benefits state and local taxpayers through increased tax receipts across the state and a reduced demand for government-supported social services.

ABOUT THE STUDY

Data and assumptions used in the study are based on several sources, including the 2012-13 academic and financial reports from the college, industry and employment data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau, outputs of EMSI's Social Accounting Matrix (SAM) model, and a variety of studies and surveys relating education to social behavior. The study applies a conservative methodology and follows standard practice using only the most recognized indicators of investment effectiveness and economic impact. For a full description of the data and approach used in the study, please contact the college for a copy of the technical report.