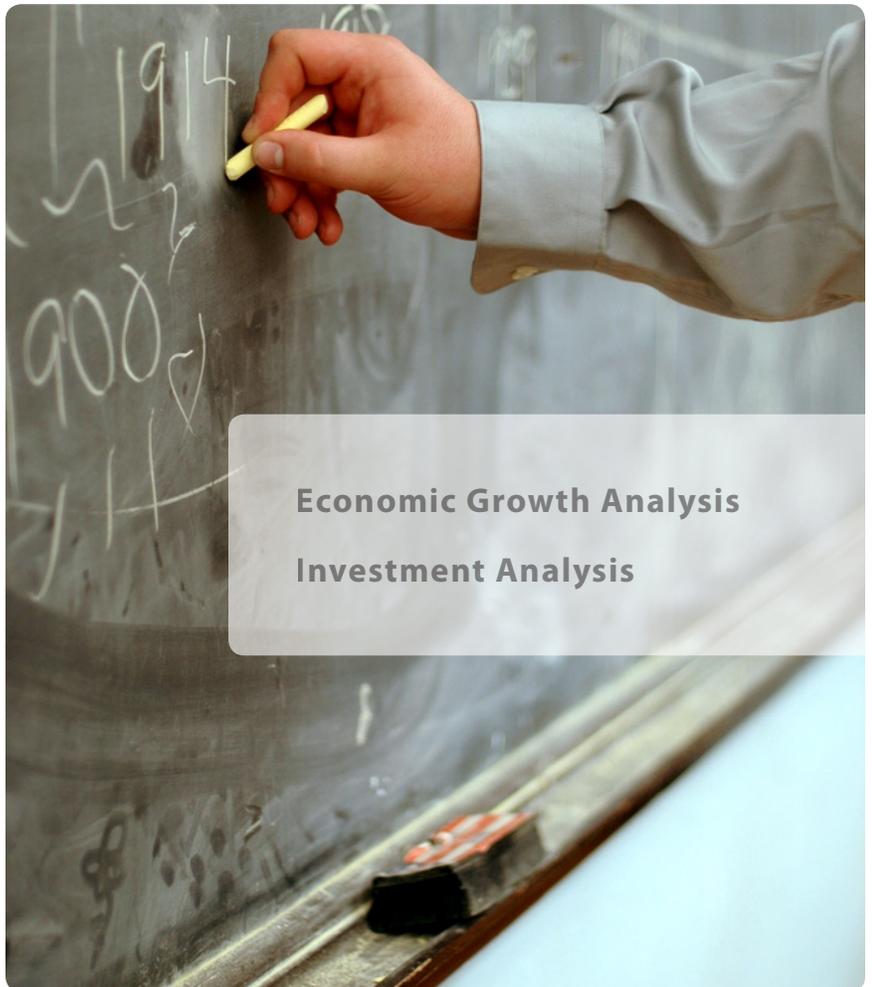




Executive Summary

The **Economic Contribution** *of*

Yavapai College
State of Arizona



Economic Growth Analysis
Investment Analysis

emsi

August 2011



Socioeconomic Impact Study

STUDY HIGHLIGHTS

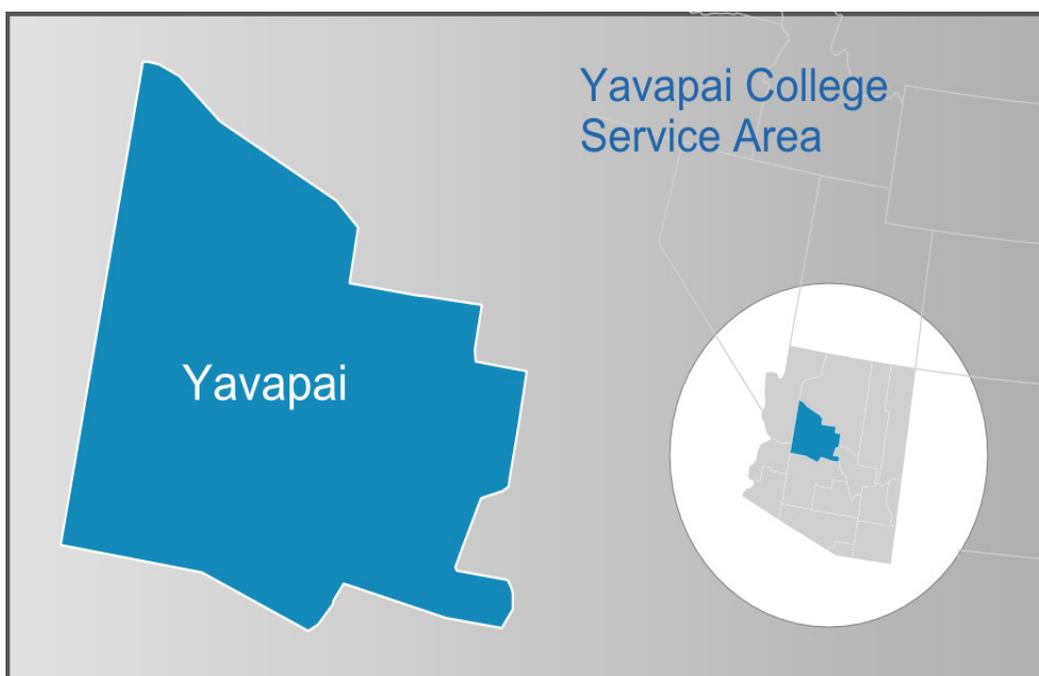
INVESTMENT ANALYSIS

- For every dollar students invest in YC, they receive a cumulative **\$4.80** in higher future income (discounted) over the course of their working careers.
- Arizona benefits from improved health and reduced welfare, unemployment, and crime, saving the public some **\$1.1 million** per year.

ECONOMIC GROWTH ANALYSIS

- The net added income generated by YC operations (**\$28 million**) and the spending of non-local students (**\$11.7 million**) contributes a total of **\$39.7 million** in income to the Yavapai County economy each year.
- The accumulated credits achieved by former YC students over the past 30 years translated to **\$90.5 million** in added regional income in 2009-10 due to the higher earnings of students and increased output of businesses.

YAVAPAI COUNTY MAP



Executive Summary

INTRODUCTION

How do the Yavapai County economy and the state of Arizona benefit from the presence of Yavapai College (YC)?

In this study, EMSI applies a comprehensive model designed to quantify the economic benefits of community and technical colleges and translate these into common sense benefit/cost and investment terms. The study includes two major analyses:

1. **Investment Analysis:** Treats education funding as an investment, calculating all measurable returns and comparing them to costs, from the perspec-

tives of students, taxpayers, and society as a whole.

2. **Economic Growth Analysis:** Measures added income in the region due to college operations, student spending, and the accumulated skills of past and present students still in the workforce.

The economic impact model has been field-tested to generate more than 900 studies for community, technical, and further education colleges in the US, Canada, the UK, and Australia. To see the full documentation of the study, please contact the college.

THE RESULTS

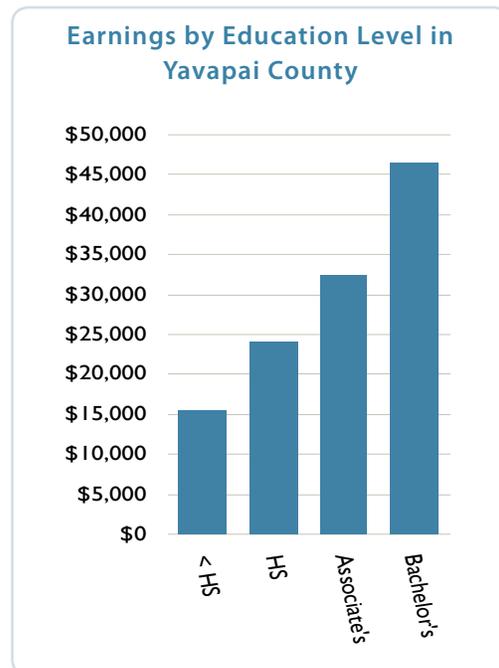
Investment Analysis

Student Perspective

Benefits of higher education are most obvious from the student perspective: students sacrifice current earnings (as well as money to pay for tuition) in return for a lifetime of higher income. Compared to someone with a high school diploma, associate's degree graduates earn \$8,500 more per year, on average, over the course of a working lifetime (undiscounted).

From an investment standpoint, YC students enjoy a 17.0% real rate of return on their investments of time and money. This compares favorably with returns on other investments, e.g., long-term return on stocks and bonds. Most rates of return are reported on a nominal rather than real basis. Converting the students' rate of return to a nominal figure results in a 20.1% return.

The corresponding benefit/cost ratio is 4.8, i.e., for every dollar students invest in YC education, they receive a cumulative of \$4.80 in higher future income over their working careers. This is a real return that



accounts for any discounting that occurs during the entire period. The payback period is 8.5 years.

YC INVESTMENT ANALYSIS AT A GLANCE

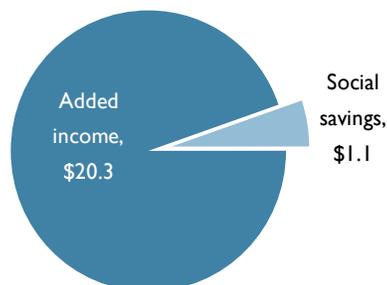
Stakeholder	Rate of Return	Benefit/Cost
Student perspective	17.0%	4.8
Social perspective	NA	10.5
Taxpayer perspective	2.6%	0.9

Social Perspective

From the perspective of society as a whole, the benefits of education accrue to different publics. For example, YC students expand the state's economic base through their higher incomes, while the businesses that employ them also become more productive through the students' added skills. These benefits, together with the associated ripple effects, contribute an estimated \$20.3 million in taxable income to the Arizona economy each year.

As they achieve higher levels of education, YC students are also less likely to smoke or abuse alcohol, draw welfare or unemployment benefits, or commit crimes. This translates into associated dollar savings (i.e., avoided costs) to the public equal to approximately \$1.1 million annually. These are benefits that are incidental to the operations of YC and accrue for years into the future, for as long as students remain active in the workforce.

Total Annual Benefits to Arizona Public Due to YC Students (\$ Millions)



To compare benefits to costs, we project benefits into the future, discount them back to the present, and weigh them against the \$39.3 million that state and

local taxpayers spent in FY 2009-10 to support the college. Following this procedure, it is estimated that YC provides a benefit/cost ratio of 10.5, i.e. every dollar of state and local tax money invested in the college today yields a cumulative of \$10.50 in benefits that accrue to all Arizona residents, in terms of added taxable income and avoided social costs.

Taxpayer Perspective

Under the taxpayer perspective, only benefits that accrue to state and local governments are counted, namely, increased tax collections and reduced government expenditures. For example, in place of increased income, the taxpayer perspective includes only the increased state and local tax receipts from those higher incomes. Similarly, in place of overall crime, welfare, unemployment and health savings, the taxpayer perspective includes only those that translate to actual reductions in state and local government expenditures.

When analyzing government investments we apply a 3% discount rate, assuming that governments can obtain unsecured loans at a rate of 3% or receive a return of 3% if they were to invest any excess funds. For YC, the real rate of return to taxpayers is 2.6%, below the 3% threshold value. However, a 2.6% rate of return is still indicative of a good investment given that many government projects do not yield positive returns. Furthermore, the benefits generated by the college recover a significant portion of the costs borne by taxpayers through the increased incomes of students and reduced expenditures for social services. It should also be pointed out that 2.6% is a real return, which is on top of inflation, not a nominal return. With an average inflation rate of 3.1% over the past 20 years, the nominal rate of return for the taxpayers is 5.7%.

Economic Growth Analysis

YC affects the local economy in three ways: (1) through its local purchases, including wages paid to faculty and staff; (2) through the spending of students who come from outside the region; and (3) through the increase in the skill base of the local workforce. These effects break down as follows:

College Operations Effect

YC creates income through the earnings of its faculty and staff, as well as through its own operating and capital expenditures. Adjusting for taxes and other monies withdrawn from the local economy in support of YC, it is estimated that the Yavapai County economy receives a net of \$28 million in added labor and non-labor income due to YC operations each year.

Student Spending Effect

Students from outside the region spend money for room and board, transportation, entertainment, and other miscellaneous personal expenses. These expenditures create jobs and incomes for local businesses. The

spending of YC’s non-local students generates approximately \$11.7 million in added income in the Yavapai County economy each year.

Student Productivity Effect

Every year students leave YC and join or rejoin the regional workforce. Their added skills translate to higher income and a more robust Yavapai County economy. Based on YC’s historical enrollment and credit production over the past 30-year period, it is estimated that the accumulated contribution of YC instruction received by former students (both completers and non-completers) annually adds some \$90.5 million in income to Yavapai County.

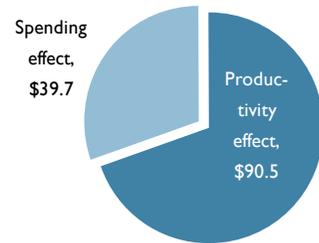
Total Effect

Altogether, the average annual added income due to the activities of YC and its former students equals \$130.2 million. This is approximately equal to 3.1% of the total Yavapai County economy.

YC ECONOMIC IMPACT ANALYSIS AT A GLANCE

Added Income	
<i>College operations effect</i>	\$28,012,000
<i>Student spending effect</i>	\$11,725,000
Total spending effect	\$39,737,000
<i>Student productivity effect</i>	\$90,472,000
GRAND TOTAL	\$130,209,000

Total Added Income in Yavapai County Due to YC (\$ Millions)



CONCLUSION

The results of this study demonstrate that YC provides an important service to students and to the public. The college enriches the lives of students and increases their lifetime incomes. It recovers a significant portion of

taxpayer costs by generating increased tax revenues and reducing the demand for taxpayer-supported social services. Finally, it contributes to the vitality of both the local and state economies.



ABOUT THE STUDY

This report summarizes the results from “The Economic Contributions of Yavapai College” detailing the role that the college plays in promoting economic development, enhancing students’ careers, and improving quality of life. Data sources include, but are not limited to, 2009-10 academic and financial reports from the college, industry and employment data from the U.S. Bureau of Labor Statistics, earnings and demographic data from the U.S. Census Bureau, and a variety of studies and surveys relating education to social behavior.

Contact Us:

EMSI
1187 Alturas Dr.
Moscow, ID 83843
(866) 999-3674
www.economicmodeling.com

