

Economic Impact Assessment 2004

Polk Community College's Impact on the Local Economy in Fiscal Year 2003/04

Introduction

Polk Community College (PCC) plays a vital role in its service region, educating citizens of Polk County to lead more productive lives. As a result of their study at PCC, students obtain jobs, refine professional skills, transfer to senior colleges and universities, and acquire knowledge that enriches every aspect of their personal and professional development. In addition to serving individual students, the college provides technical training for regional businesses and industries, supports the economic development of both county businesses and government, and offers cultural events in the areas of sports, fine arts, and lectures.

Often overlooked is the economic role PCC plays in the service region. The college produces jobs, and its employees and students consume goods and services, own property, and invest in the community. Funds are circulated throughout the local economy through college expenditures, purchases of goods and services, salary payments, and capital construction. And these funds, in turn, stimulate the local economy, leading to new jobs and additional spending. In short, the college has a significant economic impact upon the service region. Measuring that impact is the subject of this Economic Impact Study (EIS).

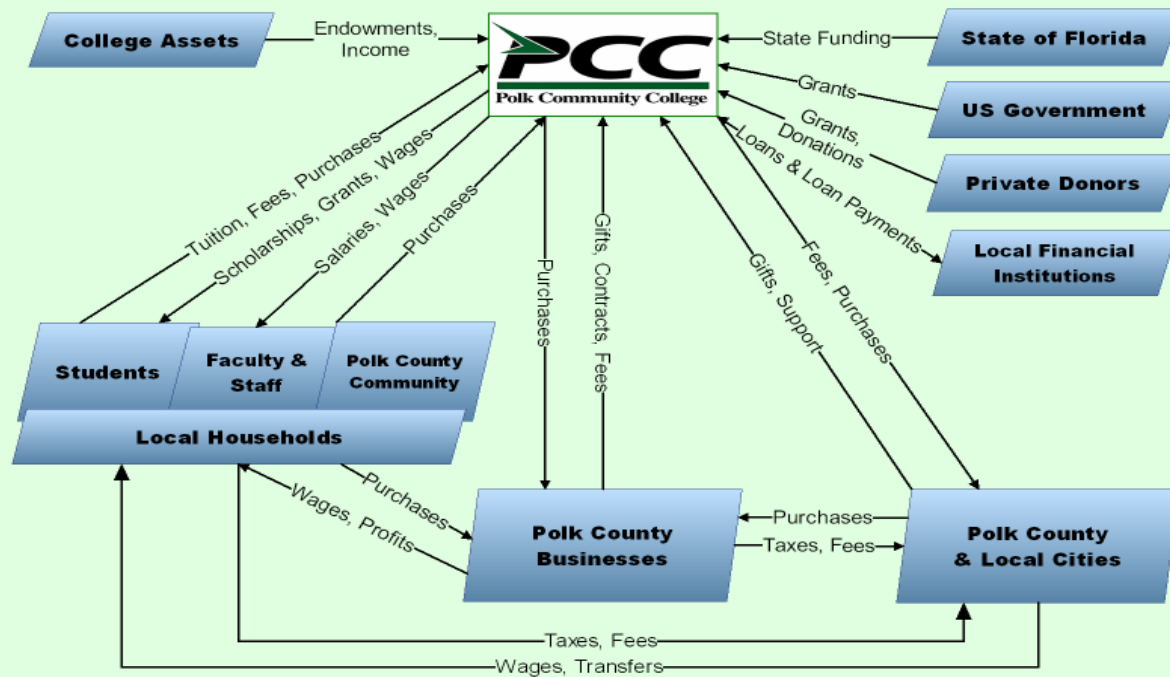
Methodology

The most frequently used model to measure the economic impact of a college or university was developed by John Caffrey and Herbert Isaacs in 1971 for the American Council on Education (see next page). In terms of methodology, the Caffrey & Isaacs model merges financial and multiplier analysis by using numerous variables like faculty, staff, and student data, college expenditures, socio-economic information about the community/county, and regional input-output multipliers (RIMS) to estimate indirect economic impact.

The multiplier effect used by Caffrey & Isaacs is based upon the notion that a portion of any local expenditure results in additional jobs and services. It presumes that dollars spent by one source will be spent again in the purchase of goods or services by another source within a declared geographical region. As Caffrey and Isaacs note, approximately 35 cents of every dollar spent by community residents in local businesses is returned to the spenders as income. The remaining 65 cents is spent by the businesses for supplies and services from other businesses. A portion of this, again, is spent on additional supplies and services, and this cycle continues, with diminishing returns each time, until eventually the income received by local residents from the initial dollar spent totals approximately 66 cents. The ratio of the total income, 66 cents, to the initial income received, 35 cents, is typically almost two to one, so that if a college has a direct economic impact of, say, \$1,500,000, the indirect economic impact, using the earnings multiplier of two, would be \$3,000,000 (see also chart on page 3).

In the current study we will apply the Caffrey & Isaacs model and its reconceptualization by Jeremiah Ryan in 1981 to better fit the contextual conditions of community colleges. Also reflected are further refinements proposed by the Two-Year College Committee of the Eastern Association of College and University Business Officers (EACUBO) in 1989.

Economic Impact of PCC on Local Economy - Cash Flow Model



Source: Adapted from Caffrey & Isaacs, 1971

Model Estimates

This study includes six areas of college-induced economic impact upon the surrounding community: college expenditures, employee expenditures, student expenditures, spending by out-of-area visitors to students and events, economic contributions of local alumni, and the effect of the corporate college on local employers and jobs.

In the following section, each of those six categories is examined separately for its direct economic impact, as well as its indirect impact due to the multiplier effect. Across categories, an extremely conservative multiplier for postsecondary EIS models (1.82) was used and reflects the recommendation of the U.S. Department of Commerce's list of final demand multipliers for the Lakeland-Winter Haven region. Considering the cost of living and other socio-economic indexes for Polk County, the medium and high multipliers of the Caffrey & Isaacs model (2.4 and 3.0) did appear somewhat too high for an accurate assessment (see also chart on the next page: *How to Calculate Multipliers*).

- College Expenditures:** PCC purchases a variety of goods and services from the surrounding community that range from printing and janitorial supplies to health care and capital expenditures associated with the construction of new buildings and/or the renovation/refurbishment of existing structures. In order to determine the economic impact of expenditures by PCC on the region, audited figures of the 2003/04 Annual Financial Report were used.

To determine college expenditures the budgets for materials and supplies, contracted services, utilities and telecommunications, and other services and expenses were totaled, and all items, except out-of-state items, were included as monies spent by the college. After review and analysis of vendor lists of college expenditures provided by the college's Business Office, it was concluded that approximately 55% of the total expenditure dollars were spent in Polk County, accumulating to approximately \$5.8 million.

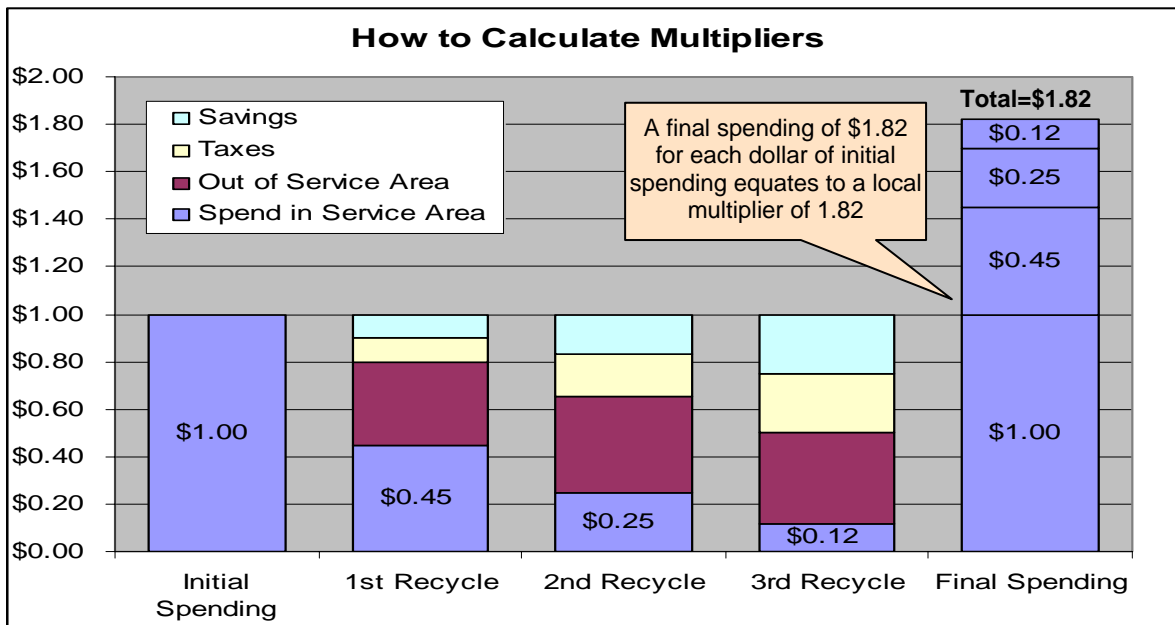
- Employee Expenditures:** Employee expenditures include all those items purchased by employees of PCC in the local community. During 2003/04, PCC employed 1000 full- and part-time faculty and staff, and part-time students. Of those employees, 94% lived in Polk County. Since not all of them worked during the whole year and many adjunct faculty members teach only one class per term, we needed to translate this number into a full-time equivalency. The conversion revealed 510 full-time equivalent positions.

To determine employee expenditure dollar amounts, all monies budgeted for salaries for all departments and auxiliary accounts were included. Approximately 30% were subtracted from the payroll figures to address fringe benefits, insurances, social security, and taxes. After those deductions we arrived at a disposable income of approximately \$12.1 million across all PCC employees living in Polk County. Based on data from other studies, we can assume that out-of-county purchases of local residents are approximately equal to the local spending of out-of county residents.

- Student Expenditures:** As students attend PCC, they spend many dollars on purchases that flow directly into the local economy. While 95% of the 19,683 PCC students in the academic year 2004 were area residents, PCC attracted about 950 students from outside the daily commuting zone. To provide a conservative student expenditure estimate, the potential commuting area was intentionally chosen to incorporate areas with relatively long commuting times like Orlando and Tampa, since many of the college's non-traditional students work in Polk County and attend classes before or after work. PCC's percentage of out-of-area students (4.83%) is consistent with the national average for similar 2-year institutions established by other studies at approximately 5%.

To maintain a conservative estimate of student expenditures, we've included complete cost of living estimates only for out-of-area students in this study, since these students inject new outside monies into the economic bloodstream of the county. Those estimates have been established at annually \$10,020 per student. For local students only academic expenditures have been estimated, resulting in an annual average of \$653 per capita.

The estimates for both groups are based on independent studies by The College Board, the Student Expense & Resources Survey (SEARS), the University of Florida, and several other colleges. The local spending of both student groups combines to approximately 21.75 million dollars. Naturally, tuition and fee payments have been excluded.



- **Visitor Expenditures:** Included are all items purchased by out-of-county visitors as they attend PCC activities and events or visit students during graduation or other occasions. Visitor spending involves food, shelter, fuel, etc., and it is noteworthy that this study only accounts for out-of-area dollars and visitors to out-of-area students (“new” dollars to the community). Expenditures by out-of-area visitors to local students have been excluded to avoid speculative estimates.

The average visitor’s per-diem spending amount has been established at \$70; it was intentionally set at 30%-50% below values returned by similar studies (\$100-\$140) to ensure a careful approximation. To determine the number of visitors during academic year 2004, estimates by the various college entities in charge of the various event categories provide the following results:

Event	Annual Out-of-County Visitors
Music Concerts	120
Foundation Series	70
Outside Events	60
Early Childhood Testing	13
Criminal Justice Seminars	2
Fall Fest	600
Nursing Open House	50
Baseball League	1,750
Baseball Tournaments	1,500
Basketball	500
Volleyball	600
Soccer	300
Softball	1,750
Misc. Sports Events/Tournaments	4,500
Visitors to Non-Local Students	5,700
Total	17,515

Based on an average per diem spending of \$70 and an average stay of 2 days, the total expenditures by 17,515 out-of-county visitors in Polk County accumulate to almost 2.5 million dollars. As indicated before, the actual expenditures by visitors to PCC’s students and events in 2004 are more likely larger than this estimate.

- **Local Alumni:** Economic contributions of local alumni are mainly recognized via the annual income difference between a 2-year college graduate and a high-school graduate. The most recent income differential has been established across various graduation segments in 2003 and was on average \$15,152. We have to assume that many graduates will transfer to 4-year institutions and — depending on graduation date — not all of the rest will be fully employed for a whole year (even if division estimates indicate that placement rates are on average above 90%).

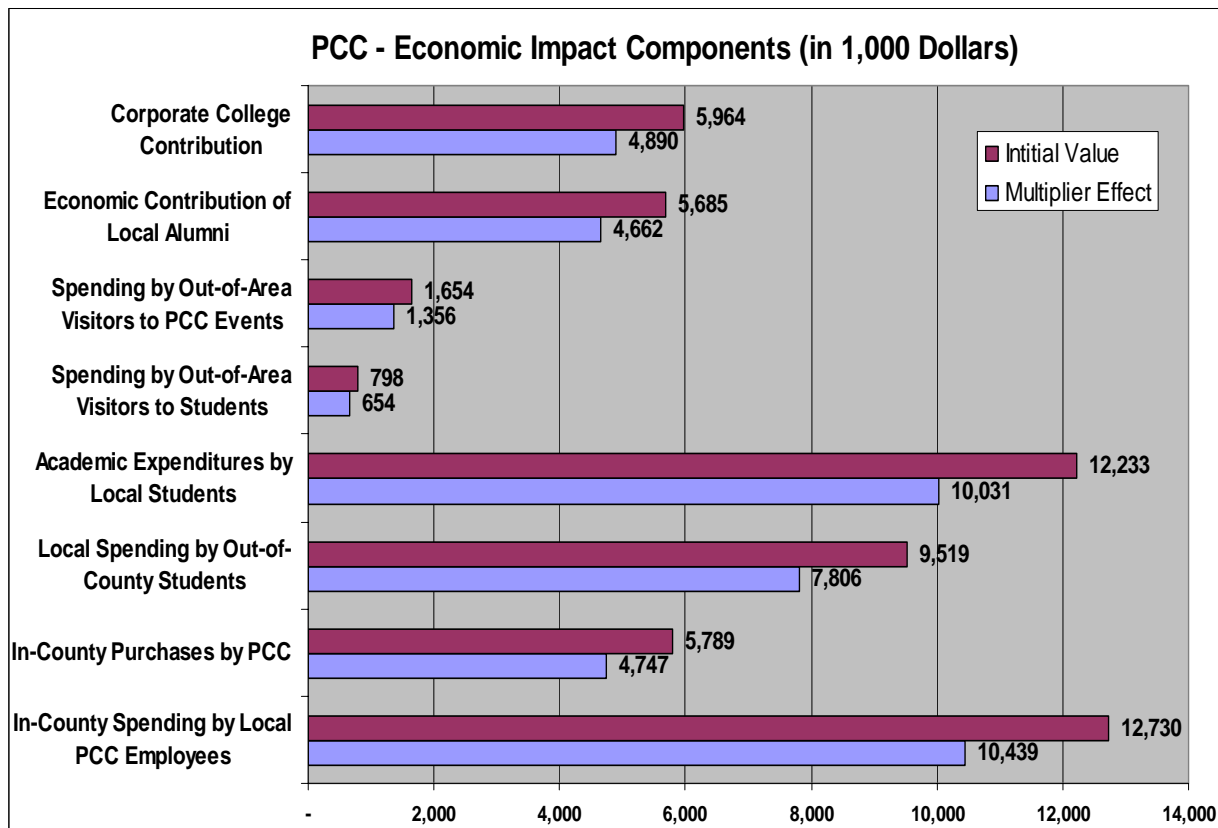
To stay the conservative course, we assume that only 40% of the average income differential will be fully realized during the academic year. This leads to an average annual economic contribution of recently graduated local PCC alumni of \$6,061 per capita. If we multiply this amount by 938, the number of graduates and certificate completions in 2004, the immediate benefit of PCC’s alumni to the local economy is slightly less than \$5.7 million.

- PCC's Corporate College:** Annually, the Corporate College trains about 12,000 employees in Polk County. While it is impossible to exactly determine the resulting increases in productivity and knowledge capital, we've estimated the average Return on Investment (ROI) per trainee based on various independent sets of data. Those studies involved the Employment Opportunity Pilot Project, estimating training ROI across 2,594 employees; the Columbia Business School's HR survey, assessing productivity increases for 155 manufacturing businesses; a summary of industry reports published by the Training & Management Magazine, establishing the average classroom training ROI; and several other studies indicating that higher amounts of training investment lead to significant gains in customer retention and reduced employee turnover.

To determine the economic value-add of PCC's corporate college, we used a modest 2% annual productivity increase per trainee, compared to 5-6 percent in similar estimates. This measure was translated into an equivalent of disposable income since better productivity or profit measures are not available for Polk County and/or the target population attending classes. Based on this approach, we estimate an amount of \$497 as the average annual per capita benefit of the training/education received. The resulting immediate economic impact of the Corporate College can be established at approximately \$5.96 million in 2003/04; returning approximately six times the training dollars invested.

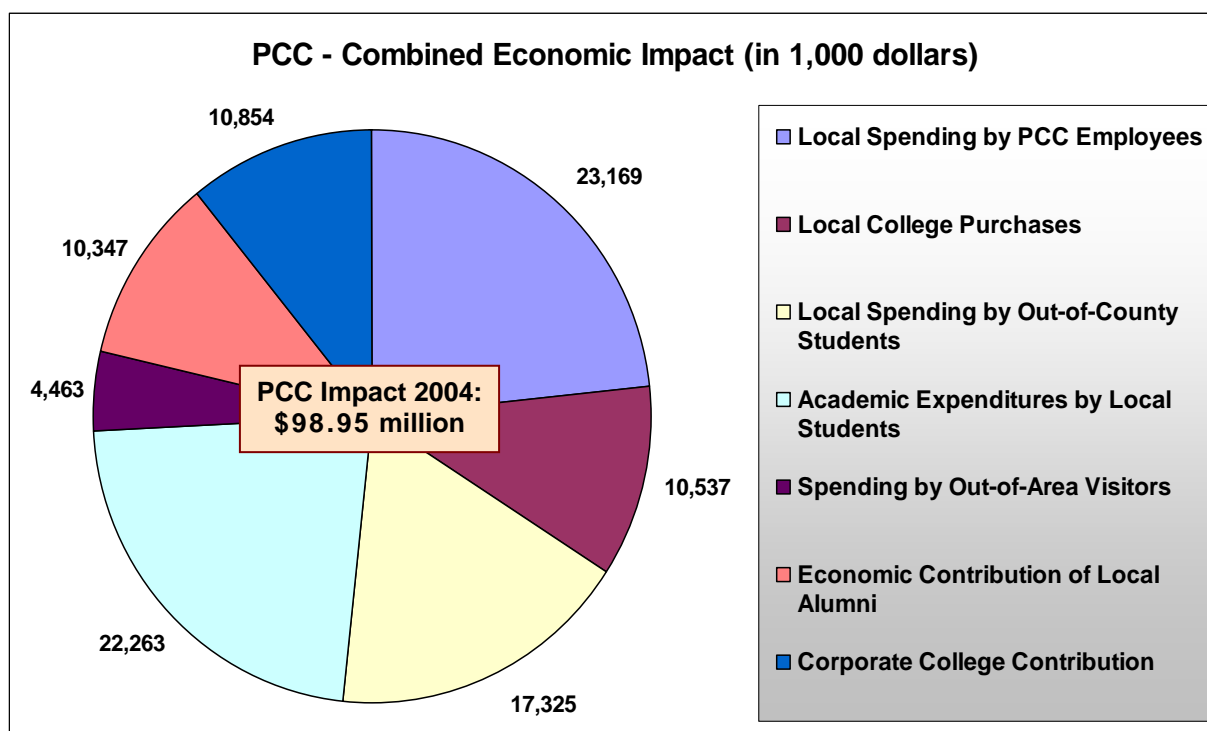
Statistical Summary

After having established baseline or initial spending values for the key measures of PCC's economic impact in Polk County, the final value for each component can be assessed by applying the local multiplier effect based on a factor of 1.82 (see pages 2 and 3). The following graph illustrates the initial amount paired with the multiplier portion (x 0.82) in dollars of business volume for the local economy.



The aggregation of initial and multiplier effect into values that summarize the various aspects of the college's economic contribution to the local economy is shown in the pie chart below. As a result we find that the aggregate economic impact of PCC on the Polk County economy is highly significant and exceeds \$98.95 million for the academic year 2003/04. This business volume is also associated with a total employment of 1,360 jobs in other industries as a result of PCC's presence in the local economic value chain.

As pointed out earlier, there are many aspects of PCC's economic impact that this study is unable to address at this point in time. For example, PCC employees and students contribute annually thousands of volunteer hours in local organizations. Currently we do not have sufficient data to quantify this aspect. Similarly, for most communities the presence of a local college helps attract new businesses to the area and/or creates spin-off jobs based on business growth. While this facet of economic impact is very real, it is also very intangible and hard to capture in monetary terms. Thus – and by not estimating components with insufficient data background – we feel very confident that the presented estimates are not only accurate, but present also a relatively conservative view of PCC's impact on Polk County's economy.



Conclusions

It is hard to quantify the impact of community colleges on local economies in only economic terms. However, since institutions of higher education can be viewed as a business, with costs and returns described by economic variables, economic-impact studies have become a regular tool for bargaining, justifying, and promoting the institution. In this study we have estimated the impact of Polk Community College on the economy of Polk County in fiscal year 2003/04. At the local level it was estimated that PCC contributed an additional output of \$98.95 million and is responsible for an equivalent of 1,360 new jobs on top of the 510 full-time equivalent positions at the college. Considering that PCC spent \$16.23 million of state appropriations in fiscal year 2003/04, Florida taxpayers are rewarded with a return of more than 6 times their investment; just as a short-term benefit.

The longitudinal impact of PCC cannot be easily measured since it is almost impossible to define the increase in the life-time productivity of PCC graduates in the work-force or to estimate the many additional contributions attributed to PCC's alumni. It is similarly unfeasible to approximate the impact of PCC graduates on the wellbeing in the community not just in economic terms, but from a biological, mental, and social perspective as well. How can we put a dollar value to these intangible benefits and the enrichment PCC brings to life in Polk County? Given PCC's location, these points take on a much higher significance than in large metropolitan areas where many alternative choices exist.

A study of this scope obviously has limitations and weaknesses. Ideally, if resources were available, real-time data collection would have been spread over the entire year and more intensive follow-ups would have been made. This is especially true in estimating visitor's impact and student spending, where some of the variables are based on secondary sources and depend on the relevance of comparable research models and findings. However, since our approach was designed to use conservative estimates and ignore areas where potential impact calculations would have led to speculative outcomes, we are very confident that the real economic impact of PCC on the local economy is actually larger than estimated in this assessment.

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