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ABSTRACT

This paper offers a model for determining the economic impact of a community college on its locality. The paper argues that strict adherence to the Caffrey and Isaacs (1971) model revealed three significant problems. First, several of the Caffrey and Isaacs economic estimates are either inappropriate or less appropriate for use by community college personnel. Second, the survey of faculty and staff is difficult to adapt for a community college. Third, the retail gravity model presents certain problems to the community college economic impact indicator. The "short-cut" method presented here is designed to meet the objections of the dominant models. The paper offers the following list of information needed to calculate the four types of economic impact: (1) total college expenditures; (2) percentage of college expenditures, as reported in #1, spent in the county; (3) total student activity expenditures; (4) total number of college employees; (5) college employees who live in county; (6) total disposable income available to college employees; (7) total number of full-time students; (8) total number of part-time students; (9) average annual college-related expenditures by full-time students; (10) average annual college-related expenditures by part-time students; (11) average annual non-housing expenditures; (12) rental expenditures; (13) percentage who rent; and (14) total in-county expenditures. (NB)

NATIONAL COUNCIL FOR RESOURCE DEVELOPMENT

RESOURCE PAPER
NO. 48

Economic Impact Studies in Community Colleges: The Short Cut Method

Second Edition

by

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The Second Edition

The first edition of this guide was developed in 1981 by Dr. G. Jeremiah Ryan under the auspices of the Council of County Colleges of New Jersey. This second edition was prepared by the original author in partnership with Ms. Patricia Malgieri of the Center for Governmental Research of Rochester, New York.

Any questions regarding the model should be directed to Dr. Ryan at Harford Community College, Bel Air, Maryland 21015; 410-836-4407.

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Introduction

Mission and goal statements of community colleges have a common thread in that they invariably state that the primary purpose of community colleges is to provide postsecondary educational opportunities to the adult population of the colleges' sponsorship areas. The statements usually include listings of such valuable outcomes of learning as knowledge, creative capabilities, economic productivity and cultural enrichment.

There are other outcomes of community colleges, usually not presented in the mission statement, that are more direct and more measurable, one of the most significant of which is that they bring revenue to their locality. Community colleges serve as substantial producers of jobs, as consumers of goods and services, as owners of property and as depositors and investors of cash resources that contribute to an expanding credit base.

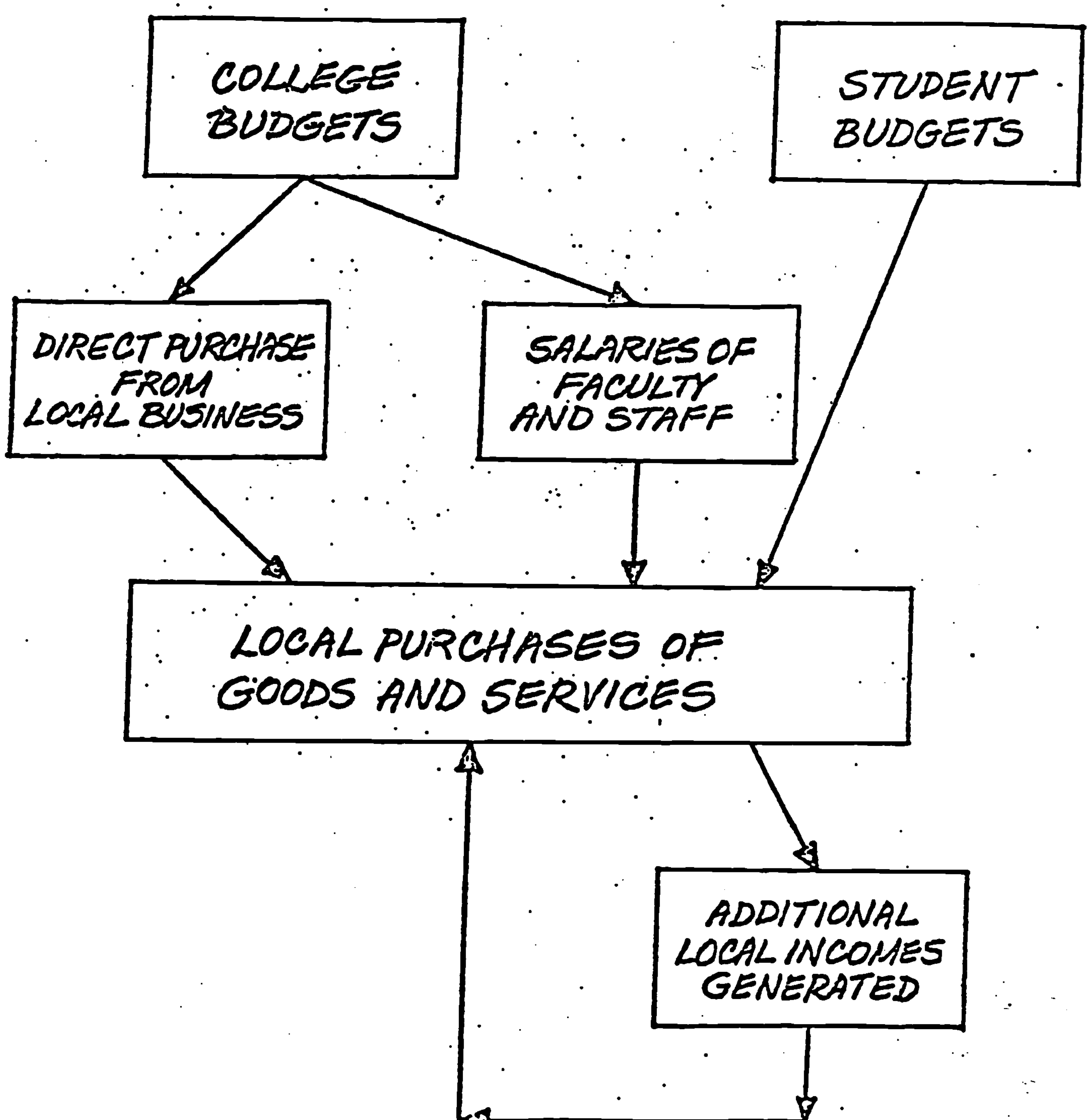
The people who live in the area in which a college is located often think of the institution in terms of their own personal social interactions with its students. Merchants, landlords, bankers and other business persons may be sensitive to the students and college employees as sources of additional income for their business venture. However, the total economic relationship between the college and the community is not generally known.

The second set of outcomes presented are more current and their benefits are measurable. Community colleges bring funds into the economy through several revenue sources: tuition and fees, local and state appropriations, private gifts, and federal grants.

The colleges circulate funds into the economy through expenditures: salary payments, purchases of goods and services, and capital construction. The ability to accurately measure, analyze, and present these economic outcomes is becoming an ever more important skill for a community college president, business officer, or research administrator.

Economic impact studies are of substantial value to administrators and faculty at community colleges because they provide comprehensive data for political purposes. Without them, endeavors to achieve greater local and state appropriations will be handicapped by the lack of tangible and reliable information on the measurable economic returns to be expected from the dollars invested in community colleges. The results of economic impact studies often are surprising to the public and, indeed, to the academic community in terms of the prominent economic status of the college as an employer, consumer of goods and services, investor and property owner. Figure 1 is a graphic presentation of how Economic Impact works.

Figure 1.



How Economic Impact Works

Development of the "Short-Cut" Method

The dominant models for determining the economic impact of a community college on its locality were authored by Caffrey and Isaacs in 1971 for the American Council on Education. Although all the community colleges utilized the Caffrey and Isaacs models, several deviated from the use of some of the more time consuming and complex calculations. Rarely did a community college report include estimates as a result of all of the models contained in Caffrey and Isaacs.

The review of the case studies, reported earlier, revealed three significant problems with strict adherence to the models developed by Caffrey and Isaacs. First, several of the economic estimates presented by Caffrey and Isaacs are either inappropriate or less appropriate for use by community college personnel. An objective of this major applied research project was to produce a research instrument that gathered information that would be most usable by community college officials.

Second, the survey of faculty and staff designed to produce estimates of their local spending presents a problem. This survey, which may be adapted for local purposes, presents several problems to the community college administrator who wishes to estimate the economic impact of his community college: The survey is difficult to adapt for a community college; the response rate among students is often too low to yield reliable information; and, most importantly, the development and implementation of the survey is a time-consuming task. An objective of this major applied research project was to produce a research instrument that would replace the faculty and staff survey while still providing reliable information for the estimation of economic impact.

Third, a problem exists with the retail gravity model that was designed to enable researchers to determine the percentage of non-housing expenditures that an individual is likely to make in his local environment. The model is based on the gravity theory which states that the amount of money spent for non-housing expenditures is inversely proportional to the square of the distance to the point of purchase. This model presents certain problems to the community college economic impact estimator: The inherent mathematical complexity of the concept; the difficulty in obtaining appropriate retail sales data; and the difficulty in operationalizing a "sales area."

The "Short-Cut" method was developed to meet the objections of the dominant models: Data sets were developed to substitute for surveys; easily available nationally produced data was identified to substitute for the retail gravity model; and a conservative multiplier effect was recommended.

The Concept of the Multiplier

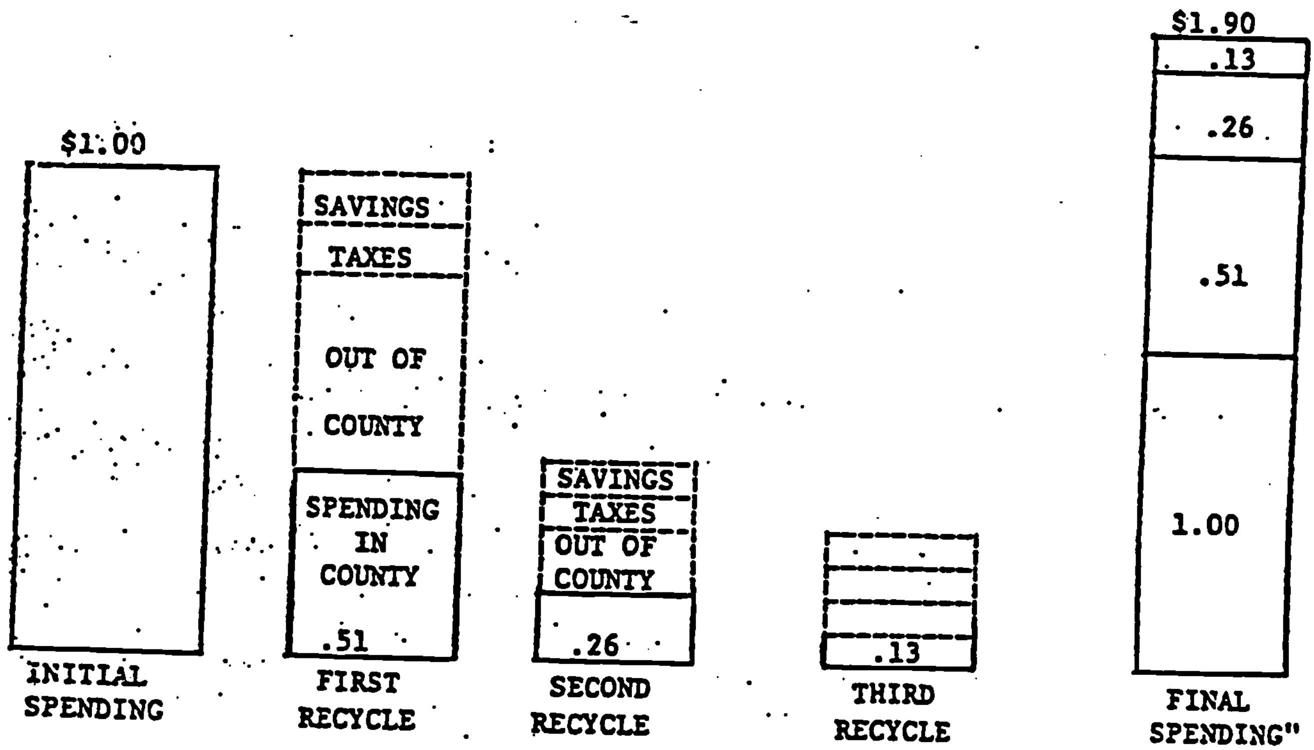
Caffrey and Isaacs have explained the multiplier concept as follows:

Approximately 35 cents of a dollar spent in local business establishments by community residents is returned to the spenders as income. The balance, approximately 65 cents, is spent by local business establishments for materials and supplies from other local enterprises (including local taxes) or for goods and services produced outside the community (including non local taxes). But this is only the first round of transactions. The income accruing to local residents from this initial round is partially spent in the local business community. (Some is saved; some is paid out in taxes and fees to federal, state, and local governments; and some is spent outside the community.) Again, on the average, 35 cents of the dollar spent locally is returned in the form of income. This recycling process continues with diminishing increments at each stage. Eventually, 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 almost two to one, 1.9:1.0.

Since it measures the multiple impact of an initial income stimulus, 1.9 is called the income multiplier. The concept is useful in demonstrating the various repercussions of direct stimuli, such as the described consumer spending and income. Similar indirect effects are carried over to local employment and to transactions between local business establishments. A multiplier of 1.9 is the average among those reported in the literature review, computed for differing geographic regions; the range being 1.2 to 3.0. The multiplier range for entire states is 2.5 to 3.0. The larger multiplier results because a state has such a varied economic base that fewer dollars "leak" out to other regions.

Figure 2.

The Income Multiplier Concept



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The "Short-Cut" Method to Calculating Economic Impact

Required Information

The following college information is needed to calculate the four types of economic impact.

Information Required	Source of Information
1. Total college expenditures	1. The source of information should be the end of fiscal year audit. This figure must exclude salaries, internal items and transfers and taxes.
2. Percentage of college expenditures, as reported in #1, spent in county	2. The source of this information is college business records. It may be computed as follows: a. Actual calculation of all in-county purchases for a Fiscal Year. b. Review three different months' total expenditures. Determine percentage spent in county.
3. Total Student Activity expenditures	3. The source of this information should be the Student Activities office. The total should include intercollegiateathleticexpenditures. The total should include programs not only generated by fees but also by admissions and fund raising activities of clubs and organizations.
4. Total number of college employees	4. This information may be obtained from calendar year payroll records. Other possible sources of information are W-2 submissions or annual budget data.

5.	College employees who live in county	5.	This information may be obtained by reviewing address information on payroll records or in college directory. If part-time data is not readily available, the full-time percentage should be used.
6.	Total disposable income available to college employees	6.	The source of this information is college business records. The figure is money paid directly to staff and does not include taxes and costs of employee benefits.
7.	Total number of full-time students	7.	This information is available from end of fiscal year audit or from HEGIS submissions.
8.	Total number of part-time students	8.	This information is available from end of fiscal year audit or from official submissions to state or federal agencies.
9.	Average annual college related expenditures by full-time students	9.	This information is available from the Financial Aid office. The figure should exclude tuition and fees. The estimate for a dependent student should be used.
10.	Average annual college related expenditures by part-time students	10.	This information is available from the Financial Aid office. The figure should exclude tuition and fees. The estimate for a dependent student should be used.
11.	Average annual non-housing expenditures	11.	This information is available from American Chamber of Commerce Research Association - Quarterly Reports, Louisville Chamber of Commerce, One River Front Plaza, Louisville, KY. For the calculation, reference the annual study that reports composite cost of living: groceries, housing, utilities, transportation, health care and miscellaneous goods and services.

12. Rental expenditures

12. This information is available from American Chamber of Commerce Research Association - Quarterly Reports, Louisville Chamber of Commerce, One River Front Plaza, Louisville, KY.

For the calculation, reference the annual study of monthly rent of an apartment for a middle management executive.

13. Percentage who rent

13. This information can be obtained from the local County Planning Department. If several statistics are available, choose the lowest.

14. Total in-county expenditures

14. This information is contained in the annual edition of *Sales and Marketing Management* magazine which reports "Population, Retail Sales, Effective Buying Income" by county spent and by county of residence. In-county expenditure percentages have been arbitrarily assigned as per their retail sales volume.

Less that $2 billion	- 60%
*$2 billion to $4 billion	- 65%
*$4 billion to $6 billion	- 70%
Over $6 billion	- 75%

Direct Economic Impact Calculation Forms

Part I. College Information

ITEM	INSTRUCTIONS
A. Total college expenditures $______	A. The source of information should be the end of fiscal year 1982 audit. This figure must exclude salaries, internal items and transfers and taxes.
B. Percentage of college expenditures, as reported in #1, spent in county ______%	B. The source of this information is college business records. It may be computed as follows: (1) Actual calculation of all in-county purchases for a fiscal year. (2) Review three different months' total expenditures. Determine percentage spent in county.
C. Total Student Activity fees, expenditures $______	C. The source of this information should be the Student Activities office. The total should include intercollegiate athletic expenditures.
D. Total number of college employees ______ (# / %) 4a. Full-time ____ ____ 4b. Part-time ____ ____ 4c. Total ____ ____	D. This information may be obtained from calendar year payroll records. (Use W-2 information or budget data.)
E. Full-time college employees who live in county #____ ____%	E. This information may be obtained by reviewing address information on payroll or in college directory. If part-time data is not readily available, use full-time percentage.

Part I. College Information (continued)

F.	Total disposable income available to college employees $______	F.	The source of this information is college business records. The figure is money paid directly to staff and does not include taxes and cost of employee benefits.
G.	Total number of full-time students ______	G.	This information is available from end of fiscal year audit.
H.	Total number of part-time students ______	H.	This information is available from end of fiscal year audit.
I.	Average annual college related expenditures by full-time students ______	I.	This information is available from the Financial Aid office. The figure should exclude tuition and fees.
J.	Average annual college related expenditures by part-time students ______	J.	This information is available from the Financial Aid office. The figure should exclude tuition and fees.

Part II. Project Calculations

ITEM	INSTRUCTIONS
K. Total Student Government expenditures spent in county $______	K. This figure may be found by applying percentage computed in #B to total reported in #C.
L. College expenditures spent in county $______	L. This figure may be found by applying percentage computed in #B to total reported in #A.
M. Total in-county expenditures by the college $______	M. This figure may be computed by adding #K and #L.
N. Disposable income of in-county employees spent in-county on non-housing items $______	N. This figure may be obtained as follows: Disposable income #F x Percentage of in-county staff #E x Percentage of non-housing expenditures from annual study that reports composite cost of living: groceries, housing, utilities, transportation, health care and miscellaneous goods and services. x Percentage of in-county expenditures from ***Sales and Marketing Management*** magazine which reports "Population, Retail Sales, Effective Buying Income" by county spent and by county of residence. =

Part II. Project Calculations (continued)

O. Expenditures of out-of-county full-time employees spent in-county on non-housing items $______	O. This figure may be obtained as follows: Total number of out-of-County full-time employees x $1,000.00
P. Rental expenditures by full time college staff living in county $______	P. This figure may be computed as follows: Total full-time staff living in county x County percentage who rent from local County Planning Department. If several statistics are available, choose the lowest. x County mean annual rent from annual study of monthly rent of an apartment for a middle management executive. x
Q. Total employee expenditures in county $______	Q. The total in-county employee expenditures may be computed as follows: #N + #O + #P
R. Total expenditures by full-time students $______	R. This figure is computed by the following method: #G x #I
S. Total expenditures by part-time students $______	S. This figure is computed by the following method: #H x #J
T. Total expenditures by students $______	T. This figure is computed by adding #S and #T.

Part III. Local Economic Impact

ITEM		INSTRUCTIONS	
U.	Total in-county expenditures by by college $____	U.	#M
V.	Total employee expenditures in county $____	V.	#Q
W.	Total student expenditures in-county $____	W.	#T
X.	Total initial economic impact of the college on the county $____	X.	#U, #V, #W
Y.	Multiplier effect	Y.	2.0
Z.	Total estimated economic impact $____	Z.	#X X #Y

Recommended Uses of Economic Impact Studies

The Estimate may be utilized as follows:

1. The economic impact should be mentioned, if not highlighted, in the publicity brochures.
2. The economic impact should be included in the State Legislature's testimony of the appropriations committee.
3. The economic impact should be mentioned in conversations with the Governor, the governor's staff and other appropriate executive branch officials.
4. Press releases regarding the economic impact should be prepared and distributed to the major daily newspapers.
5. A summary of the Economic Report should be prepared and sent to major businesses and trade associations and labor unions.
6. A summary of the Economic Report should also be shared with AACJC, ACCT, and *The Chronicle of Higher Education*.

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