

*An Analysis
Of the College's
Economic Impact*

1998-2003

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE

**A Major Partner in the Economic Vitality of the
Knoxville Metropolitan Area**

**AN ANALYSIS OF THE COLLEGE'S
ECONOMIC IMPACT**

1998 - 2003

January 2004

Acknowledgments

Special thanks go to the following Pellissippi State Technical Community College staff for their invaluable assistance with this annual economic impact study:

Dr. Fred H. Martin, Educational Consultant
Ms. Nancy Corum, Coordinator, Community Services Programs
Ms. Nancy Donahue, Director, Budget and Payroll
Mr. Berk Furrow, Financial Analyst

Note: This report is also available on the College's web site at www.pstcc.edu.

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE is one of 45 institutions in the Tennessee Board of Regents system, the sixth largest system of higher education in the nation. The Tennessee Board of Regents is the governing board for this system, which is comprised of six universities, 13 two-year colleges, and 26 area Tennessee Technology Centers. The TBR system enrolls more than 80 percent of all Tennessee students attending public institutions of higher education.

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE is an Affirmative Action/Equal Employment Opportunity college. Any person having questions about services and facilities for persons with disabilities should contact the Services for Students With Disabilities office at (865) 694-6751 (Voice/TDD).

EXECUTIVE SUMMARY

The sixteenth (16th) annual analysis of the direct economic impact of Pellissippi State Technical Community College (PSTCC) on Knox and Blount counties has recently been completed. It measures the College's five-year (1998-2003) economic impact on the community in terms of (1) business volume, (2) employment and (3) individual income. Not included in the study is the indirect economic impact that results from having a trained and educated work force available to local businesses.

The report is based on a standard model of economic impact modified for community colleges. The model uses conservative income and employment multipliers to determine economic impact.

The study reveals that over \$143 million in "new", non-local, and state/federal revenues flowed into the area during 1998-2003 as a result of the College's presence. These external revenues represented 67.3 percent of the total college revenues for the period. The College also received a total of over \$69 million in local revenues during this period, for a grand total of more than \$212 million in revenues.

The following economic impact resulted from college expenditures of these revenues:

1. Local business volume generated by college expenditures during 1998-2003 was \$244.8 million, with \$187.3 million being due to non-local revenues. Annual business volume generated ranged from \$45.3 million to \$52.4 million.
2. Local full-time jobs created during 1998-2003 as a result of the College's presence totaled 17,878. Of this total, 13,483 jobs were the result of non-local revenues. Annual full-time jobs generated ranged from 3,317 to 3,804.

3. Local **individual income** generated by college expenditures during 1998-2003 totaled **\$245.6million** using the more conservative Type I multiplier, with \$191.9 million being due to non-local revenues. Annual individual income generated ranged from \$45.8 million to \$52.4 million.

In summary, the combined five-year direct economic impact on the community represents over **\$490.4 million**, or an average of more than **\$98 million** per year. Of this amount, \$379 million, or over \$75.8 million per year, is due to the infusion of "new" external/non-local revenues. This impact would likely not have occurred without the presence of Pellissippi State in the area.

It is significant that for every \$1.00 of local revenues coming to Pellissippi State, there was \$3.52 of local business volume and from \$3.53 to \$3.92 of individual income generated, for a total return on investment (ROI) of \$7.05 to \$7.44 on the local dollar!

The study continues to document the significant force Pellissippi State has become in the economic vitality of the Knoxville metropolitan area.

INTRODUCTION

Pellissippi State Technical Community College has served the Knoxville metropolitan area since 1974, experiencing significant enrollment growth as indicated in Figure 1. This report is the sixteenth annual analysis of the five-year (1998-2003) economic impact of Pellissippi State on the Knoxville metropolitan area. The primary counties affected are Knox and Blount, with approximately 83 percent of the College's expenditures being made, on the average, in those two counties.

The analysis measures the direct, explicit economic impact of Pellissippi State on the community. It does not include the implicit, intangible economic impact that results from having a trained and educated work force available for local businesses or from expansion/recruitment of industry as a result of the presence of the College. The analysis is based on the Caffrey model of economic impact, originally developed in 1968 through the American Council of Education. The model has been adapted for application to community colleges.¹

The model uses conservative income and employment multipliers to determine Pellissippi State's economic impact on the following:

1. Business volume--the total amount of local business volume generated as a result of the College's direct and indirect expenditures.
2. Employment--the total number of local full-time jobs generated by the College's direct and indirect expenditures.
3. Individual income--the total amount of personal income earned by local households as a result of the College's direct and indirect expenditures.

¹Norval L. Wellsfry, "The Los Rios Community College District: A Major Partner in the Sacramento Area's Economic Vitality," 1988 (unpublished paper).

METHODOLOGY

The model is based on a circular cash flow model as illustrated in Figure 2. The community is treated as a semi-closed economic system, with money entering the system through Pellissippi State from both local and external or "new" sources.

The local sources of revenue include student fees, local grants/contracts, private scholarships, gifts and other miscellaneous local revenue. External or "new" revenues include state appropriations for both operating and capital purposes, federal/state student financial aid revenues, as well as state/federal grants and contracts.

Pellissippi State circulates its revenues through the local economy via expenditures for employee salaries and benefits, construction and maintenance of facilities, and local purchases of equipment and supplies. These expenditures are then re-circulated through the local economy, increasing in value and having a multiplier or secondary impact as local businesses and households make expenditures and generate jobs. Figure 3 illustrates the multiplier principle.

Economic impact on the community is measured on two levels: (1) in relationship to total expenditures from all revenue sources and (2) in relationship to expenditures from only those external or "new" revenues that would likely not have occurred without Pellissippi State's presence in the economy. The following college revenues and expenditures for the five-year period 1998-2003 were incorporated into a MS Excel spreadsheet template containing the model.

REVENUE SOURCES

SOURCES	FISCAL YEAR					TOTAL
	1998-99	1999-00	2000-01	2001-02	2002-03	
GENERAL						
STATE APPROP.	16,548,800	17,062,100	17,514,300	18,078,100	18,247,100	87,450,400
LOCAL PROP. TAX						
ENROLL. FEES	10,012,230	10,222,611	11,209,835	12,613,205	13,464,816	57,522,697
TOTAL	26,561,030	27,284,711	28,724,135	30,691,305	31,711,916	144,973,097
FEDERAL	71,761	65,828	68,399	89,479	67,865	363,332
OTHER STATE	5,500	7,525	0	21,500	12,000	46,525
COUNTY						
LOCAL	966,165	1,133,371	1,414,553	1,130,082	848,346	5,492,517
OTHER LOCAL	0	0	0	0	0	0
SPECIAL REVENUE						
FEDERAL	1,087,330	943,197	1,213,311	1,854,836	1,652,793	6,751,467
STATE	209,100	418,835	356,928	985,098	1,199,506	3,169,467
LOCAL	720,967	583,995	675,890	353,928	282,113	2,616,893
OTHER	0	0	0	0	0	0
STUDENT FINANCIAL AID						
FEDERAL	7,012,031	6,714,649	7,669,138	8,996,398	10,431,163	40,823,379
STATE	684,317	739,589	1,117,731	1,150,623	1,026,351	4,718,611
LOCAL	1,270,276	741,882	669,490	780,517	533,437	3,995,602
OTHER						
TOTAL REVENUE						
	38,588,477	38,633,582	41,909,575	46,053,766	47,765,490	212,950,890
LOCAL	12,969,638	12,681,859	13,969,768	14,877,732	15,128,712	69,627,709
NON-LOCAL	25,618,839	25,951,723	27,939,807	31,176,034	32,636,778	143,323,181
LOCAL %	33.6%	32.8%	33.3%	32.3%	31.7%	32.7%
NON-LOCAL %	66.4%	67.2%	66.7%	67.7%	68.3%	67.3%

EXPENDITURES

DATA	FISCAL YEAR					TOTAL
	1998-99	1999-00	2000-01	2001-02	2002-03	
WAGES	16,724,534	16,951,133	19,830,290	20,667,336	20,242,532	94,415,825
NON-SAL. EXPEN.	9,977,358	12,118,469	12,830,076	11,656,266	9,824,369	56,406,538
CAPITAL EXPEN.	3,149,029	2,076,178	1,749,946	1,719,556	934,497	9,629,206
STU. FIN. AID	8,966,624	8,196,120	9,456,359	10,927,538	11,990,951	49,537,592
NET WAGES	12,543,401	12,713,350	14,872,718	15,500,502	15,181,899	70,811,869
NON-SALARY, LOCAL	8,231,320	9,997,737	10,584,813	9,616,419	8,105,104	46,535,394
CAPITAL, LOCAL	2,597,949	1,712,847	1,443,705	1,418,634	770,960	7,944,095
FT COLLEGE JOBS	406	434	455	432	416	2,143
NON-LOCAL REVENUE %	66.4%	67.2%	66.7%	67.7%	68.3%	67.3%
LOCAL EXPENDITURES	32,339,294	32,620,054	36,357,595	37,463,093	36,048,914	174,828,950
LOCAL EXPENDITURES (NEW)	24,483,709	24,602,654	27,390,574	28,890,746	28,429,062	133,796,744

For the five-year period, \$143.3 million in non-local revenues was brought into the service area, along with \$69.6 million in local revenues. The five-year average was 67.3 percent non-local and 32.7 percent local revenues.

RESULTS

Business Volume Impact

The local business volume impact generated by Pellissippi State expenditures is shown below:

	BUSINESS VOLUME					
	1998-99	1999-00	2000-01	2001-02	2002-03	TOTAL
BUSINESS VOLUME	45,275,011	45,668,075	50,900,633	52,448,330	50,468,480	244,760,529
BUSINESS VOLUME (NEW)	34,277,192	34,443,715	38,346,804	40,447,044	39,800,686	187,315,441

The business volume impact of total college expenditures ranged from \$45.3 million to 52.4 million, with a five-year total of \$244.8 million. The impact of external or "new" college funds ranged from \$34.3 million to \$40.4 million, with a five-year total of \$187.3 million. Figure 4 graphs the relationship between local revenues and total business volume.

Employment Impact

The local employment impact in terms of full-time jobs created by Pellissippi State expenditures is shown on the next page:

EMPLOYMENT IMPACT						
	1998-99	1999-00	2000-01	2001-02	2002-03	TOTAL
EMPLOYMENT	3,316.54	3,369.80	3,727.18	3,803.68	3,660.40	17,878
EMPLOYMENT (NEW)	2,473.08	2,505.77	2,768.49	2,892.61	2,842.86	13,483

Pellissippi State's own full-time (FT) jobs ranged from 406 to 455 during this period, yet the total annual employment created by college expenditures ranged from 3,317 to 3,804. The number of jobs created annually by external or "new" funds ranged from 2,473 to 2,893. Figure 5 graphs the relationship between the College's FT jobs and both total and "new" FT jobs generated by the College's presence.

Individual Income Impact

The local impact of Pellissippi State's expenditures on personal income is calculated using two different multipliers to produce a range of impact, shown below as Type I and Type II. The Type I multiplier is the more conservative measure.

INCOME IMPACT						
	1998-99	1999-00	2000-01	2001-02	2002-03	TOTAL
TYPE I Multiplier	45,767,551	46,128,030	50,989,028	52,433,417	50,293,217	245,611,244
TYPE II Multiplier	50,540,064	50,965,206	56,647,800	58,331,048	56,069,626	272,553,744
TYPE I (NEW)	35,355,834	35,423,713	39,191,899	41,317,405	40,628,163	191,917,015
TYPE II (NEW)	38,524,299	38,673,037	42,964,426	45,309,798	44,575,017	210,046,577

The total impact of college expenditures on personal income, using the more conservative multiplier, ranged from \$45.8 million to \$52.4 million, with a five-year total of \$245.6 million. The

impact of external or "new" funds ranged from \$35.4 million to \$41.3 million, with a five-year total of \$191.9 million. Figure 4 also graphs the relationship between local revenues and total personal income.

In summary, the combined five-year direct economic impact on the community represents over \$490.3 million, or an average of more than \$98 million per year. Of this amount, \$379.2 million, or over \$75 million per year, was due to the infusion of "new", external/non-local revenues. This impact would likely not have occurred without the presence of Pellissippi State in the area.

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CONCLUSIONS

The results of this economic impact study clearly demonstrate that Pellissippi State Technical Community College continues to be a major contributor to the economic base of Knox and Blount Counties. In addition to the more implicit impact of a community college on the improved productivity and quality of life achieved through increased education, the explicit economic impact is significant. This economic impact is expressed in terms of jobs created, business volume generated and personal income earned.

As Pellissippi State continues to grow in enrollment and/or budget, its economic impact on the Knoxville metropolitan area will increase similarly. The College has clearly become a major partner and force in the economic vitality of the Knoxville metropolitan area.

Figure 1
PSTCC Historical Headcount Enrollment
By Fall Terms

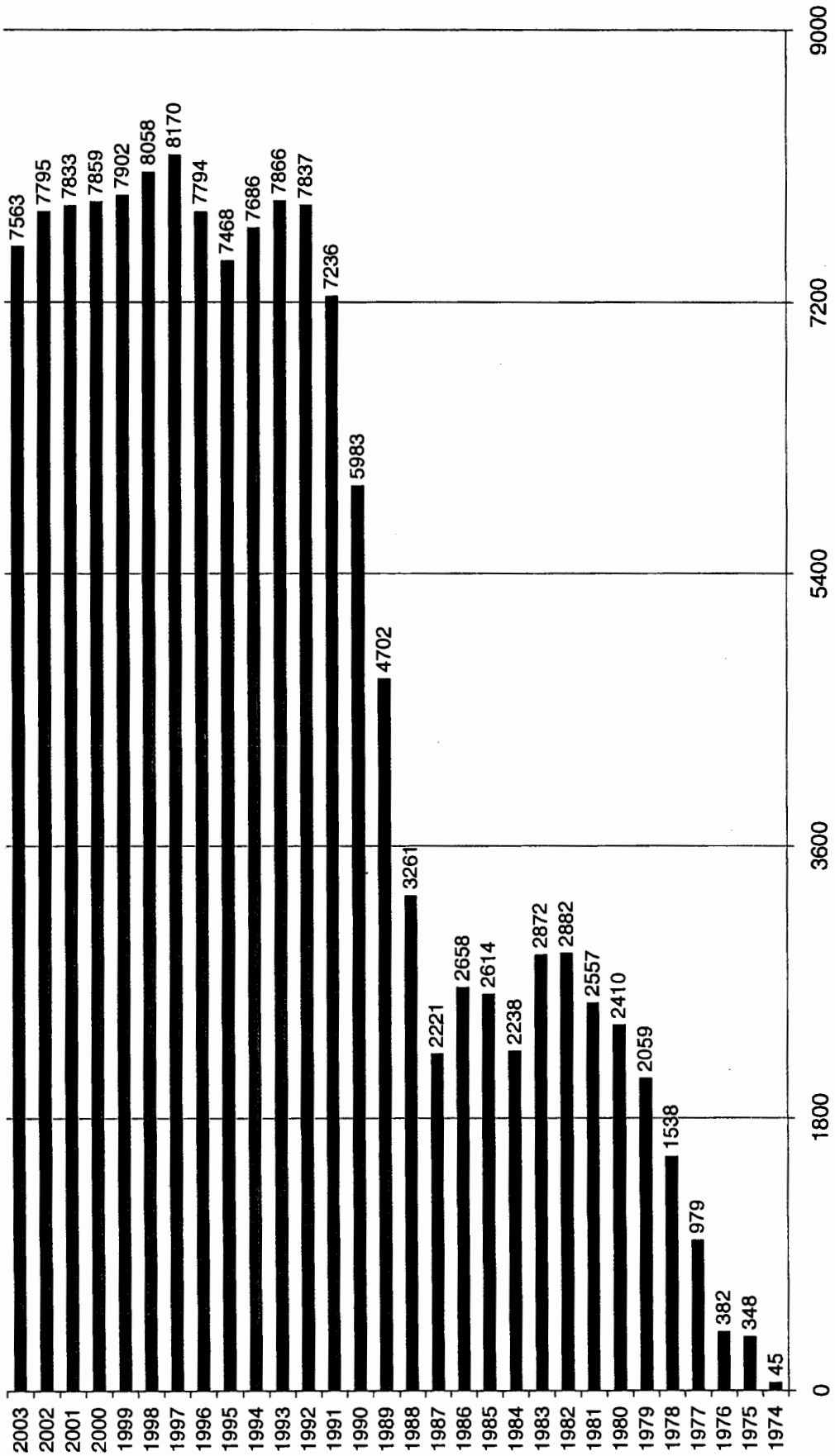


Figure 2

Circular Cash Flow Model

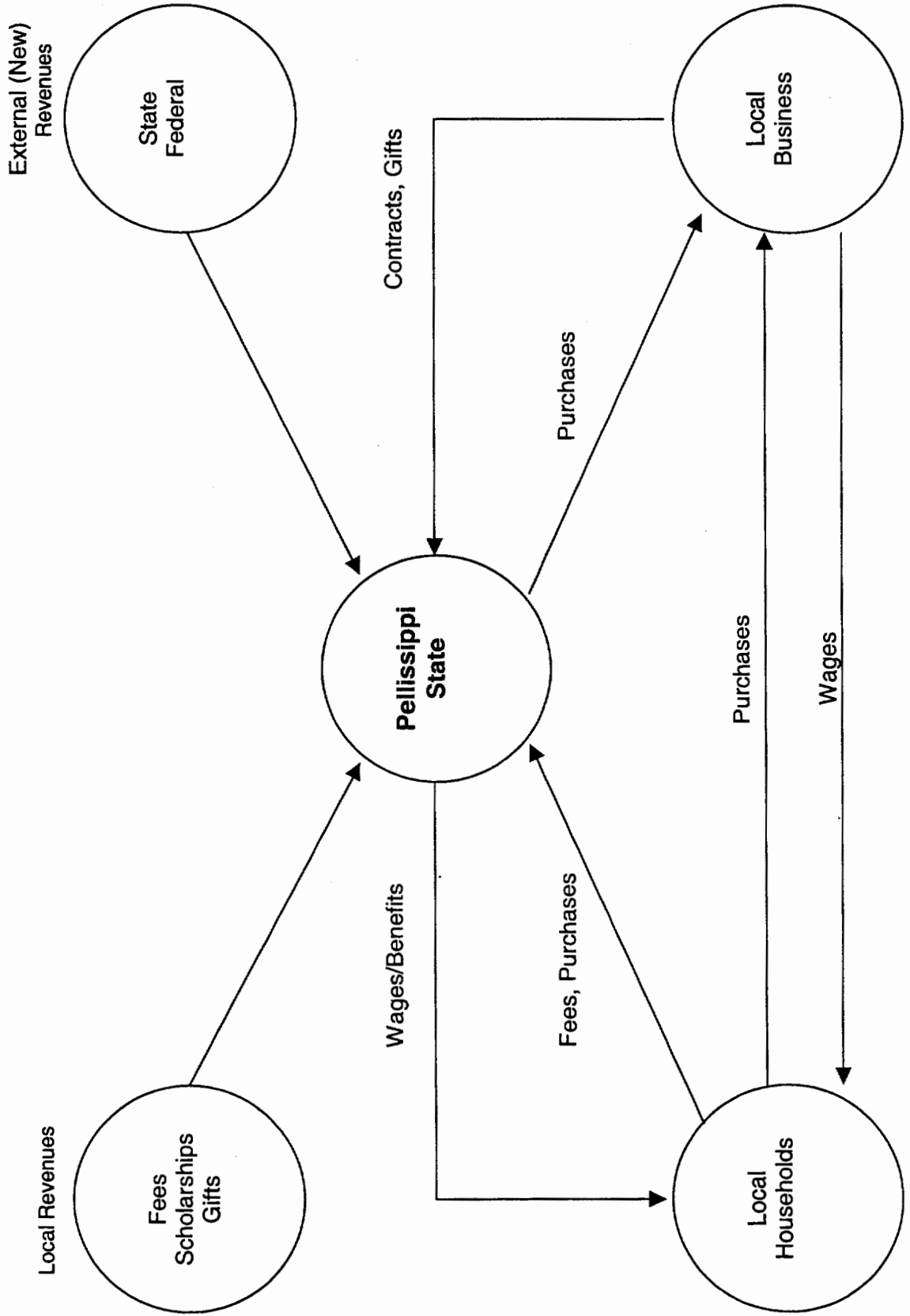


Figure 3
How the Multiplier Works

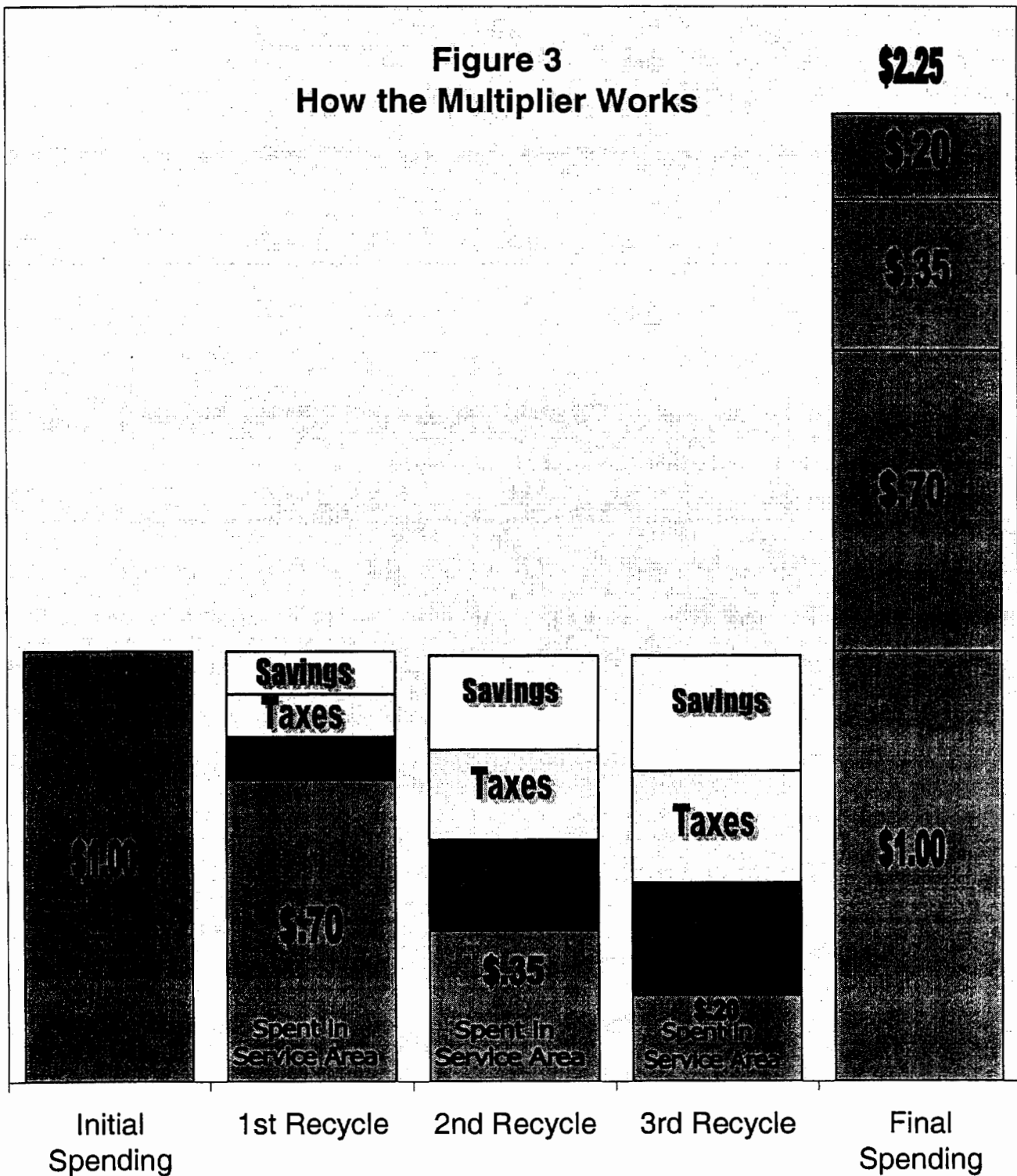


Figure 4
Local Revenue versus Business Volume
and Income Impact

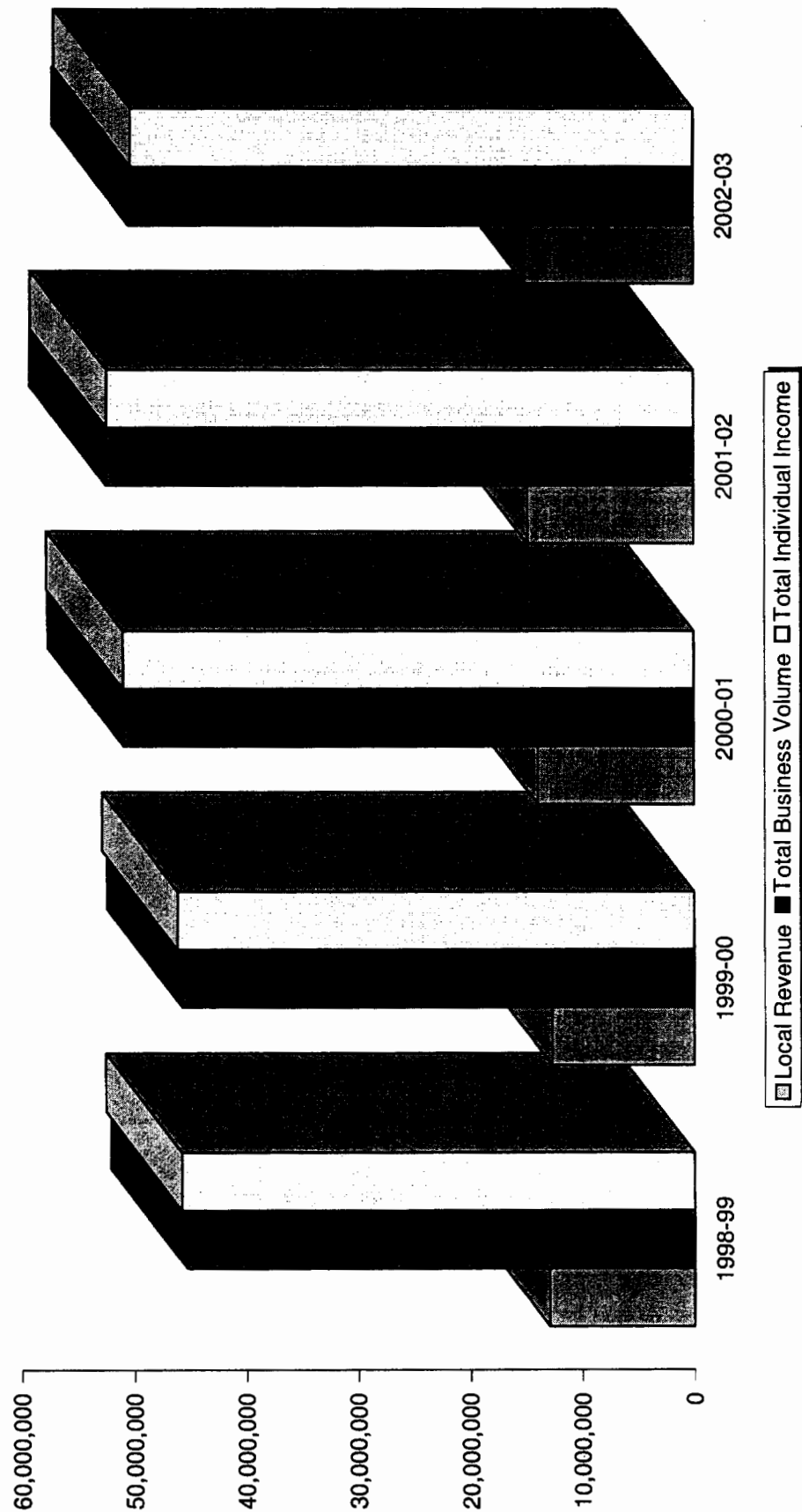


Figure 5
Employment Impact

