

The Economic Impact of Eastern Washington University

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January 13, 2006

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Acknowledgements

The authors wish to thank the administrators and staff of Eastern Washington University listed below for their efforts in providing information and data necessary for this study.

Mary Voves, Vice President for Business and Finance

Lori Kory, Division of Human Resources, Rights & Risk Information

Theresa Martin, Office of Institutional Research, Demography, and Assessment

Del Thompson, Office of Institutional Research, Demography, and Assessment

Kathy Sawtells, Office of the Controller

Tesha Kropidlowski, Budget Services

Jim Moneymaker, Budget Services

Ruth Galm, Office of Grant and Research Development

In addition, the Washington State employees listed below also provided needed information:

Adam Jansen, Eastern Washington Region Archives

Sherry Bays, Eastern Washington Region Archives

Kevin Fortney, Washington State Patrol Crime Laboratory

1. Executive Summary

As one of six public four-year institutions of higher education in the state of Washington, Eastern Washington University (EWU) offers a comprehensive range of undergraduate and graduate programs, primarily in Spokane County in Eastern Washington.

Members of the Department of Economics were requested to conduct an analysis of the economic impact of the university on the Spokane County economy, a project subsequently undertaken with assistance by the university's Institute for Public Policy and Economic Analysis. The analysis was undertaken using operational statistics provided by EWU in conjunction with data and economic impact multipliers compiled and estimated by the Minnesota IMPLAN Group for its IMPLAN analysis program, an economic modeling system incorporating all Spokane County industries. The focus of the study is on the effects of changes representing new spending in the local economy; that is, spending arising as a consequence of the existence of EWU, not replacement spending whereby spending on one activity is simply substituted for that on another.

Three indicators of economic impact are considered: output or total expenditures, personal income, and employment or jobs. Impacts can arise directly, indirectly through business to business transactions, or induced, as the result of payroll spending. When added, the direct, indirect, and induced impacts equal the total impact of the university.

From Fall 1999 to Fall 2004, enrollment at EWU increased from 8,261 to 9,775, a gain of 1,514, with about 50 percent from western Washington counties, 35 percent from Spokane County and the remaining coming from eastern Washington counties, out-of-state or foreign locations. In recent years EWU has become the public university of choice for Spokane County and eastern Washington students. Of Spokane County students enrolled in public higher education institutions, 57 percent enrolled at EWU, 24 percent at WSU, 10 percent at UW and 9 percent at other state four-year institutions. Since 1999, only EWU has increased its share of county public higher education students.

Since fiscal year 2000, university revenues from all sources, including state support, student fees, enterprise activities and external grants, increased 37 percent, from \$114 to \$156 million; capital assets increased 25 percent, from \$215 to \$269

million; average annual enrollments increased 15 percent, from 7,961 to 9,126; and employment including faculty, administrative, classified, and student assistants, increased 7 percent, from 2,502 to 2,670. There has been little change in the distribution of jobs at the university . About half are part-time graduate or undergraduate positions and half are largely full-time, administrative, classified civil service, faculty and hourly appointments. A 2004 ranking found the university to be the eleventh largest Spokane County employer with nearly 1,200 FTE positions.

Attendance at EWU caused a total of 4,577 students to relocate to Spokane County as 3,182 moved into the county while 1,395 did not move out. In 2004, these students spent an estimated \$26 million, excluding tuition, fees and textbooks and, for those living in residence halls, excluding room and board costs.

About 38 percent of the revenues to the university represent tuition, fees, and payments for auxiliary services such as the student union, bookstore and residence and dining halls. Another 37 percent are state operating and capital appropriations while the remaining 25 percent is largely composed of financial aid, derived from both state and federal sources, and grants and contracts from a variety of external sources. It is the spending of these revenues that produces the impact of the university on the Spokane County economy. In 2004 the university spent \$128 million and employed just over 2,600 people. In addition, five year average capital spending was \$20 million.

The direct impact of Eastern Washington University spending on the Spokane County economy amounted to \$174 million, representing .8 percent of total county output of \$23 billion. University related personal incomes of \$93.4 million represented 1.2 percent of county income and total direct employment of 3,266 jobs accounted for 1.3 percent of all county employment.

Indirect impacts are the effects of business to business transactions by the university. In 2004 these indirect impacts on Spokane County output were estimated to be \$55 million. Of this, \$20 million (37 percent) went to the real estate industry and \$5 million (9 percent) for professional, scientific, and technical services. The indirect impact of employee compensation was \$17 million. Of this, \$2 million (14 percent) represented increased professional, scientific, and technical services industry incomes and \$2 million (13 percent) administrative and support services incomes. Finally, the indirect

impact on employment was 716 equivalent jobs, producing an additional 210 jobs (29 percent) in the real estate, rental and leasing industries followed by another 107 jobs (15 percent) in administrative and support services.

Induced impacts are the payroll effects caused by the spending of incomes earned as a result of some sort of university activity. In 2004, the induced impact of EWU on the output of Spokane County was \$77 million. Of this, \$13 million (17 percent) went for health care and social assistance and \$10 million (12 percent) for owner occupied dwellings. The induced impact of income was \$31 million, increasing incomes of health care and social assistance personnel by \$8 million (27 percent) and retail trade by \$5 million (17 percent). Finally, the induced impact on employment was 1,073 equivalent jobs. This produced an additional 232 jobs (22 percent) in health care and social assistance and 191 jobs (18 percent) in retail trade.

Spending by Eastern Washington University and its students with resulting indirect and induced expenditures involves taxable transactions. When all federal, state and local business taxes are considered, activities related to the university produced \$11 million in taxes, of which \$10 million in state and local taxes represented over 90 percent. As the consequence of taxes paid on its economic activities, more than 17 percent of the initial \$58 million in state appropriations to the university in 2004 was “recaptured” by some public entity.

In terms of total impacts on the Spokane County economy in 2004, university and student expenditures of \$307 million amounted to 1.3 percent of total county output, personal income of \$142 million accounted for 1.8 percent of county income, employment of 5,055 represented 2.0 percent of county employment and taxes of \$11 million accounted for 1.2 percent of all taxes paid.

The multiplier effect of an increase of \$1 million dollars in expenditures by EWU directly leads to an additional \$.54 million in county personal income, \$.01 million in county business taxes and 19 jobs. After indirect and induced effects are considered, the effect of the initial expenditure change increases county output to \$1.76 million, income to \$.82 million, county business taxes to \$.06 million and creates 29 equivalent jobs. In terms of specific impacts, a \$1 million change in expenditures produces \$1.76 million in total county output; a \$1 million change in employee compensation leads to

\$1.52 million in total county personal income; a \$1 million change in business taxes produces \$4.47 million in total county business taxes while each new EWU related job ultimately results in a total of 1.55 equivalent county jobs.

In 2004 the state of Washington appropriated \$57.5 million to support the operation and capital spending of Eastern Washington University. When combined with student tuition and fees, auxiliary services, and external grants and contracts, this support lead to local spending of \$174.1 million and produced \$2.4 million in largely local business taxes, thereby reducing net public support to \$55.1 million. In effect, every public dollar spent to support EWU increased output in Spokane County by 3.2 dollars. Leverage of public support was even greater when indirect and induced impacts are considered. The total impact of the university on county output was \$306.5 million which generated \$10.7 in taxes, thereby reducing public support to \$46.8 million, with the effect that every state dollar spent on behalf of the university increased county output by 6.6 dollars.

College or university attendance creates many positive personal and social benefits that could not be considered in this study because it is difficult, if not impossible, to distinguish between the general effects of higher education and the specific effects of attendance at Eastern Washington University on individual earning ability, health status, civic participation and economic development contributions. Available information does not permit determination of the economic impact of university visitors on Spokane County. A potentially important but unmeasured impact of the university is its ability to attract or facilitate new economic endeavors in Spokane County. Recent examples suggest the extent of these spillovers effects could be substantial, both in the present and the future.

The economic impact of higher education institutions has been studied in a number of contexts with the common finding they create significant economic benefits wherever they are located. Overall, the impact multipliers found for EWU are similar to those found for other institutions. Reported output or expenditure multipliers range from 1.4 to 2.4 with an average of 1.7, nearly identical to the EWU value of 1.8. Income multipliers range from 1.4 to 1.9, averaging 1.6, again close to the EWU figure of 1.5.

Finally, employment or job multipliers range from 1.5 to 3.4, averaging 1.8, again close to the EWU value of 1.6.

2. Analytical Framework

2.1 Introduction

Founded in 1882, Eastern Washington University is one of six public four-year institutions of higher education in the state of Washington. With a current enrollment of over 10,000 students, the university offers a comprehensive range of undergraduate majors and minors as well as an extensive number of graduate programs. The university is located in Spokane County in Eastern Washington, a Metropolitan Statistical Area comprised of 432,000 people, with about 200,000 living in the city of Spokane and the remainder in other parts of the county (OFM, 2005). While the main campus of the university is in Cheney, a community of 10,000, a large number of undergraduate and graduate programs are offered at two locations in downtown Spokane.

Members of the Department of Economics were asked to conduct an analysis of the economic impact of Eastern Washington University (EWU) on the Spokane County economy. The analysis was subsequently undertaken with assistance by members of the university's Institute for Public Policy and Economic Analysis.

The impact of EWU on Spokane County output, employment, wages and taxes is estimated using operational statistics provided by the university in conjunction with data and economic impact multipliers compiled and estimated by the Minnesota IMPLAN Group for its IMPLAN analysis program, an economic modeling system incorporating all Spokane County industries. Data for the IMPLAN model are taken in part from the U.S. Economic Census, conducted every five years by the U. S. Census Bureau to compile "facts about the structure and functioning of the nation's economy (US Census, 2004)" The Census provides measures of inputs, outputs, production and prices to determine short-term changes in economic conditions. Its data are intended to be used by federal, state and local policy makers to monitor and access business activity, by trade associations to identify market trends, and by individual businesses to evaluate their performance relative to industry or area averages (US Census, 2004).

The basic purpose of economic impact analysis is to estimate how an initial change in spending ultimately affects the output, employment, and income of a particular region (Beck, et al, 1995). Suppose EWU either doubled in size or relocated

away from Spokane County. How would this change affect the county economy? How would industries be affected as university payrolls doubled or were spent elsewhere? What would happen to local real estate and rental earnings as EWU faculty, administrators and students doubled or moved somewhere else? How would the payrolls of local health care and public utilities industries be affected? What would happen to employment in local wholesale and retail business? How would output and employment in construction, financial services and banking industries change? How would county sales and property tax revenues change? While the real effect of doubling or removing the university from the Spokane County economy can never be precisely known, impact analysis can provide estimates of the expected changes in county output, incomes, taxes and employment from either event.

It is important to realize that impact analysis focuses on the effects of changes that represent new spending in the local economy; that is, spending arising as a consequence of the existence of EWU, not replacement spending whereby spending on one activity is simply substituted for that on another. Spending by new faculty and staff, state higher education expenditures, external research grants, and expenditures by out-of-county students all represent new spending injections into the local economy that arise as a consequence of the existence of the university. An example of replacement spending is spending by county resident students who choose to attend EWU because it is convenient and nearby. In this situation, spending for living expenses, room and board can not be attributed to the existence of the university.

2.2 Impact Analysis

Using operating, construction, and student enrollment statistics provided by various EWU departments as well as county data compiled by IMPLAN, the regional economic impacts of EWU activities are estimated with IMPLAN Pro (MIG, 2002), an impact analysis program. As described by the IMPLAN Group (MIG),

the IMPLAN (IMpact Analysis for PLANing) program was originally developed by the US Department of Agriculture (USDA) Forest Service in cooperation with the Federal Emergency Management Agency and the USDA Bureau of Land management to assist the Forest Service in land and resource management planning. MIG was formed in 1993 to privatize the development of IMPLAN data and software. Its software performs the necessary calculations, using study area data, to create models and

provides an interface to study changes in a region's economic description, create impact scenarios and to introduce changes to the local model. IMPLAN data and accounts closely follow the accounting conventions used by the Bureau of Economic Analysis (BEA) when developing an Input-Output (I-O) model of the U.S. economy as well as formats recommended by the United Nations. (MIG,2000: i-iii).

According to the BEA, the input-output (I-O) accounts show how the more than 500 industries that comprise the U.S. economy interact; specifically, how industries provide input to, and use output from, each other to produce gross domestic product. These accounts provide detailed information on the flows of the goods and services that make up the production processes of industries. Benchmark I-O accounts are based on detailed data from the economic censuses that are conducted every five years by the Bureau of the Census while annual accounts are prepared for selected years between the benchmarks based on less comprehensive data. The most recent benchmarks, for 1997, use a new classification system that is based on the North American Industry Classification System (NAICS) while the most recent annual account is for 2002.

I-O accounts can be used to study industry production or as a framework for preparing economic statistics. The accounts are an important analysis tool because they show the production functions of individual industries and the interactions among producers and between producers and final users in the economy. Specifically, these accounts can be used to estimate the direct and indirect effects of changes in final uses on industries and commodities; for example, to estimate the effects of a strike or a natural disaster on the economy, or, supplemented with additional information, to estimate the effects of an increase in U.S. exports on employment. (BEA, 2005)

To develop models to study local economies, MIG reconfigures coefficients and relationships from the national input-output model for local application. Data for this analysis are taken from state and federal sources compiled by the BEA, Bureau of Labor Statistics (BLS), U.S. Department of Commerce and state labor market information agencies such as the Washington State Labor Market and Economic Analysis (LMEA) Branch. Because of missing data, disclosure rules and collection procedures, some of these county data have to be estimated from more aggregate state or national sources. Data currently provided by MIG are for 2002, the most recent year available. Greater details on MIG multiplier estimation procedures and data compilation methods are found in the "Data Guide" section of the IMPLAN Professional Version 2.0 user guide (MIG, 2000).

Three conventional indicators of economic activity, output, labor income, and employment are used to estimate the impacts of EWU on the regional (Spokane County) economy. **Output** is the annual value of production, measured either by the total value of purchases by intermediate and final consumers (final sales), or by intermediate outlays plus value added. Output also can be thought of as the value of sales plus or minus inventory. **Income** is employee compensation, measured by wage and salary payments as well as benefits, including health and life insurance, retirement payments, and any other non-cash compensation. **Employment**, measured by annual average jobs, includes both full and part time wage and salary employees. For the regional economy as a whole, employment also includes self-employed and contract workers.

The output, employment and labor income originating from EWU has three types of impacts on the regional economy. **Direct Impacts** are changes in county expenditures arising as a consequence of the existence of the university, measured in millions of dollars. For example, EWU builds additional classrooms or its students attend local hockey games. **Indirect Impacts** are the result of business to business transactions arising from day to day operations. The university purchases electricity, equipment and business supplies. It utilizes local architectural and planning services to build or refurbish classrooms, athletic facilities and administrative complexes. It purchases food for residence hall students and utilizes local travel, financial, and advertising services. All these expenditures represent local spending that would not exist if the university did not exist. **Induced Impacts** or payroll effects, arise from the spending of incomes earned by people directly or indirectly associated with EWU. For example, output in Spokane County increases as university employees or postal workers delivering mail to the university spend their incomes.

It should be noted that these impacts are not one time events. Instead, university office equipment might require additional technical support personnel that could lead to additional employment or require additional service vans that could lead to additional van sales and then on to additional vehicle insurance, fuel, tires and so on. Induced spending has this same “multiplied” effect, in that employees hired as a consequence of

additional spending also receive additional income that, when spent, leads to still further output and income.

However, these rounds of spending and respending do not continue indefinitely. Instead, the impacts of the initial change and subsequent rise in earnings quickly leak out of the region in the form of imports or purchases of goods and services produced in other regions, out-of-area spending, taxes and saving.

When added, the three impacts measure the **Total Impact** of the initial output change. Thus,

Direct Impacts-----> Indirect and Induced Impacts----->Total Impact
and

$$\text{Direct Impacts} + \text{Indirect Impacts} + \text{Induced Impacts} = \text{Total Impact.}$$

The ratio of the total to the direct impact is called a **multiplier**, viz,

$$\text{Multiplier} = \frac{\text{Total Impact}}{\text{Direct Impact}}$$

Obviously, for the same initial change in output, industries with the largest multipliers will have the greatest economic impact on the regional economy. However, large multipliers do not imply large industries. Since the size of a multiplier is determined by the technical production and employee compensation characteristics of an industry, a relatively large industry could have output, employment and income multipliers much smaller than a relatively insignificant one. Usually, because of spending leakages, multipliers are rarely larger than 2.0.

Finally, as a technical point, data provided by IMPLAN for Spokane County is for 2002. All calculations in this report involving prices were deflated to 2002 values using the Bureau of Labor Statistics Consumer Price Index (CPI) and then, after impact estimates, reflatd back to 2004 values, again using the CPI.

2.3 Current Trends

a. Enrollments

Eastern Washington University attracts students from all parts of Washington as well as from many other states and a substantial number of foreign countries. Currently, these students represent all 39 Washington counties, over 40 states, and over 30 countries. Since 1999, student headcount enrollment has increased from 200 to 300

each year, for an average annual growth of 3.4 percent. As Figure 2.1 shows, these students are almost all full time because headcount growth and growth measured in terms of full time equivalent (FTE) students or students taking a full quarter course load are nearly identical.

Figure 2.1
Fall Quarter Enrollment, 1999-2004

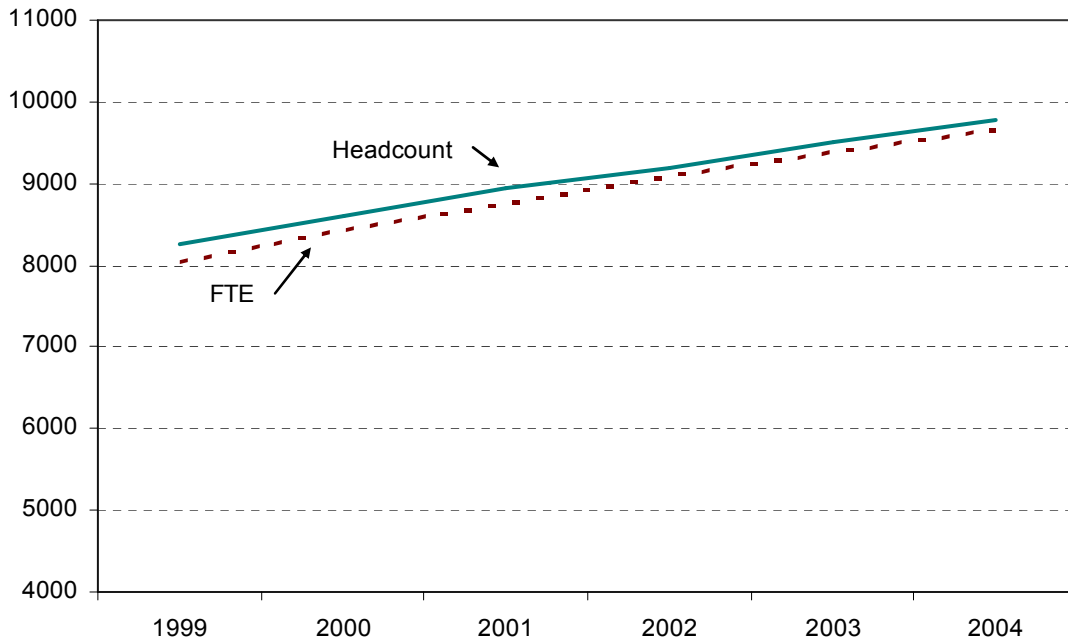


Table 2.1
Student Geographic Origins

Geographic Origin	Fall 1999	Fall 2004	Change	Share (%)
Spokane Co.	3,884	4,418	534	35.3
Eastern WA	636	653	17	1.1
Stevens Co.	230	240	10	.7
Whitman Co.	125	143	18	1.2
Lincoln Co.	99	105	6	.4
Adams Co.	80	61	-19	-1.3
Pend Oreille Co.	67	59	-8	-.5
Ferry Co.	35	45	10	.7
Other WA Counties	2,815	3,565	750	49.5
Total Washington State	7,335	8,636	1,301	85.9
Out-of-State Domestic	621	958	337	22.3
Out-of-State International	305	165	-140	-9.2
Not Reported	0	16	16	1.1
Total	8,261	9,775	1,514	100.0

Table 2.1 shows the geographical origins of students in greater detail. Between Fall Quarter 1999 and Fall Quarter 2004, the number of students attending EWU

increased from 8,261 to 9,775, a gain of 1,514. About 50 percent of these students are from western Washington counties, 35 percent live in Spokane County and the remainder come from eastern Washington counties, out-of-state or foreign locations.

In recent years Eastern Washington University has become the public university of choice for Spokane County and eastern Washington residents. As Table 2.2 shows, EWU enrolls just over 4,400 students from Spokane County, an increase of over 500 since the fall of 1999. During the same period enrollments from Spokane County at Washington State University (WSU) increased by 57 to 1,853, declined by 41 to 808 at the University of Washington (UW) and increased by 23 to 679 at the other (Other) state regional colleges and universities of Evergreen, Central Washington and Western Washington. Interestingly, the increase in enrollments at WSU from Spokane County is primarily the result of increased course offerings at the Riverpoint Campus in the city of Spokane. For Eastern Washington excluding Spokane County, EWU increased its enrollment by 17 to 653 while enrollments declined by 169 to 1,173 at WSU, by 27 to 172 at UW and increased by 50 at the other public higher education institutions.

**Table 2.2
Enrollment by County Origins**

Public University	Spokane County		Other E. WA Counties		All E. WA Counties	
	1999	2004	1999	2004	1999	2004
EWU	3,884	4,418	636	653	4,520	5,071
WSU	1,796	1,853	1,342	1,173	3,138	3,026
UW	849	808	199	172	1,048	980
Other	656	679	214	264	870	943
Total	7,185	7,758	2,391	2,262	9,576	10,020

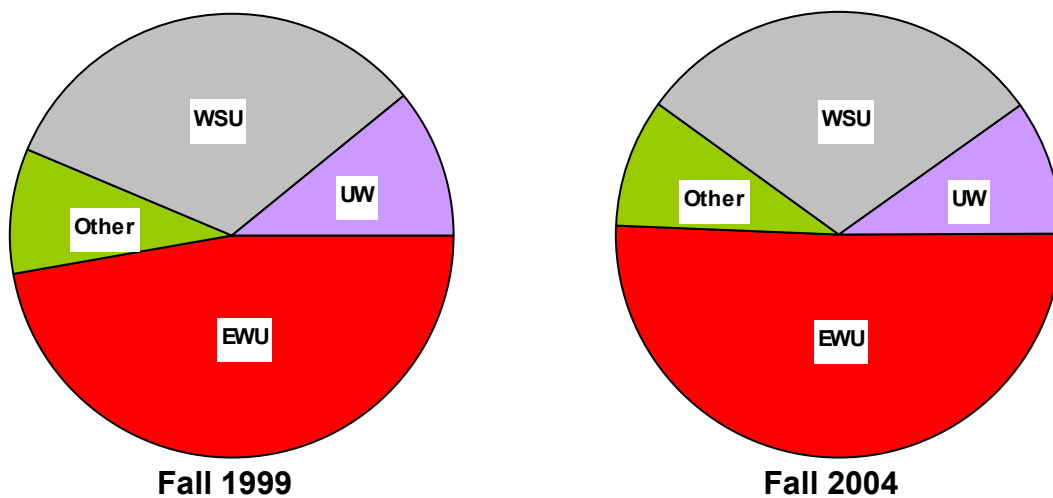
**Table 2.3
Percent Enrollment by County Origins**

Public University	Spokane County		Other E. WA Counties		All E. WA Counties	
	1999	2004	1999	2004	1999	2004
EWU	54.1	56.9	26.6	28.9	47.2	50.6
WSU	25.0	23.9	56.1	51.9	32.8	30.2
UW	11.8	10.4	8.3	7.6	10.9	9.8
Other	9.1	8.8	9.0	11.7	9.1	9.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

In terms of percentages, of students from Spokane County enrolled in public higher education institutions, as Table 2.3 shows, 57 percent are enrolled at EWU, 24 percent at WSU, 10 percent at UW and 9 percent at the other state four year institutions. Since 1999, only EWU has increased its share of Spokane public higher education students. For eastern Washington counties excluding Spokane, EWU and Other institutions increased their enrollments shares at the expense of enrollment declines at the two state research universities.

Figure 2.2 illustrates these county enrollment trends graphically. The increasing share of students from eastern Washington counties, including Spokane, is readily apparent.

**Figure 2.2
Public University Attendance, Eastern Washington Residence**



b. Recent Growth

Table 2.4 summarizes the operational growth of Eastern Washington University since 2000 while Table 2.5 shows the same information as growth indexes, based on year 2000. Revenues from all sources, including state support, student fees, enterprise activities and external grants, increased 37 percent, from \$114 to \$156 million. Capital assets of the university increased 25 percent, from \$215 to \$269 million. Average annual enrollments increased 15 percent, from 7,961 to 9,126. Finally, university employment including faculty, administrative, classified, and student assistants, increased 7 percent, from 2,502 to 2,670.

Table 2.4
Operations, Enrollment, Employment, 2000-2004

Year	(\$M)	(\$M)	Enrollment	Employment
	Revenues	Assets		
2000	113.7	214.9	7,961	2,502
2001	124.2	233.9	8,289	2,526
2002	132.6	236.3	8,636	2,635
2003	151.5	253.3	8,857	2,659
2004	156.2	268.9	9,126	2,670

Table 2.5
Operations, Enrollment, Employment,
Index (100 = 2000)

Year	Revenues	Assets	Enrollment	Employment
2000	100	100	100	100
2001	109	109	104	101
2002	117	110	108	105
2003	133	118	111	106
2004	137	125	115	107

Table 2.6 indicates employment at EWU by type of position held. Figures are for January, approximately the middle of the academic year. Between 2000 and 2004, employment increased 7 percent, mostly through non-faculty employment. The distribution of positions showed little change with part-time graduate assistant and undergraduate work study, teaching or research aide positions accounting for about half and the remainder composed of more conventional, largely full-time, administrative, classified civil service, faculty and hourly appointments.

Table 2.6
Employment Type

Type	January Employment					Change 00-04	2004 Percent
	2000	2001	2002	2003	2004		
Administrative	218	257	272	275	277	59	10.4
Classified Staff	440	478	476	488	474	34	17.8
Faculty	418	409	409	422	420	2	15.7
Hourly	88	92	91	101	121	33	4.5
P-T/Grad Assist.	228	253	241	278	279	51	10.4
Student	1,110	1,037	1,146	1,095	1,099	-11	41.2
Total	2,502	2,526	2,635	2,659	2,670	168	100.0

c. Relative Employment

An important indicator of the relative importance of Eastern Washington University in the Spokane County economy is its share of total employment. As shown in Table 2.7, a recent ranking of county employers based on the number full time equivalent (FTE) employees found the university to be the eleventh largest county employer with nearly 1,200 FTE positions.

**Table 2.7
Top 15 Spokane County Companies (2004)**

Rank	Organization	FTE Employees
1	Fairchild Air Force Base	5,616
2	Sacred Heart Medical Center	3,232
3	U.S. Government	3,174
4	Spokane Public Schools	3,126
5	State of Washington	2,878
6	City of Spokane	2,025
7	Spokane County	2,009
8	Empire Health Services	1,650
9	URM Stores Inc.	1,446
10	Community Colleges of Spokane	1,412
11	Eastern Washington University	1,196
12	Central Valley School District	1,182
13	Avista	1,141
14	West Business Services	1,126
15	Burlington Northern Santa Fe Ry	950

Source: JOB, 2005.

3. Economic Impacts

3.1 Introduction

The basic purpose of economic impact analysis is to estimate how an initial change in spending ultimately affects the output, employment, and income of a particular region. In the case at hand, impact analysis can be used to determine the influence of spending increases on EWU related activities on the Spokane County economy. While any EWU related spending has economic effects, impact analysis focuses on the effects of new spending, not replacement spending where one activity is substituted for another.

3.2 Direct Impacts

a. Enrollment

One important measure of the economic impact of Eastern Washington University is its ability to attract state appropriations for higher education. Since the citizens of the state have decided to limit the number of higher education institutions, counties where these institutions are located experience inflows of state funds and personal spending related to university attendance while counties lacking these institutions see outflows of tax revenues and personal educational expenditures. The existence of these institutions also produces a local “import” substitution effect whereby they encourage local residents to substitute local, more conveniently located and familiar higher education services for those found in other areas with the effect that local education is substituted for education that might be imported into the local area.

This import substitution effect has important consequences when determining the impact of student spending on the Spokane economy. While county residence students attending EWU have decided to substitute local for out-of-county education, thereby allowing the county to retain their tuition fees, their maintenance and living expense spending adds no additional local impacts. However, living expense spending by non-county residents who relocate to Spokane County to attend EWU does represent additional spending and has economic impact.

Table 3.1 sorts out students attending EWU from Fall Quarter 2003 through Summer Quarter 2004 by current and permanent residence, based on mailing addresses found on various enrollment documents. The total number of students shown

in the table represents the average of those attending Fall, Winter or Spring quarter plus one third of those attending summer quarter, based on headcount. While all students provided a permanent address, about 25 percent provided no current or local address. These were assumed to reside in Spokane County or some “Other,” non-Spokane County residence based on the fraction reporting a current address. For example, 97 percent of those reporting a permanent Spokane County address also had a current county address. Therefore, 97 percent of those reporting a permanent Spokane County address but no current address were assumed to have a current county address. A similar procedure was followed by those reporting a permanent non-Spokane County address but no current address.

**Table 3.1
Student Residence, Academic Year 2003-04**

Current Address	Permanent Address		Total
	Spokane Co	Other	
Spokane County	5,169	1,760	6,929
Residence Halls	393	1,277	1,670
Other	129	3,016	3,145
Total	5,692	6,052	11,744

Table 3.1 shows that of 5,692 students attending EWU who had a permanent address in Spokane County, 5,169 continued to live in the county, 393 moved into the EWU residence halls and 129 relocated to some other county. Of the 6,052 students attending EWU who had an Other, non-Spokane County permanent address, 1,760 relocated somewhere in the county, 1,277 moved into residence halls and 3,016 continue to live out of the county. In effect, attendance at EWU caused a total of 3,037 people to relocate to Spokane County for a year and 129 to leave. In addition, according to results from the Cooperative Institutional Research Program survey taken by entering freshman, about 30 percent indicated that EWU was not their first choice university; that in fact they had planned to attend some other institution, presumably not located in Spokane County, but for some reason—financial difficulties, family affairs or personal concerns—they attended EWU instead. In effect, the existence of EWU caused an additional 1,540 students (118 living in university residence halls and 1,422 living elsewhere in the county) to substitute local university attendance for that located in

some other place, thereby retaining their tuition payments and personal educational expenditures in the County (See Blackwell, et al, 2002, for discussion of this point). In summary, as Table 3.2 shows, attendance at EWU caused a total of 4,577 students to relocate to Spokane County— 3,037 moved into the county and 1,540 did not move out.

Table 3.2
“Relocated” Students, Academic Year 2003-04

Current Address	Permanent Address		Total
	Spokane Co	Other	
Spokane County	1,551	1,760	3,311
Residence Halls	118	1,277	1,395
Other	-129	--	--
Total	1,540	3,037	4,577

Table 3.3
Student Expenditures by Major Item

Expenditure Item	BLS Percent	Off Campus	Residence Halls
Housing and Utilities	34.9	\$3,085	0
Food (less on trips)	23.3	2,055	0
Transportation	15.1	1,332	1,332
Auto and Expenses	10.4	917	917
Gas and Oil	4.7	416	416
Apparel	8.8	779	779
Entertainment	8.5	751	751
Other	8.2	721	721
Health Care	1.3	112	112
Total	100.0	\$8,835	\$3,695

Recently the Bureau of Labor Statistics (Paulin, 2001) conducted a national survey of the expenditure patterns of some 2.5 million college age students and nonstudents. Table 3.3 shows the distribution of average expenditures by college students. Excluded from the table are costs of tuition, fees and books along with revenues from the sale of textbooks at university bookstores, all considered later, and spending related to travel since most occurs outside of Spokane County. The figures for off campus and residence hall expenditures are based on a spending estimate by the EWU Financial Aid office for a typical undergraduate during the 2004-05 academic year. The office estimated total expenses to be \$14,385, which after the subtractions indicated above becomes \$8,835 for off campus living and \$3,695 for residence hall

living, with additional expenses for room and board included in tuition fees. These figures were then multiplied by the appropriate BLS percent to determine expenditures for particular budget items.

However, these expenditures are stated in terms of retail prices which do not reflect the true effect of spending in Spokane County. Many items purchased by students are not produced in the county. Instead, they are imported into the county and then resold. To correctly measure the impact of spending, the imported fraction of the price paid by students should be subtracted from their expenditures. For example, the impact on Spokane County from the purchase of a gallon of gasoline is not the cost of the gas but the income paid to various suppliers, wholesalers and retailers to make it available in the county. The process of reducing retail expenditures to producer costs is described as “margining” (MIG, 2000). Total student spending in millions of dollars by residence before and after margining, using procedures found in the IMPLAN impact model is shown in Table 3.4. The 4,577 students who relocated or remained in Spokane County spent an estimated \$33.3 million dollars in 2004. After margining, the amount was reduced to \$26.4 million. Again, it should be noted that these expenditures exclude tuition and fees and, for students living in residence halls, room and board costs.

**Table 3.4
Student Living Expenses (\$M)**

Average Expenditures	Current Address		Total
	Off-Campus	Res. Halls	
Initial	28.1	5.2	33.3
Margined	23.3	3.0	26.4

b. Revenues and Expenditures

Table 3.5 shows 2004 fiscal year revenues and expenditures for Eastern Washington University. About 38 percent of the revenues represent payments for tuition and fees and for auxiliary services such as the Pence Union Building, University Bookstore, Parking Services, and Residence Life (residence and dining halls). Another 37 percent are state operating and capital appropriations while the remaining 25 percent is largely composed of financial aid, derived from both state and federal sources, and grants and contracts from a variety of external sources.

It is the spending of these revenues that produces the impact of the university on the Spokane County economy. While depreciation of \$7.1 million has no effect because it represents spending from previous periods, employee compensation, supplies and materials, utilities and other expenses all have economic impact because they are spent in the local economy. Scholarships and fellowships awarded for student tuition and living expenses also have local impact because these funds are disbursed to students who then spend locally. All these items total \$128.3 million.

Table 3.5
Revenues and Expenditures, FY 2004

Revenues	\$M	Percent	Expenditures	\$M	Percent
Tuition & Fees	42.5	27.2	Employee Compensation	79.7	51.0
State Operating Appropriation	41.6	26.7	Supplies & Materials	27.8	17.8
Financial Aid	21.8	14.0	Capital Expenditures	18.6	11.9
Auxiliary Services	17.5	11.2	Scholarships & Fellowships	13.6	8.7
State Capital Appropriation	15.9	10.2	Depreciation	7.1	4.5
Grants & Contracts	12.2	7.8	Utilities	3.8	2.5
Investment Income	3.6	2.3	Other Expenses	3.4	2.2
Other Revenue & Gifts	1.0	0.6			
Total	156.2	100.0	Total	154.1	100.0

Capital expenditures, involving building construction, building remodel and restoration, and other campus facility related items, are a substantial part of university spending. However, from 2001 and 2005 these expenditures varied widely, ranging from just over \$10.3 million to nearly \$26.7 million. Because of this, an average of the past five years, \$19.5 million, is used to represent capital spending.

c. Employment

During 2004, the university employed just over 2,600 people in a variety of full and part-time positions. These employees included faculty, hourly workers, part-time students, graduate assistants, classified staff, and administrative appointments. Nearly all these employees resided somewhere in Spokane County, either in cities such as Cheney, Spokane, Spokane Valley or Deer Park or in outlying rural areas.

d. Direct Impacts

Table 3.6 summarizes the direct impact of Eastern Washington University on the Spokane County economy. Total output of \$174.1 million consists of margined student spending of \$26.4 million, university expenditures from operations of \$128.3 million and capital projects spending of \$19.5 million. As compared to total output in Spokane County of \$23 billion, the university accounts for 0.8 percent. While the impact of EWU operational spending on personal income and employment is known, it is not known for student or capital spending. However, these effects can be estimated using the IMPLAN impact model which found the estimated income impact of student and capital spending to be \$6.1 million and \$7.7 million, respectively, and the employment impacts to be 349 and 247 jobs, respectively. Thus, the total direct income effect from EWU is \$93.4 million, representing 1.2 percent of county income while total direct employment is 3,266 jobs, 1.3 percent of all county employment.

**Table 3.6
Direct Economic Impact, 2004**

Indicator	EWU				Spokane County	Percent EWU
	Students	Operations	Capital	Total		
Output (\$M)	26.4	128.3	19.5	174.1	22,766	.8
Personal Income (\$M)	6.1	79.7	7.7	93.4	7,843	1.2
Employment	349	2,670	247	3,266	247,450	1.3

3.3 Indirect Impacts

Spending by Eastern Washington University for operations and capital projects as well as by its students not only has a direct impact on the output, employment and income of Spokane County but also has indirect and induced impacts. Indirect impacts represent the effects of business to business transactions by the University involving travel, transportation, legal, accounting, construction, communication and financial services as well as office equipment, instructional materials, food services, and athletic supplies. All these transactions, as well as many more, involve supplying various needs of the university and its students. In total, they represent the economic activities undertaken to facilitate and support the university in the accomplishment of its educational mission.

Table 3.7 contains estimates of the indirect impact of EWU on various Spokane County industry sectors, ranked by output, with related employment and income impacts, as well as the percentage distribution of these impacts.

**Table 3.7
Indirect Impacts, 2004**

Industry	(\$M)	(\$M)	Empl	Percent		
	Output	Income		Output	Inc	Empl
Real Estate, Rental & Leasing	20.22	2.03	210	36.7	11.8	29.4
Prof, Scientific, Tech Services	4.69	2.34	73	8.5	13.5	10.2
Admin & Support	3.91	2.22	107	7.1	12.9	15.0
Finance & Insurance	3.73	1.47	30	6.8	8.5	4.2
Information	3.22	1.06	25	5.8	6.1	3.6
Manufacturing	2.74	.88	21	5.0	5.1	2.9
Wholesale Trade	2.68	1.33	29	4.9	7.7	4.0
Transportation & Warehousing	2.45	1.52	34	4.5	8.8	4.7
Other State and Local	1.82	.61	12	3.3	3.6	1.6
Retail Trade	1.69	.76	31	3.1	4.4	4.3
Other Services ex Pub Adm.	1.68	.77	29	3.0	4.5	4.1
Construction	1.31	.69	19	2.4	4.0	2.7
Educational Services	1.02	.46	31	1.9	2.7	4.3
Accommodation, Food Services	.88	.40	21	1.6	2.3	2.9
Other Federal	.72	.08	1	1.3	0.5	0.1
State, Local Elec. Utilities	.63	.06	1	1.1	0.3	0.1
Mgt of Companies	.52	.28	5	0.9	1.6	0.7
Arts, Entertainment, & Rec.	.44	.18	34	0.8	1.0	4.8
Other Utilities	.32	.09	1	0.6	0.5	0.2
Federal Electric Utilities	.31	.04	1	0.6	0.2	0.1
Other	.09	.01	1	0.2	0.1	0.2
Total	55.07	17.29	716	100.0	100.0	100.0

In 2004 the indirect impact of EWU on Spokane County output was \$55.07 million. Of this, \$20.22 million (37 percent of the total) went to the real estate industry, followed by \$4.69 million (9 percent) for professional, scientific, and technical services, and \$3.91 million (7 percent) for administration and support services. The indirect impact of employee compensation in Spokane County was \$17.29 million. This increased professional, scientific, and technical services industry incomes by \$2.34 million (14 percent of the total), followed by administrative and support services with \$2.22 million (13 percent) and by real estate, rental and leasing with an increase of \$2.03 million (12 percent). Finally, the indirect impact on county employment was 716 equivalent jobs. This supported an additional 210 jobs (29 percent of the total) in the

real estate, rental and leasing industries, followed by another 107 jobs (15 percent) in administrative and support services and 73 jobs (10 percent) in professional, scientific, and technical services. Overall, the table indicates that the indirect impacts of the EWU are distributed across a broad array of industries.

3.4 Induced Impacts

People receive incomes as a consequence of either direct employment by EWU or employment indirectly arising as a consequence of university related activities. As this income is spent, Spokane County output expands and employment increases to facilitate the spending, thereby causing additional incomes to be earned. In turn, this leads to still further increases in output, employment, and income. For example, as people directly or indirectly employed as a consequence of EWU purchase homes, homebuilder and construction supply incomes rise which causes still further home construction and purchases. Similarly, food and drinking places hire additional employees because EWU faculty and staff purchase out-of-home meals. However, this induced impact, the payroll effect caused by the spending of incomes earned as a result of some sort of university activity, does not continue forever. Eventually it “leaks” out of Spokane County as people save, pay taxes, make out-of-region purchases or purchase goods and services produced in other places.

Table 3.7 contains estimates of the induced impact of EWU on various Spokane County industry sectors, ranked by output, with related employment and income impacts, as well as the percentage distribution of these impacts.

In 2004, the induced impact of EWU on the output of Spokane County was \$77.29 million. Of this, \$13.45 million (17 percent of the total) went for health care and social assistance, followed by \$9.50 million for owner occupied dwellings and \$9.36 million for retail trade (both 12 percent). The induced impact of EWU on the county income was \$31.04 million. This increased the incomes of health care and social assistance personnel by \$8.49 million (27 percent of the total), retail trade by \$5.24 million (17 percent) and finance and insurance personnel by \$2.57 million (8 percent). Finally, the induced impact on employment was 1,073 equivalent jobs. This produced an additional 232 jobs (22 percent of the total) in health care and social assistance followed by 191 jobs (18 percent) in retail trade and 136 jobs (13 percent) in the

accommodation and food services industry. Again, the table indicates that the induced impacts of EWU are spread across a broad array of industries.

**Table 3.8
Induced Impacts, 2004**

Industry	(\$M)	(\$M)	Empl	Percent		
	Output	Income		Output	Inc	Empl
Health Care & Social Asst	13.45	8.49	232	17.4	27.3	21.7
Owner Occupied Dwellings	9.50	.00	0	12.3	0.0	0.0
Retail Trade	9.36	5.24	191	12.1	16.9	17.8
Finance & Insurance	7.62	2.57	54	9.9	8.3	5.0
Real Estate, Rental & Leasing	4.84	.53	50	6.3	1.7	4.6
Accommodation, Food Services	4.63	2.22	136	6.0	7.2	12.7
Wholesale Trade	4.59	2.40	51	5.9	7.7	4.8
Other Services, ex Pub Adm.	4.15	2.28	113	5.4	7.4	10.5
Manufacturing	3.61	1.05	23	4.7	3.4	2.1
Information	2.48	.78	27	3.2	2.5	2.6
Prof, Scientific, Tech Services	2.36	1.31	42	3.1	4.2	3.9
Transportation & Warehousing	2.02	1.05	25	2.6	3.4	2.3
Other State and Local	1.69	.53	10	2.2	1.7	0.9
Admin & Support	1.30	.74	35	1.7	2.4	3.3
Arts, Entertainment, & Rec.	1.10	.42	40	1.4	1.3	3.7
Federal Electric Utilities	.99	.12	1	1.3	0.4	0.1
State, Local Elec. Utilities	.71	.07	1	0.9	0.2	0.1
Educational Services	.69	.35	20	0.9	1.1	1.9
Other Utilities	.62	.19	2	0.8	0.6	0.2
Mgt of Companies	.60	.37	6	0.8	1.2	0.6
Construction	.52	.25	7	0.7	0.8	0.7
Ag, Forestry, Fishing & Hunting	.33	.04	5	0.4	0.1	0.5
Other	.14	.02	1	0.2	0.1	0.1
Total	77.29	31.04	1073	100.0	100.0	100.0

3.5 Tax Impacts

Much of the direct spending by Eastern Washington University and its students as well as the resulting indirect and induced expenditures involves taxable transactions. When all federal, state and local business taxes from these transactions are considered, student spending in 2004 generated \$2.96 million in taxes while university operations and capital projects produced additional business taxes of \$6.70 million and \$1.05 million, respectively. As Table 3.9 shows, activities related to the university produced \$10.71 million in taxes, of which over 90 percent were state and local taxes. The state share of taxes of \$5.23 million was composed of 18.3 percent of property taxes, 76.5

percent of sales taxes, all motor vehicle license fees and severance taxes and 10 percent of “other taxes and fees” such as marriage licenses and death certificate charges. Local taxes totaling \$4.50 million were composed of 81.7 percent of property taxes, 23.5 percent of sales taxes and 90 percent of other taxes and fees. Interestingly, while the university received \$57.5 million in state appropriations in one form or another in 2004, more than 17 percent of this was “recaptured” by some public entity as the consequence of taxes paid on the economic activities created by the initial appropriations.

**Table 3.9
Business Taxes Generated, 2004 (\$M)**

Tax Type	Students	Operations	Capital	Total
Federal	.27	.61	.10	.98
State:	1.45	3.27	.51	5.23
Property	.14	.31	.05	.50
Sales	1.26	2.85	.44	4.55
Other	.05	.11	.02	.18
Local:	1.24	2.81	.44	4.50
Property	.62	1.39	.22	2.23
Sales	.39	.87	.14	1.40
Other	.24	.54	.09	.87
Total	2.96	6.70	1.05	10.71

3.6 Total Impacts

In 2004, spending related to the operations and capital projects of Eastern Washington University and its students amounted is \$174.1 million. As Table 3.10 shows, when the indirect and induced effects are considered, the total effect of this spending on the output of Spokane County increases to \$306.5 million as a result of an additional \$55.07 million from sales of good and services sold by various other business to EWU and \$77.29 million from the spending of incomes earned as a consequence of the university. The total income directly earned by EWU employees, from employees on capital projects and from direct student purchases is \$93.44 million which, when indirect effects of \$17.29 million and induced effects to \$31.04 million are considered has a total impact on county incomes of \$141.78 million. EWU activities directly caused the

employment of an estimated 3,266 people and indirectly caused or induced employment of the equivalent of another 1,789 people for a total impact of 5,055 jobs. Finally, taxes on goods and services directly purchased by EWU amounted to \$2.39 million. When the indirect and induced tax effects of spending on goods and services indirectly purchased or from incomes arising because of the presence of EWU are considered, the total taxes generated by the university amount to \$10.71 million.

**Table 3.10
Total Impact, 2004**

Indicator	Direct	Indirect	Induced	Total
Output				
Students (\$M)	26.35	5.53	6.55	38.43
Operations (\$M)	128.34	42.85	61.85	233.04
Capital (\$M)	19.45	6.69	8.89	35.03
Total	174.15	55.07	77.29	306.50
Personal Income				
Students (\$M)	6.06	1.47	1.95	9.48
Operations (\$M)	79.67	13.56	26.45	119.67
Capital (\$M)	7.72	2.26	2.64	12.63
Total	93.44	17.29	31.04	141.78
Employment				
Students	349	57	77	483
Operations	2670	584	892	4146
Capital	247	75	104	426
Total	3,266	716	1,073	5,055
Business Taxes				
Students (\$M)	2.29	.26	.41	2.96
Operations (\$M)	.00	2.78	3.92	6.70
Capital (\$M)	.11	.38	.56	1.05
Total	2.39	3.43	4.88	10.71

Since all economic impacts ultimately depend on expenditures, Table 3.11 shows the multiplier effects of an increase in EWU related spending on Spokane County output, employment, income, and business taxes. Each additional \$1.0 million dollars of expenditures directly leads to \$.54 million in personal income, \$.01 million in business taxes and 18.76 jobs. After indirect and induced effects are taken into account, the effect of the initial output expenditure change increases county output to \$1.76 million, income to \$.82 million, business taxes to \$.06 million and creates 29 equivalent jobs.

**Table 3.11
Output Multipliers, 2004**

Multiplier	Direct	Indirect	Induced	Total
Output	1.00	.32	.44	1.76
Personal Income	.54	.10	.18	.82
Employment	18.76	4.11	6.16	29.03
Business Taxes	.01	.02	.03	.06

Finally, Table 3.12 shows the specific impact multipliers arising from changes in university spending, employment, income, or business taxes on Spokane County. A \$1.0 million change in expenditures produces \$1.76 million in total county output; a \$1.0 million change in employee compensation leads to \$1.52 million in total county personal income; a \$1.0 million change in business taxes produces \$4.47 million in total county business taxes while each new EWU related job ultimately results in a total of 1.55 equivalent county jobs.

**Table 3.12
Impact Multipliers, 2004**

Indicator	Direct	Indirect	Induced	Total
Output	1.00	.32	.44	1.76
Personal Income	1.00	.19	.33	1.52
Employment	1.00	.22	.33	1.55
Business Taxes	1.00	1.43	2.04	4.47

3.7 Impact Summary

Table 3.13 summarizes the impact of Eastern Washington University on the Spokane County economy in 2004. Directly, expenditures of \$174.1 million by the university and its students accounts for .8 percent of county output, personal income of \$93.4 million accounts for 1.2 percent of county income, employment of 3,266 represents 1.3 percent of county employment and taxes of \$2.4 million account for .3 percent of county taxes. In terms of total impacts, university and student expenditures of \$306.5 million amount to 1.3 percent of total county output, personal income of \$141.8 million accounts for 1.8 percent of county income, employment of 5,055 represents 2.0 percent of county employment and taxes of \$10.7 million account for 1.2 percent of all taxes paid.

**Table 3.13
Spokane County Economic Impact, 2004**

Indicator	Spokane County	Direct		Total	
		EWU	Percent	EWU	Percent
Output (\$M)	22,766	174.1	.8	306.5	1.3
Personal Income (\$M)	7,843	93.4	1.2	141.8	1.8
Employment	247,450	3,266	1.3	5,055	2.0
Business Taxes (\$M)	912	2.4	.3	10.7	1.2

3.8 Leverage

In 2004 the state of Washington appropriated \$57.5 million to support the operation and capital spending of Eastern Washington University. As a consequence, the university provided higher educational services to over 11,700 students, of which 4,577 relocated or remained in Spokane County and spent \$26.4 million. Additionally, the university spent \$90.3 million received from student tuition and fees, auxiliary services, and external grants and contracts. As shown in Table 3.14, this spending, totaling \$174.1 million, directly produced \$2.4 million in business taxes of which \$1.2 million represented state taxes, thereby reducing state support of EWU to \$56.3 million. In effect, every state dollar spent to facilitate the university increased output in Spokane County by 3.1 dollars. The economic leverage of public support of EWU was even greater when indirect and induced impacts are considered. The total impact of the university on county output was \$306.5 million which generated \$5.2 in state taxes, reducing state support to \$52.2 million, implying that every state dollar spent on behalf of the university increased county output by 5.9 dollars.

**Table 3.14
State Appropriations Leverage, 2004**

Economic Impact	Millions of Dollars				Leverage
	State Appropriation	State Taxes Generated	Net State Cost	Output Impact	
Direct	57.5	1.2	56.3	174.1	3.1
Total	57.5	5.3	52.2	306.5	5.9

4. Additional Impacts

College or university attendance creates many positive personal and social benefits which can not be considered in this study. On average, those attending college earn higher incomes which enables them to purchase necessary health care, better provide for their own maintenance, and to prepare for retirement. Because of this self-sufficiency, they require fewer public services and less assistance, thereby reducing their burden on society and potential taxes for their support. Education is a major determinant of civic participation as well as a necessary ingredient for local economic development. However, it is difficult, if not impossible, to distinguish between the general effects of higher education and the specific effects of attendance at Eastern Washington University on individual earning ability, health status, civic participation and economic development contributions.

Available information does not permit determination of the economic impact of university visitors on Spokane County. More than 50 percent of those attending EWU live outside the county. They travel to Spokane locations for new student orientation; their families or friends visit; they attend university events and graduation ceremonies. Others attend sporting events, alumni activities, public forums and social functions. University sponsored meetings, conferences, seminars, training sessions and continuing education classes are regularly scheduled. However, the magnitude of these visits, not only in terms of numbers but also in related accommodation, dining and leisure expenditures, all of which could be compiled through appropriate surveys, is not currently known.

Similarly, the impact of alumni was not considered. As with visitors, they attend various university functions, sporting events, and forums. They also provide financial support through fund raising activities, contributions and endowments. However, the magnitude of alumni involvement and support, which could be compiled through appropriate surveys, is not currently known.

A potentially important but unmeasured impact of Eastern Washington University is its ability to attract or facilitate new economic endeavors in Spokane County. Recently the Washington State Patrol built a Crime Laboratory at a cost of \$11 million that employs 18 people with a payroll of \$.9 million and the Washington State Archives built

and equipped a Regional Archives at a cost of \$14 million that employs 9 people with an annual payroll of \$.5 million near the university. Individual faculty members have utilized their academic skills to form companies in biotechnology and information technology. While the extent of these spillovers effects is not known, the examples cited here suggest that it could be substantial, both in the present and the future.

5. Comparisons with Other Studies

The economic impact of higher education institutions has been studied in a number of contexts with the common finding they create significant economic benefits wherever they are located. Table 5.1 compares impact multipliers found for EWU with those estimated for other higher education institutions located Washington, Idaho, Montana, Oregon, Nevada, California, Ohio and Florida. Estimated between 1995 and 2005, these multipliers not only reflect the impacts of different types of institutions in a wide range of locations, but also incorporate a variety of impact methodologies.

**Table 5.1
Higher Education Impact Multipliers**

Institution	Region Studied	Output	Income	Empl.
Eastern Washington University	Spokane Co, WA	1.8	1.5	1.6
Washington State University	All of Washington	1.4	nr	nr
University of Washington	All of Washington	2.2	nr	3.4
Montana State University	Gallatin Valley, MT	1.8	nr	1.8
University of Idaho	Latah Co, ID	1.5	nr	nr
Idaho State University	Pocatello area, ID	1.4	nr	nr
Portland State University	Portland Metro, OR	1.6	1.8	2.5
Boise State University	Ada, Canyon Cos, ID	1.8	1.7	1.5
University of the Pacific	Northern California	1.7	nr	1.5
University of Nevada	All of Nevada	1.8	1.9	1.9
Cleveland State University	Cleveland PMSA, OH	2.4	1.4	2.0
University of West Florida	Northwest Florida	1.5	1.4	1.5

nr = not reported

Overall, the impact multipliers found for EWU are similar to those found for other institutions. Reported output or expenditure multipliers range from 1.4 to 2.4 with an average of 1.7, nearly identical to the EWU value of 1.8. Income multipliers range from 1.4 to 1.9, averaging 1.6, again close to the EWU figure of 1.5. Finally, employment or job multipliers range from 1.5 to 3.4, averaging 1.8 excluding the one reported for the University of Washington which appears anomalous, again close to the EWU value of 1.6.

6. References

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