



# WESTERN CONNECTICUT STATE UNIVERSITY

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JAMES R. ROACH, PH.D.  
PRESIDENT

To: Board of Directors  
University Foundation of Western Connecticut, Inc.

From: James R. Roach *JR*

Date: April 25, 1995

Dr. Sara DeLoughy of our MIS Department recently completed An Economic Impact Analysis report that I though may be of interest to you. With the opening of the O'Neill Center, I expect a significant increase in the impact that the University has in this area.

If you have any questions, please feel free to contact me or Dr. DeLoughy.

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**WESTERN CONNECTICUT STATE UNIVERSITY**

**AN ECONOMIC IMPACT ANALYSIS**

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Management Information Systems  
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## WESTERN CONNECTICUT STATE UNIVERSITY

### An Economic Impact Analysis

#### Introduction

The purpose of an economic impact study is to make a quantitative assessment of the effects that particular projects or institutions are expected to have on a regional economy. The usual variables included in the analysis are output, household income and employment. Output refers to the sales or income of regional firms, and household income refers to the income of households employed by regional firms. In analyzing the impact of a university, it seems appropriate to include some recognition of the impacts that are more difficult to quantify, since these clearly provide economic benefits to the community. This study assesses the impact of Western Connecticut State University (WCSU) on regional output, household income, and employment. It also reviews the qualitative economic contributions WCSU makes to its community. The conclusions of this study are subject to the limits of the chosen methodology (see Bluestone) and the limits imposed by the available data. With additional resources, it would be possible to assess WCSU's impact with more accuracy and detail.

#### The Model

This study utilizes a traditional model to estimate the economic impact of WCSU on the regional economy. This traditional approach estimates the total regional expenditures made by the university, its students, its employees and its campus visitors. These expenditures are then incremented by a local multiplier which takes into account the additional or indirect business volume generated as a result of these direct expenditures. The resulting dollar value is referred to as the total economic impact. The total expenditures may also be applied to a local employment multiplier and a local income multiplier to estimate the number of jobs and the value of regional household income indirectly generated by the university's activities.

#### Direct Expenditures

Data pertaining to five categories of direct expenditures were provided by the University for inclusion in this analysis.

##### Wages and Salaries

The amount of annual net wages and salaries paid to 448 full



time and approximately 225 part-time employees of the University was estimated at 75% of the gross wage and salary data provided for the Fall 1994 semester. Wages and salaries paid to employees residing outside of Connecticut were deducted. Housing expenditures made by university employees, which sometimes are treated separately in impact analyses, are included in direct expenditures. These expenditures are included based on the assumption that a good portion are returned to the region and the state and because more information would be needed to specify an alternative treatment. The net wage and salary figure used in this analysis is \$15,461,741.

#### University Purchases

Annual expenditures made by WCSU for the purchase of goods and services totalled \$5,067,343 in 1993/94. The amount purchased from area suppliers was \$3,091,495. The remaining \$1,975,848 was purchased from Connecticut vendors.

#### Student Spending

Currently, there are 5726 graduate and undergraduate students enrolled at WCSU; 2877 are full-time and 2849 are part-time. Annual student expenditures were estimated based on 1994/95 financial aid data. 870 full-time students live on campus; estimated annual expenditures for each of these students, exclusive of room and board, is \$2200. 900 full-time students live in off-campus housing; estimated annual expenditures for each of these students is \$5500. This figure includes rent based on the assumption that the rental payments made by these students provide income to regional residents. 1107 full-time students live at home; estimated per-student annual expenditures for this group is \$2700. There are 2849 part-time students. It is assumed that these students spend half the full-time student amount on books, that they spend \$7.50 per campus visit, and that they make two visits per week. Total annual student spending is estimated at \$12,046,630.

#### Visitor Spending

There were an estimated 45,200 visitors to the University during 1993/94. Using an accepted \$30 per day expenditure estimate, total annual visitor spending is estimated at \$1,356,000.

#### Capital Expenditures

Capital projects for 1993/94 totalled \$4,931,000, all of which went to Connecticut contractors. If it is assumed that 40% went to local firms, the capital expenditure estimate is \$1,972,400. In addition, Western is undertaking an estimated \$120 million master facilities plan projected to run over the next 15 years. This plan will add an estimated \$8 million annually to capital expenditures. If 40% of these expenditures go to regional firms, the contribution of the master plan to capital spending is \$3,200,000. Total annual capital spending is then estimated to be

\$5,172,400.

The University just completed construction of a \$13.4 million Field House. Construction of the Field House resulted in approximately \$28 million in sales to regional firms, \$9.38 million in income to households employed by regional firms, and 465 jobs.

These five categories of annual direct spending in the local economy by Western Connecticut State University are estimated to total \$39,343,556. Table 1 shows these expenditures by category.

TABLE 1

ESTIMATED ANNUAL LOCAL DIRECT EXPENDITURES BY CATEGORY

Wages and Salaries	\$15,461,741
University Purchases	3,091,495
Student Spending	12,046,630
Visitor Spending	1,356,000
Capital Spending	<u>5,172,400</u>
TOTAL	\$37,128,266

Indirect Impacts

Regional multipliers are used to estimate the indirect effects of these direct expenditures on the sales or income of regional firms, the income of households employed by regional firms, and employment. These indirect impacts result from the circulation of the original dollar expenditures in the local economy. This circulation continues to exert an expansionary economic impact until all dollars have left the spending cycle, either through savings or expenditure on goods and services outside the area. The multipliers have been estimated based on multipliers used for similar regions and on the Regional Input-Output Modeling System (RIMS) II) multipliers published for Connecticut by the Bureau of Economic Analysis. The size of the multiplier varies directly with the size of the region, the diversity of its economy and the size of its population. A rural economy will experience a smaller economic impact from a given expenditure than a larger, more diversified economy because its residents can meet fewer of their needs through expenditures in the local economy.



The direct expenditure multiplier used in this analysis is 1.7. This means that an expenditure of \$1.00 will generate an additional \$.70 worth of sales or income to regional firms. The total impact from the \$1.00 expenditure is \$1.70.

The earnings multiplier permits an estimate of the change in the earnings of households employed by regional firms that results from an initial increase in direct expenditure. The income multiplier used in this analysis is .64. This means that \$1 in additional direct expenditure will result in an increase of \$.64 in regional household incomes.

The employment multiplier shows the number of jobs that regional industries provide, both directly and indirectly, in response to an initial increase in direct expenditure for their goods or services. The employment multiplier used in this analysis is 40 jobs for each additional \$1 million in direct expenditure.

The multiplier effects of the direct expenditures are shown in Table 2.

TABLE 2

## MULTIPLIER EFFECTS OF DIRECT EXPENDITURES

## Western Connecticut State University

<u>DIRECT EXPENDITURES</u>	<u>Output Multiplier</u>	<u>Indirect Expenditure</u>	<u>Total Impact On Regional Output</u>
\$37,128,266 →	1.7	\$25,989,786	\$63,118,052
	<u>Earnings Multiplier</u>	<u>Impact on Regional Household Earnings</u>	
→	.64	\$23,762,090a	
	<u>Employment Multiplier</u>	<u>Impact On Regional Employment</u>	
→	40b	1,485 Jobsc	

<sup>a</sup> Household earnings in addition to the salaries paid directly by WCSU. <sup>b</sup> Employment multiplier shows the number of jobs produced per \$1 million in direct expenditures. <sup>c</sup> Number of jobs in addition to those provided directly by WCSU.

### Total Economic Impact

The University's annual direct expenditures of \$37,128,266 resulted in \$63,118,052 in output or sales for regional firms, \$23,762,090 in incomes for households employed by local firms and 1,485 jobs in the local economy.

### Other Impacts on the Region

The traditional model does not take into account the qualitative benefits bestowed on the region by the University. These qualitative benefits are, without a doubt, part of Western's contribution to the regional economy. For this reason, many of these qualitative contributions are described in this section.

#### Weather Center

The Weather Center provides education and research in meteorology and weather forecasting. Severe Storm research is supported by public utility companies, including Northeast Utilities and many others nationwide. The Weather Center forecasts weather daily to numerous corporations, including IBM and Union Carbide, newspapers, television and radio stations. Recently the Weather Center has begun to forge new ventures with the Science Museum of Connecticut and the University of Connecticut.

#### Center For Collaboration

The Center for Collaboration of the Ansell School of Business was established to conduct studies and implement techniques to automate collaboration through the use of electronic brainstorming.

#### Center of Educational Excellence

The Center for Educational Excellence has awarded a series of grants totalling over \$50,000 to the Department of Education and Educational Psychology over the last five years to conduct teacher workshops, and other educational programs in cooperation with area schools.

#### Internships and Other Professional Experiences

Many departments have made cooperative education an integral part of their major programs. Participating students represent a resource to local employers while receiving academic credit for their work. Most of the programs in the School of Professional Studies require field experience, including student teaching, social work field experiences, counseling internships, agency placement, etc. The Journalism program has arranged for student internships with the Danbury News-Times.

University Consortium, Connecticut Institute for Municipal Studies. WCSU faculty will engage in a collaborative effort with members of the community to stimulate debate and shape long-term solutions to regional problems.



**IBM Advanced Technology Classroom (ATC).** IBM selected WCSU to become the first university in the world to receive the ATC, a multimedia research and instructional facility designed by IBM. This revolutionary system is being used to enhance student learning, to conduct instructional technology research, and to develop courseware. WCSU is currently engaged in an initiative to extend its collaboration with IBM through an upgrade of the ATC.

#### **Public Events**

The Charles Ives Center offers concerts and other artistic events attended by thousands of area residents. Other public events include theatrical productions, musical events, debates and intercollegiate athletic matches. The Gino Arconti and Union Carbide Lecture Series have provided a forum for distinguished lecturers. The newly completed Field House provides an attractive facility of high quality for a variety of events.

#### **Career Development Center**

The Career Development Center matches student skills with employer needs. In a typical year, 40 to 50 employers will actively recruit on this campus.

#### **Center for Developmental Studies**

The Center, now in its sixth year of operation, offers a number of programs to teachers, students, and administrators as part of its outreach missions. Examples of projects include a one-week workshop to train faculty in the use of software packages on IBM hardware, and an outreach program entitled "Special Friends" for youth in the Danbury Public Schools.

#### **The Teacher Forum**

The Forum is an organization representing 15 area school districts whose members work closely with Western faculty in presenting major conferences on curriculum, issues in teacher preparation, and other concerns of mutual interest.

#### **Project Discovery**

Project Discovery has been offered for the past five years as a special enrichment program in science, the arts, mathematics, and multicultural education for 1000 school youngsters. The Discovery Program is offered in cooperation with area schools and RESCUE and is funded by the Union Carbide Corporation.

#### **Science Horizons**

This program for gifted junior and senior high school students, is a science-fair format program whose purpose is to enhance and enrich interest in science education among pre-college students. Three hundred students from 15 area junior and senior high school districts in western Connecticut participate each year in a program recognizing outstanding achievement through awards and prizes. Area industry also participates in the program.



### Other Concepts of Economic Impact

This report quantifies one concept of WCSU's economic impact: the effect its activities have on regional output, employment and household earnings. However, other concepts of economic impact could be employed. Barry Bluestone, in his analysis of the impact of the University of Massachusetts at Boston, developed an innovative method of assessing economic impact. This methodology treats public expenditures in support of the university as an investment and calculates a rate of return on this investment which may then be compared to the rates of return expected from alternative uses of these public funds. The rate of return is derived from the increase in state taxes paid by graduates through the higher incomes they earn as college graduates. The study concludes that the revenues returned to the state have allowed Massachusetts to earn a very competitive rate of return on its investment in UMass. Such a study would be interesting to conduct for the CSU system. It may reveal that, in purely financial terms, the money invested in the four state universities earns Connecticut an attractive rate of return.

A second concept of the economic impact of WCSU could be based on its role in the creation and retention of quality jobs in Connecticut. Current thinking on economic development sees regions actively pursuing policies to enhance their economic assets to make them more competitive. The question to be asked may not be how much income does the University generate but rather does the University represent an economic asset to potential employers, and if so, how can that asset be made more attractive. Research suggests that the resources associated with a University are a factor in attracting and retaining high quality, knowledge-based jobs. WCSU may have an exceptionally important role to play under this concept due to its strategic location in an area that offers a number of other attractions to businesses. Any assessment of the economic impact of a university should look not only at the jobs and income that the university directly and indirectly creates, but evaluate the potential role of a strong state university system as an element in the state's strategy for economic growth.

## References

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