



The Economic Impact of East Carolina University[®] on the Local, Regional and Statewide Economies

Meghan Millea and Vera Tabakova | March 2024

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ECONOMIC IMPACT ANALYSIS OVERVIEW

UNIVERSITY AND UNIVERSITY-RELATED ACTIVITIES

East Carolina University impacts the regional economies and the state of North Carolina in a variety of ways through expenditures, community engagement, and education. In this study we focus on the economic impacts on the local, regional, and state economies by tracking spending from:

- 1) university operations
- 2) research expenditures,
- 3) student spending,
- 4) visitor spending, and
- 5) alumni dividends.

METHODOLOGY

To estimate the economic impacts of these spending categories, we use the industry leader for economic impact data and analytical software, Implan (*IM*Impact Analysis for *PLAN*ning). It is used in academic, government, and corporate sectors to conduct economic impact analysis of a variety of different types of expenditures on economies specified to the county level. Implan pulls national and state economic and demographic information collected by various federal and state agencies including the Bureau of Economic Analysis, the Bureau of Labor Statistics and the Bureau of the Census to create input-output models of local, regional, and statewide economies.

Implan creates production functions by industry and consumption functions for households. Using the regional data, it creates an economic model that draws on local resources, local suppliers, and local purchases to simulate how spending injections spark economic activities through the supply chain and through household purchases. The initial injections of spending by the university and university-related expenditures ripple through the economy. The initial spending changes are direct effects, the summation of the impacts through the supply chain are called indirect effects, and the total impacts from household spending are called induced effects. The total economic impacts are the sum of these direct, indirect, and induced effects.

Economic impacts can be quantified in different ways. In this study, we report impacts in terms of labor income, output, and employment that resulted from university and university-related expenditures for fiscal year 2023 (FY2023). These impacts are modeled and reported at the local, regional, and state levels that replicate a similar study conducted in 2019. Specifically, each time a direct impact was modeled, we used Implan's Multi-Region Analysis methodology. Thus, we were able to measure the direct impact of the economic event and the event's secondary impacts (indirect and induced) for all parts of North Carolina.

We group North Carolina counties into four mutually exclusive regional economies that are the same as the 2019 ECU impact study: Pitt County, the local area,¹ the remaining 21 eastern NC counties that are included in ECU's economic transformation targeted area,² and the 71 counties that comprise the rest of the state.

The Eastern NC³ overall impact is the combined effects of three of the regions: Pitt County, the local area, and the rest of eastern NC (the other 21 eastern counties). Finally, the North Carolina total includes the impacts from all NC counties.

¹ Beaufort, Craven, Edgecombe, Greene, Lenoir, Martin, and Wilson

² Bertie, Camden, Carteret, Chowan, Currituck, Dare, Duplin, Gates, Halifax, Hertford, Hyde, Jones, Nash, Northampton, Onslow, Pamlico, Pasquotank, Perquimans, Tyrrell, Washington, and Wayne.

³ Includes Pitt County, local area, and eastern region for a total of 29 counties. The remaining counties comprise the rest of NC.

DATA

IMPLAN includes the regional data used to create the model of the economies. The data inputs into the model are the expenditure injections from the university and university-related activities. Expenditures for broad institutional activities included in this study are listed in the first column of Table 1. University operations include payroll, supplies, utilities, and scholarships. In addition to the local expenditures in Pitt County that radiate out to the rest of the state, employees who live in communities across the region directly impact their communities through the spending of their earned income. University spending on research represents extramural funds generated by grants and contracts that are brought into North Carolina to support the creation and dissemination of knowledge which is a primary function of a Carnegie Very High Research Activity (R1) institution. Another primary function of the university is teaching students. While students are taking classes, they support the economy through their cost-of-attendance expenditures. The knowledge and skill development they receive translates into higher income as they graduate and go into the workforce. The impacts of their additional earnings associated with degree completion are included as alumni dividends. Visitors also come to the university for sports and arts entertainment, campus visits, orientations, and graduation ceremonies. As they travel, they spend money on food, lodging, gas, etc. which supports the local, regional, and state economy. Operations, research, alumni dividends, student spending, and visitor spending have annual recurring impacts. In FY 2023, ECU spent \$18.9M in capital projects which included buildings, machinery and equipment, general infrastructure, computer software, leased services, and subscription services (Table 9). These expenditures are nonrecurring, thus the impacts are estimated separately.

Data for university operations, research, capital projects, and student and visitor expenditures are combined with the alumni dividends from graduates as new spending which spark economic activities tracked using the IMPLAN software. The economic impacts (output, income, and employment) were measured for each economic region.

Table 1 summarizes the economic impacts of the different university and university-related activities on the 29 counties of Eastern North Carolina. All of impact values for income and output are reported in 2024 dollars.

Table 1: Total Economic Impacts of East Carolina University on Eastern North Carolina in FY23

Eastern NC	Total Income (\$)	Total Output (\$)	Total Employment
University Operations	717,713,733	1,462,522,699	22,130
Research Spending	44,220,220	125,935,403	617
Student Spending	131,025,869	531,307,484	3,556
Visitor Spending	34,974,133	111,011,741	1,000
Alumni Dividends	1,711,713	6,304,988	41
Capital Expenditures (non-recurring)	6,556,899	15,536,097	106
Total for FY23	936,202,567	2,252,618,412	27,450
Recurring Impacts	929,645,668	2,237,082,315	27,344

ECU's operations increased personal income in Eastern NC by \$717.7 million. Student spending increased ENC's personal income by \$131 million. In total, the region's personal income was \$963.2 million higher because of ECU and ECU-related economic activity. ENC's total output was \$2.25 billion higher, and 27,450 jobs were supported in Eastern North Carolina in FY23⁴ due to the operations, capital spending, research spending, student spending, visitor spending, and ECU's alumni dividends.

⁴ University operations, payroll, and capital expenditures are reported for the fiscal year July 1, 2022 – June 30, 2023 (FY23). Enrollment, graduates, and event visitors are reported for the academic year: Fall 2022, Spring 2023 and Summer 2023 (AY2022-23).

Table 2: Total Economic Impacts of East Carolina University on North Carolina

North Carolina	Total Income (\$)	Total Output (\$)	Total Employment
University Operations	736,295,278	1,523,408,021	22,599
Research Spending	47,822,126	135,892,139	665
Student Spending	137,882,064	553,996,390	3,653
Visitor Spending	36,814,118	116,926,099	1,026
Alumni Dividends	33,143,225	105,832,457	582
Capital Expenditures (non-recurring)	6,899,105	16,678,135	111
Total for FY23	998,822,916	2,452,733,241	28,636
Recurring Impacts	991,956,811	2,436,055,106	28,525

ECU’s operations increased personal income in the state by \$736.3 million. Student spending increased NC’s personal income by \$137.9 million. In total, the state of NC’s personal income was almost \$1 billion higher as a result of ECU economic activity, its visitors, and its graduates. North Carolina’s output or gross state product was \$2.45 billion higher due to ECU. In total, 28,636 jobs were supported in North Carolina in FY23 due to the operations, capital spending, research spending, student spending, visitor spending, and ECU’s alumni dividend. These include non-recurring capital expenditures; thus, the annual recurring impacts of ECU on the State are \$992 million in income, 2.44 billion in output or gross state product, and 28,525 jobs.

In the following sections of the report, we outline the process used to derive the economic impacts reported in Tables 1 and 2. Each section details the regional economic impacts of the different types of university activities and university-related spending.

OPERATIONS SPENDING

In FY23, ECU's operations spending was \$842 million, which was used to pay its employees and purchase goods and services to carry out daily operations, including research. University expenditures by operations were retrieved from the Office of the State Auditor's East Carolina University Report.⁵

Table 3: ECU Operations Expenditures for FY23

Supplies and Services	\$228,620,662
Scholarships and Fellowships ⁶	\$46,850,241
Utilities	\$19,626,356
Total Non-Payroll	\$295,097,259
Payroll	\$546,932,890
Total	\$842,030,149

A significant portion of these expenditures became income for the local businesses that they, in turn, spent for their businesses' operational expenses, thereby creating indirect effects from the original spending. The income for the local business that was spent at other businesses by the employees created an induced effect of the original spending.

Operation spending was modeled using a two-step process. First, operational spending impacts were modeled using detailed industry impact analysis for sector 481, which includes universities and professional schools. Although ECU has operations outside of Pitt County, all activity was assumed to occur within Pitt County.⁷ The direct impact assumptions included actual ECU data employee compensation (payroll), intermediate inputs (non-payroll), and the sum of the two as total output.

Second, we recognized that many of ECU's employees live in all parts of North Carolina. Given that, the payroll data was disaggregated by region⁸ and used as labor income (employee compensation: sector 5001) for the four regions. The resulting impacts for the four regions were added to the operation's induced effects for each region. This provided a more robust description of ECU's employee spending patterns and is consistent with the 2019 study methodology.

Table 4 shows that income in Pitt County increased by nearly \$700 million due to the university's operation expenditures. Table 5 shows that these same operation spending injections increase the regional GDP by \$1.38 billion in Pitt County and \$1.46 billion in all of eastern NC. Each year, ECU's operations spending supports 22,130 jobs in Eastern NC and 22,599 across NC.

⁵ This [report is available online](#). Our data were retrieved from pages 9 and 17 (downloaded January 14, 2024)

⁶ Scholarships and fellowships were primarily supported by three separately incorporated nonprofit foundations associated with the University.

⁷ Regional distributions of university expenditures across regional vendors were not consistently available, thus the local-spending assumption was reasonable. Due to the geographic area specifications, it is unlikely the local-spending assumption significantly altered the magnitude of the economic impacts.

⁸ Payroll by region were provided by ECU Office of Finance and Administration (V. Falvo)

Table 4: Economic Impacts on Personal Income Originating from Operations Spending on the Regional Economies of North Carolina

	Direct (\$)	Indirect (\$)	Induced (\$)	Total (\$)
Pitt County	546,932,890	65,797,617	85,314,657	698,045,164
Local Area	0	6,785,913	8,044,903	14,830,816
Rest of Eastern NC	0	2,893,098	1,944,656	4,837,753
Rest of NC	0	10,449,540	8,132,004	18,581,544
TOTAL EASTERN NC	546,932,890	75,476,628	95,304,216	717,713,733
TOTAL NC	546,932,890	85,926,168	103,436,220	736,295,278

Table 5: Economic Impacts on Total Output Originating from Operations Spending on the Regional Economies of North Carolina

	Direct (\$)	Indirect (\$)	Induced (\$)	Total (\$)
Pitt County	842,030,149	251,382,084	289,439,289	1,382,851,522
Local Area	0	29,029,017	29,857,629	58,886,645
Reminder of the East	0	13,411,829	7,372,702	20,784,532
Rest of NC	0	35,130,517	25,754,805	60,885,322
TOTAL EASTERN NC	842,030,149	293,822,930	326,669,620	1,462,522,699
TOTAL NC	842,030,149	328,953,446	352,424,425	1,523,408,021

Table 6: Economic Impacts on Employment Originating from Operations Spending on the Regional Economies of North Carolina

	Direct	Indirect	Induced	Total
Pitt County	16,751	1,321	3,413	21,485
Local Area	0	125	337	462
Rest of Eastern NC	0	68	115	182
Rest of NC	0	138	331	469
TOTAL EASTERN NC	16,751	1,514	3,865	22,130
TOTAL NC	16,751	1,652	4,195	22,599

Table 7: Total Economic Impacts from University Operations Spending on the Regional Economies of North Carolina

	Total Income (\$)	Total Output (\$)	Total Employment
Pitt County	698,045,164	1,382,851,522	21,485
Local Area	14,830,816	58,886,645	462
Rest of Eastern NC	4,837,753	20,784,532	182
Rest of NC	18,581,544	60,885,322	469
TOTAL EASTERN NC	717,713,733	1,462,522,699	22,130
TOTAL NC	736,295,278	1,523,408,021	22,599

EXPENDITURES FROM EXTRAMURAL FUNDS

Research is a key function of the university. The non-payroll operations reported above include research activities conducted by ECU faculty, students, and other researchers. ECU’s research activities boosted the state economy by employing people and through the purchase of equipment, supplies, and services. They also enabled knowledge transfer to create economic development. In particular, ECU successfully leveraged state funds to bring in significant amount of extramural funds directly linked to faculty excellence, student success, and regional transformation. In FY23, ECU had \$68.85M in research expenditures.⁹

Table 8: Total Economic Impacts from University Research Expenditures on the Regional Economies of North Carolina

	Total Income (\$)	Total Output (\$)	Total Employment
Pitt County	42,293,905	118,925,560	577
Local Area	1,478,859	5,317,550	30
Rest of Eastern NC	447,456	1,692,293	10
Rest of NC	3,601,906	9,956,736	48
TOTAL EASTERN NC	44,220,220	125,935,403	617
TOTAL NC	47,822,126	135,892,139	665

Research expenditures increased income in Eastern NC by \$44.2M; increased output or regional GDP by \$125.9M, and supported 617 jobs. Across the state, total income increased by \$47.8M due to ECU’s research expenditures, GDP increased by \$135.9M, and 665 jobs were supported.

⁹ All ECU research expenditures described in this study were reported by Becky Welch. This \$68.85M value includes both Higher Education Research and Development (HERD) and non-HERD spending. In the 2019 study HERD and non-HERD values were reported, but they were not separately available to include in this study. HERD Survey is the primary source of information on separately accounted for research and development expenditures within higher education institutions. HERD represents the component of Gross National Expenditure on Research and Development (GERD) incurred by the sector of higher education institutions. However, there many research activities that do not qualify as HERD expenditures and in this study we include all (HERD and non-HERD) research expenditures. In FY22 HERD was 56.7% of total research expenditures.

CAPITAL SPENDING

The capital spending incurred during FY23 was estimated using the net capital asset expenditures from the ECU financial statement provided to the Office of the State Auditor. The increase in capital assets was due to an increase in construction in progress (CIP) of \$9.6 million and an increase in machinery and equipment of \$8.3 million. The increase to CIP was related to a steam infrastructure project, the new medical education building, and various other projects. Machinery and equipment purchases included network and server updates and various equipment purchases for health sciences.

Table 9: ECU Capital Spending in FY23

	Net Increase
Land and permanent easements	\$0
Construction	\$9,584,852
Buildings	\$-351,538
Machinery and equipment	\$8,329,957
General infrastructure	\$-802,033
Computer software	\$0
RTU leased buildings	\$1,940,482
RTU leased machinery	0
RTU subscription assets	\$188,359
Net investment in capital assets	\$18,890,079

We model the capital expenditure impacts by focusing on new constructions (industry codes 53 and 56 in Implan).

Purchases of land and permanent easements, machinery and equipment and computer software were not included in the calculations. We assumed that these items either offset university revenues or were purchased from outside North Carolina. We also assumed that the installation of the items was accomplished by vendor employees and university staff. Staff effort would be included in employee payroll (i.e. university operations). Building and general infrastructure were not included because they had a negative net increase in spending.

Table 10: Economic Impacts on Personal Income Originating from Capital Spending on the Regional Economies of North Carolina

	Direct	Indirect	Induced	Total
Pitt County	4,867,743	516,224	809,750	6,193,717
Local Area	0	196,091	94,155	290,245
Rest of Eastern NC	0	45,998	26,938	72,936
Rest of NC	0	223,162	119,043	342,205
TOTAL EASTERN NC	4,867,743	758,313	930,843	6,556,899
TOTAL NC	4,867,743	981,475	1,049,886	6,899,105

Capital spending, or construction, represents one-time spending. The impacts estimated in this section are non-recurring. The \$9.6 million spent on construction provided \$6.6 million in income in Eastern NC and \$6.9 million over the entire state, as seen in Table 10.

Table 11: Economic Impacts on Total Output Originating from Capital Spending on the Regional Economies of North Carolina

	Direct	Indirect	Induced	Total
Pitt County	9,584,852	1,667,494	2,748,660	14,001,006
Local Area	0	862,322	349,042	1,211,364
Rest of Eastern NC	0	221,509	102,218	323,727
Rest of NC	0	765,041	376,997	1,142,038
TOTAL EASTERN NC	9,584,852	2,751,325	3,199,920	15,536,097
TOTAL NC	9,584,852	3,516,366	3,576,917	16,678,135

In FY23, the capital spending in Pitt County increased income in Eastern NC by \$15.5 million and \$16.7 million in NC, at large (Table 11). Table 12 indicates that FY23's \$9.6 million spent on construction supported 106 jobs in Eastern NC and 111 in NC. The summary of the impacts is reported in Table 13. Because the spending occurred in Pitt County, the income (\$6.2 million), output (\$14 million, and employment (99 jobs) effects are in Pitt due to local spending. For example, 99 of the 111 jobs supported were in Pitt County. These total impacts are non-recurring as the construction spending represents one-time spending injections.

Table 12: Economic Impacts on Employment Originating from Capital Spending on the Regional Economies of North Carolina

	Direct	Indirect	Induced	Total
Pitt County	72	8	18	99
Local Area	0	3	2	6
Rest of Eastern NC	0	1	1	1
Rest of NC	0	3	2	5
TOTAL EASTERN NC	72	13	21	106
TOTAL NC	72	15	23	111

Table 13: Total Economic Impacts from University Capital Spending on the Regional Economies of North Carolina

	Total Income	Total Output	Total Employment
Pitt County	6,193,717	14,001,006	99
Local Area	290,245	1,211,364	6
Rest of Eastern NC	72,936	323,727	1
Rest of NC	342,205	1,142,038	5
TOTAL EASTERN NC	6,556,899	15,536,097	106
TOTAL NC	6,899,105	16,678,135	111

STUDENT SPENDING

ENROLLMENT

As students come to ECU, they sparked economic impacts associated with their spending. Enrollment counts were collected by Institutional Planning, Assessment and Research (IPAR) and reported by NC residents and out-of-state residents by degree level (undergraduate, graduate, dental, and medical).¹⁰ For NC residents, IPAR also reported the county of residence. Enrollment totals were allocated to the regional specifications (Pitt County, Local Area, the rest of Eastern NC, and the remainder of NC). Counts are reported in Table 14.

Table 14: Enrollment Counts of Students by Degree, Semester, and Region of Students' Residence

Pitt County	Fall 2022	Spring 2023	Summer 2023
Undergraduate	1,917	1,807	983
Graduate	719	679	442
Medical	36	34	5
Dental	21	21	17
Local Area	Fall 2022	Spring 2023	Summer 2023
Undergraduate	1,771	2,925	950
Graduate	352	336	274
Medical	4	4	0
Dental	16	16	11
Eastern NC	Fall 2022	Spring 2023	Summer 2023
Undergraduate	2,925	2,708	1,541
Graduate	559	543	532
Medical	19	19	1
Dental	18	18	14
NC	Fall 2022	Spring 2023	Summer 2023
Undergraduate	12,919	11,729	6,825
Graduate	2,343	2,186	1,854
Medical	278	273	19
Dental	150	149	112
Out of State	Fall 2022	Spring 2023	Summer 2023
Undergraduate	2,156	1,941	751
Graduate	575	531	298

¹⁰ Headcount not FTE

COST OF ATTENDANCE

Enrollment counts were matched with cost of attendance (COA) tables.¹¹ Expenditures vary by student level (undergraduate, graduate, dental, and medical). For undergraduate and graduate groupings, expenditures were reported for the academic year and summer. For medical and dental students, expenditures were reported by program year.¹² Both enrollment and COA were for the Fall 2022, Spring 2023, and Summer 2023.

Table 15: Cost of Attendance for AY2022-23

	Resident Undergraduate Fall 2022 & Spring 2023 (\$)	Nonresident Undergraduate Fall 2022 & Spring 2023 (\$)	Resident Undergraduate Summer 2023 (\$)	Nonresident Undergraduate Summer 2023
Tuition & Fees	7,325	23,602	1,831	5,900
Room & board	10,816	10,816	3,718	3,718
Books & supplies	1,654	1,654	331	331
Personal	1,586	1,586	545	545
Transportation	2,352	2,352	899	899
Total	23,733	40,010	7,324	11,393
	Resident Graduate Fall 2022 & Spring 2023 (\$)	Nonresident Graduate Fall 2022 & Spring 2023 (\$)	Resident Graduate Summer 2023 (\$)	Nonresident Graduate Summer 2023
Tuition & Fees	7,622	20,771	2,117	5,770
Room & board	10,538	10,538	3,622	3,622
Books & supplies	994	994	276	276
Personal	2,058	2,058	707	707
Transportation	1,156	1,156	442	442
Total	22,368	35,517	7,164	10,817
DENTAL	Fall 2022 (\$)	Spring 2023 (\$)	Summer 2023 (\$)	
Tuition & Fees	12,328	12,328	12,328	
Room & board	6,344	6,344	6,344	
Books & supplies	1,685	1,685	1,685	
Personal	1,164	1,164	1,164	
Transportation	1,687	1,462	1,462	
Total	23,208	22,983	22,983	
MEDICAL	Fall 2022 (\$)	Spring 2023 (\$)	Total (12 Months)	
Tuition & Fees	11,649	11,648	23,297	
Room & Board	9,516	9,516	19,032	
Books & Supplies	1,834	834	2,668	
Personal	1,596	1,596	3,192	
Transportation	2,426	2,192	4,618	
TOTAL	\$27,021	\$25,786	\$52,807	

¹¹ COA for current year available online. Historic COA retrieved by request to the Office of Student Financial Aid Enrollment Services (Julie Poorman and Brad Sikes).

¹² To describe a “typical” expenditure year, we used year 2 for both dental and medical expenses. The first year of each program has special start-up expenses. Years 3 and 4 have additional transportation costs associated with travel to Community Service Learning Centers for dental students. Year 4 has additional travel expenses for medical students for residency interviews. For medical students years 2 and 3 are only a few hundred dollars difference.

Enrollment data were matched with the appropriate costs of attendance expenditures.¹³ Tuition and fees were excluded because they went directly to the university and were included elsewhere.

We assume personal student spending occurs in Pitt County (direct effects). Their spending sparked reactions through the supply chain (indirect effects) and through household spending (induced effects). We report the increased personal income in the region, the increased value of output, and employment attributable to student spending. The impacts of student spending on personal income in the regional economies of North Carolina are reported in Table 16. An important consideration in this model setup is that we assume that all these expenditures were new dollars injected.¹⁴

Student spending was combined into room (448 tenant-occupied real estate), board (510 restaurants), retail spending (412 retail), and transportation (408 retail gas stores).¹⁵

Table 16: Economic Impacts on Personal Income Originating from Student Spending on the Regional Economies of North Carolina

	Direct (\$)	Indirect (\$)	Induced (\$)	Total (\$)
Pitt County	83,935,287	24,521,358	16,090,358	124,547,003
Local Area	-	3,228,961	1,731,307	4,960,268
Rest of Eastern NC	-	1,002,053	516,545	1,518,598
Rest of NC	-	4,583,592	2,272,603	6,856,195
TOTAL EASTERN NC	83,935,287	28,752,372	18,338,210	131,025,869
TOTAL NC	83,935,287	33,335,964	20,610,814	137,882,064

In Pitt County, spending by students increased personal income by \$124.5 million in Academic Year 23 (AY23). Most of the impacts from student spending were evident in Pitt County because that money was spent there. However, there were reverberating impacts through the supply chain and through household spending impacting regions beyond Pitt County. For example, the personal income for the local area, including ECU’s contiguous counties, increased by \$5 million; in the rest of eastern NC, income increased by \$1.5 million, and the rest of the state benefited from \$6.9 million in higher personal incomes. In total, the personal income in Eastern NC increased by \$131 million in AY23 due to student spending in Pitt County. In the state at large, personal income increased by \$137.9 million.

Another way to measure the economic impacts of student spending is to use output as the economic metric. Table 17 reports the impacts of student spending on the regional economies’ output in AY23.

The output in Pitt County increased by \$505.7 million as a result of the spending by students in the county. Across all the Eastern NC counties output increased by \$531.3 million. Output increased by \$554 million throughout all of North Carolina as a result of student spending.

¹³ Loan fees and insurance were also excluded because they do not represent local Pitt County expenditures. They are not reported in the table but are available upon request.

¹⁴ This assumption represents an upper-bound assumption on these estimates because it does not include substitution effect, meaning dollars spent in Pitt County that would have been spent in their home counties if they had not attended ECU. This assumption is consistent with the 2019 ECU Economic Impact Study.

¹⁵ Room and Board is split with 55% as room and 45% as board, consistent with the 2019 ECU Economic Impact Study.

**Table 17: Economic Impacts on Output Originating from Student Spending
on the Regional Economies of North Carolina**

	Direct (\$)	Indirect (\$)	Induced (\$)	Total (\$)
Pitt County	368,147,809	82,956,838	54,621,774	505,726,421
Local Area	-	12,368,785	6,421,029	18,789,814
Rest of Eastern NC	-	4,831,483	1,959,766	6,791,249
Rest of NC	-	15,490,740	7,198,166	22,688,907
TOTAL EASTERN NC	368,147,809	100,157,106	63,002,570	531,307,484
TOTAL NC	368,147,809	115,647,846	70,200,736	553,996,390

Spending by students in Pitt County supported employment in Pitt County and across the state’s regional economies. Employment effects are reported in Table 18.

**Table 18: Economic Impacts on Employment Originating from Student Spending
on the Regional Economies of North Carolina**

	Direct	Indirect	Induced	Total
Pitt County	2,618	446	356	3,420
Local Area	-	60	42	101
Rest of Eastern NC	-	21	13	34
Rest of NC	-	57	39	97
TOTAL EASTERN NC	2,618	527	411	3,556
TOTAL NC	2,618	584	450	3,653

There were 3,420 jobs supported in Pitt County from student spending. Across eastern NC, 3,556 jobs were supported; 3,653 jobs across the entire state were associated with ECU’s student spending.

A summary of the total economic impacts of student spending in Pitt on the regional economies is reported in Table 19. In total, spending by students increased personal income in Eastern NC by \$131 million, increased output by \$531.3 million, and supported 3,556 jobs in AY23. If we consider the impacts on the state rather than the eastern region, student spending increased personal income in the state by \$137.9 million, increased output by \$554 million, and supported 3,653 jobs.

**Table 19: Total Economic Impacts from Student Spending in Pitt County
on the Regional Economies of North Carolina**

	Total Income (\$)	Total Output (\$)	Total Employment (\$)
Pitt County	124,547,003	505,726,421	3,420
Local Area	4,960,268	18,789,814	101
Rest of Eastern NC	1,518,598	6,791,249	34
Rest of NC	6,856,195	22,688,907	97
TOTAL EASTERN NC	131,025,869	531,307,484	3,556
TOTAL NC	137,882,064	553,996,390	3,653

VISITOR INFORMATION

EVENT VISITORS

The university attracted visitors to the area to attend sporting events, arts events, graduations, campus tours, and orientations.¹⁶ As these visitors came to the area, they spent money on food, lodging, shopping, entertainment, and other purchases. In this study, we match visitor counts from university sources with visitor spending estimates reported in the 2022 North Carolina Visitor Profile.¹⁷

VISITORS

Visitor counts from each economic region are reported in Table 20.

Table 20: Visitors to Pitt County in Fall 2022, Spring 2023, and Summer 2023

	Pitt County	Local Area	Rest of Eastern NC	Rest of NC	Out of state	Annual Visitors
Athletics	217,378	22,256	16,406	26,998	200,953	483,991
Playhouse Arts	7,206	738	544	895	--	9,382
Orientation	699	635	1,057	4,626	769	7,035
Campus tours	717	681	1,064	9,491	3,657	15,611
Graduation ceremonies	1,042	947	1,576	6,896	1,146	11,608
Total	227,042	25,257	20,647	48,906	206,525	527,627

Data for athletics ticket sales and playhouse tickets were derived from ECU's Central Ticket Office pivot tables for the 2022-2023 season.¹⁸ Orientation data included 7,785 students and guests over the AY2022-23. There were 15,611 visitors who came for campus tours,¹⁹ and an estimated 11,608 visitors who came to graduation ceremonies (not including the graduates).²⁰ Orientation, tours, and graduation ceremony data were provided by the Office of Student Transitions and Office of Admissions.²¹ Visitors who were from the Pitt, local, or Eastern NC regions were assumed to be day visitors and NC and out-of-state visitors were assumed to be overnight visitors.²² This economic impact

¹⁶ Consistent with the previous study, we exclude visitor counts from events that were not university-sponsored even though they may have used university facilities. We did not include other visitor attractions to the campus such as summer camps and professional development programs.

¹⁷ We used the [2022 North Carolina Visitor Profile](#) which is a publication of Visit North Carolina, A Unit of the Economic Development Partnership of North Carolina (downloaded March 5, 2024).

¹⁸ These data were provided by Amanda Hudson as a pivot table from the Central Ticket Office. Athletic tickets include football, basketball, and baseball. Arts were counted as Playhouse tickets. For Athletics, the purchasers' city and state were linked, thus these ticket sales were distributed as out-of-state and within NC; cities were matched to the economic regions defined within this study. Playhouse ticket sales were not linked to purchaser location. We used the in-state proportions from athletics sales to assign regions to the Playhouse tickets.

¹⁹ Visitor data included campus tours, Open Houses, Admitted Students Days, and Academic Days. The total count was 17,345. We assume 90% of these are unique visitors (some people attend multiple events on a single visit). Of the 15,611 campus visitors, 3,657 are from out-of-state and 11,954 are from NC, based on the visitor data reported which included city and state for most of the visitors. We imputed 6.0% of the NC visitors were from Pitt, 5.7% were from the Local Region, 8.9% were from the ENC Region, and 79.4% are from the rest of NC.

²⁰ We have estimates of graduates at the university ceremonies for Fall 2022 and Spring 2023. We assume 2.5 visitors per graduate based on the average party size from the VisitNC North Carolina Visitor Profile.

²¹ Karen Smith was the contact in the Office of Student Transitions for both orientation and graduation counts.

²² Geographic distribution of the average Fall 2022 and Spring 2023 undergraduates was: Pitt 9.0%, local area 8.2%, rest of ENC 13.6%, rest of NC 59.4%, out of state 9.9%. The undergraduate geographic distribution was used to assign location sources for graduation guests and orientation visitors.

analysis is a replication of work conducted in 2019, one key difference in these two studies lies within the visitor impacts. In 2019, the study included over 640,000 patient referrals and the visitors associated with supporting those patients utilizing ECU medical services. This study does not include any visitor expenditures associated with medical services or patient care.

All these visitors spent money when they came to ECU. The North Carolina Visitor Profile reported expenditures by categories for day visitors and overnight visitors.²³ Because expenditures were different depending on day-only or overnight visitors, we assumed day-only statuses for visitors from relatively local geographic areas (Pitt County, Local Area, and Eastern NC). We assumed overnight stays for visitors from the rest of North Carolina and out of state. Visitor totals from Table 20 are combined with the expenditures listed below in Table 21 to estimate the total visitor spending by activity and by spending category.

Table 21: Per Capita Visitor Expenditures

	Day Trip Visitors (\$)	Overnight NC Visitors (\$)
Lodging	0	128
Food and Beverage	19	70
Transportation	23	46
Groceries	4	26
Miscellaneous Retail	33	52
TOTAL	79	322

ECONOMIC IMPACTS FOR VISITORS

Visitor spending measures were input as industry output by expenditure categories.²⁴ Visitor spending impacts are reported in Tables 22-25.

Table 22: Economic Impacts on Personal Income from Visitors to Pitt County on the Regional Economies of North Carolina

	Direct (\$)	Indirect (\$)	Induced (\$)	Total (\$)
Pitt County	22,060,511	6,986,630	4,131,727	33,178,868
Local Area	-	869,487	539,515	1,409,003
Rest of Eastern NC	-	235,333	150,929	386,262
Rest of NC	-	1,198,267	641,718	1,839,985
TOTAL EASTERN NC	22,060,511	8,091,450	4,822,171	34,974,133
TOTAL NC	22,060,511	9,289,717	5,463,889	36,814,118

Visitor spending in Pitt County increased personal income in the county by \$33.2 million. This spending reverberated through the economy through the supply chains (indirect effects) and through household spending (induced effects). In total, the visitor spending in Pitt County increased the personal income across Eastern North Carolina by \$35 million and across the whole state (including Eastern NC) by \$36.8 million.

²³ ASSUMPTIONS: NC visitor information is calculated by trip and party size. To convert group and trip totals to per capita spending the totals were divided by the average group size of 2.5. We removed casino spending. For modeling: lodging (507 hotels and motels), food and beverage (510 limited-service restaurants), groceries (406 retail food), transportation (408 retail gasoline), retail (412 retail miscellaneous).

²⁴ Visitor spending and student spending followed input guidance from Implan's *College: Analyzing a Public College using Industry Impact Analysis (Detailed)* ([link](#))

Table 23: Economic Impacts on Output from Visitors to Pitt County on the Regional Economies of North Carolina

	Direct (\$)	Indirect (\$)	Induced (\$)	Total (\$)
Pitt County	66,881,981	23,229,027	14,020,761	104,131,769
Local Area	-	3,175,345	2,001,374	5,176,719
Rest of Eastern NC	-	1,130,505	572,748	1,703,253
Rest of NC	-	3,882,039	2,032,319	5,914,358
TOTAL EASTERN NC	66,881,981	27,534,877	16,594,883	111,011,741
TOTAL NC	66,881,981	31,416,916	18,627,202	116,926,099

In Pitt County, the visitor spending increased output by \$104.1 million. The visitor spending in Pitt County was spread through supply chains and household purchases across the region, increasing output in eastern NC by \$111 million and across the state by \$117 million.

Table 24: Economic Impacts on Employment from Visitors to Pitt County on the Regional Economies of North Carolina

	Direct	Indirect	Induced	Total
Pitt County	737	135	91	962
Local Area	-	16	13	29
Rest of Eastern NC	-	5	4	9
Rest of NC	-	15	11	26
TOTAL EASTERN NC	737	156	108	1,000
TOTAL NC	737	171	119	1,026

If visitor spending is relatively stable over time, then the employment effects represented jobs consistently supported by visitors coming to Pitt County. In Pitt County, 962 full-time equivalent jobs were supported based on annual visitor expenditures; 1,000 across Eastern NC and 1,026 across the whole state in AY23.

In total, the visitors who come to Pitt County for various types of events positively impact the economy. The total of the impacts measured as income, output, and employment are reported in Table 25.

In total, the spending by visitors to ECU and Pitt County increased income in Eastern NC by \$35 million in AY2022-23. In the state at large, visitors increased total income by \$36.8 million. Output in Eastern NC was increased by \$111 million due to visitor spending to ECU and Pitt County and across NC output increased by \$116.9 million. Another way to quantify the economic impacts of visitor spending was to consider the number of jobs supported. The visitor spending supported 1,000 jobs in Eastern NC and a total of 1,026 jobs in NC. If the number of visitors is stable over time, these can be considered recurring impacts.

**Table 25: Total Economic Impacts from Visitor Spending in Pitt County
on the Regional Economies of North Carolina²⁵**

	Total Income	Total Output	Total Employment
Pitt County	33,178,868	104,131,769	962
Local Area	1,409,003	5,176,719	29
Rest of Eastern NC	386,262	1,703,253	9
Rest of NC	1,839,985	5,914,358	26
TOTAL EASTERN NC	34,974,133	111,011,741	1,000
TOTAL NC	36,814,118	116,926,099	1,026

²⁵ Because we assume these are all new injections into the economy, the resulting impacts are upper bounds of economic impacts from visitor spending. This study only includes visitors to athletics, arts, tours, orientations, graduations. The previous 2019 impact study include in- and out-patients, but those counts were not available.

**ALUMNI DIVIDEND EFFECTS:
IMPACTS FROM GAINS IN INCOME FROM EARNED DEGREES**

Each year, students enroll in the university to invest in their human capital. The degrees they receive from ECU increase their earning potential. In this section, we estimate the economic impacts of the increased earning potential from the degrees earned by the AY2022-23 graduates of ECU, which we call alumni dividend effects.

GRADUATES

To estimate the marginal contribution of graduates’ ECU degrees on their earnings, we use the difference in income earned associated with the degree awarded by ECU and the earnings from their previously earned degrees. To calculate the spending associated with degree attainment, we first identify the marginal degree awarded at ECU. For example, most of the bachelor’s degree recipients had previously earned high school degrees; however, some of them came to ECU with associate’s degrees (or other bachelor’s degree). We classify graduates into the following categories:

- High school degree to bachelor’s
- Associate’s degree to bachelor’s
- Bachelor’s to master’s/specialists
- Master’s to Ph.D.
- Bachelor’s to medical degree
- Bachelor’s to dental degree

To estimate the impacts of the degrees earned at ECU on the state of NC, we also need to know what percentage of the graduates remained in the state to work. The percentages of graduates who remain in NC after degree completion were retrieved from NC Tower.²⁶

Table 26: AY2022-23 Graduates (count) and Percent Who Stayed in NC

	Number of Graduates	% of Graduates who Stayed in NC
Bachelors and certificates ²⁷	4,887	77.3%
Masters	1,422	76.8%
Doctoral-research	87	54.5%
Doctoral-practice health and related	230	68.5% ²⁸

To calculate the count of graduates who stay in North Carolina after graduation, we multiply the number of graduates by the percentage who remain in North Carolina. However, this value does not include their regional location within the state. To allocate the graduates to labor forces across the regional economies in NC, we use the overall employment distribution by region which was calculated using county-level employment statistics for December 2022

²⁶ NC Tower site was used to determine the percent of graduates who remain in NC one year after graduation. The steps to get the data are: School/Program Outcomes → ECU → [Desired program] → [Desired degree] → run report. From the report screen, select “employment outcomes”.

²⁷ 80% of the bachelor’s degree recipients had a high school degree (this includes students who transferred to ECU without a degree earned); 20% of the bachelor’s degree recipients had an associate’s degree. The data was obtained by IPAR, degree by admission type.

²⁸ 42% medicine, 80% dentistry, 92% nursing and 85% physical therapy. The data was retrieved from NC Tower following the steps in footnote 26 using the last year of available data for each category (2020 or 2021). The codes and categories require doctoral degrees and are medicine (511201), dentistry (510401), nursing practice (513818) and physical therapy practice (512308).

reported by the Bureau of Labor Statistics.²⁹ County employment counts were aggregated into the regional employment counts, from which percentages of total employment by region were calculated. These percentages were applied to the graduates who stay in North Carolina totals to achieve an employment distribution of those graduates.

INCOME

To estimate the spending by graduates in their region of employment, we linked the additional-degree-earned at ECU upon graduation (Table 26) with the higher income associated with the additional degree. Earning by degree attainment (listed in Table 27) were collected from the Bureau of Labor Statistics.³⁰

Table 27: Earnings by Degree Attainment

Degree Attained	Annual Earnings
High School	\$44,356
Associate's Degree	\$52,260
Bachelor's Degree	\$74,464
Master's Degree	\$86,372
Doctoral Degree	\$108,316
Dental Degree	\$181,590
Medical Degree	\$217,200
Nursing Degree	\$93,785
Physical Therapy	\$84,300

²⁹ [BLS employment by county for NC](#)

³⁰ For undergraduate and graduate degree earnings were calculated as the difference between degree earned and earnings for prior degree held using data from the [BLS](#). BLS weekly earnings were converted to annual by multiplying by 52. For graduates with medical, dental, nursing, and physical therapy degrees, their earnings were collected from a more [job specific BLS site](#), as follows: dental graduate earnings are based on the onetonline category, *Dentist (General)*; medical graduates' earnings are from the *Family Medicine Physicians* category; nursing graduates are based on the average of *Clinical Nurse Specialists* and *Nurse Practitioners* (which may underestimate pay because other nurse specialists, such as nurse anesthetists, receive much higher salaries than the two included categories); physical therapy graduates are based on the *Physical Therapists* category.

Table 28: Marginal Increased Earnings by ECU Graduates by Region of Employment³¹

	Pitt (\$)	Local Area (\$)	Rest of ENC (\$)	Rest of NC (\$)	Eastern NC (\$)	NC (\$)
Bachelor with HS degree	\$1,601,424	\$2,929,878	\$5,432,104	\$81,026,607	\$9,963,406	\$90,990,013
Bachelor with Associate degree	\$295,254	\$540,181	\$1,001,515	\$14,938,843	\$1,836,949	\$16,775,793
Masters	\$228,882	\$418,751	\$776,379	\$11,580,667	\$1,424,012	\$13,004,679
Doctoral research	\$18,312	\$33,503	\$62,116	\$926,543	\$113,932	\$1,040,475
Doctoral medicine	\$82,133	\$150,266	\$278,598	\$4,155,642	\$510,997	\$4,666,639
Doctoral dentistry	\$73,908	\$135,219	\$250,701	\$3,739,512	\$459,828	\$4,199,339
Doctoral nursing	\$19,774	\$36,177	\$67,073	\$1,000,474	\$123,023	\$1,123,497
Doctoral physical therapy	\$6,046	\$11,061	\$20,508	\$305,896	\$37,614	\$343,510
Total	\$2,325,733	\$4,255,035	\$7,888,994	\$117,674,183	\$14,469,762	\$132,143,945

ECU degrees earned and employed graduates locating in each region increased the income earned by the graduates in those regions. For example, the graduate who stayed in Pitt County earned \$2.33 million in higher income than they would have earned without the degree. Using Implan, we estimate the economic impacts from their increased earnings on Pitt County, as well as spillover spending effects on the other regions. In Eastern NC, graduates earned incomes that were \$14.5 million higher than they would have been without the degrees. Across the state of NC, the incomes of graduates were \$132 million higher than they would have been without their ECU degree.

ECONOMIC IMPACTS FROM ALUMNI DIVIDENDS

The alumni dividend was the increase in earnings from the additional education and was modeled as payroll as was done with ECU payrolls. Pay gains were modeled in each of the four regions using labor income change in sector 5001 (employee compensation) within Implan.

The economic impacts, measured as personal income, output, and employment were tracked based on the graduates’ estimated higher level of income and distributed across the state based on NC’s employment distribution. These alumni dividends set off spending through the economy. Because the source of the impacts was from household spending, the impacts were all induced spending. The alumni dividend impacts on personal income are reported in

³¹ (# bachelors w/HS degree)(earning differential_{\$Bachelor-\$HS})(% stay in NC)(%employed by region_i)
 (# bachelors w/Assoc degree)(earning differential_{\$Bachelor-\$Associate})(% stay in NC)(%employed by region_i)
 (# Master’s degree)(earning differential_{\$Masters-\$Bachelor})(% stay in NC)(%employed by region_i)
 (# PhD_{research})(earning differential_{\$PhD-\$Masters})(% stay in NC)(%employed by region_i)
 (# MD_{medical})(earning differential_{\$MD-\$Bachelors})(% stay in NC)(%employed by region_i)
 (# DD_{dental})(earning differential_{\$DD-\$Bachelors})(% stay in NC)(% employed by region_i)
 (# DNP_{nursing})(earning differential_{\$DNP-\$Bachelors})(% stay in NC)(% employed by region_i)
 (# DPT_{physical therapy})(earning differential_{\$DPT-\$Bachelors})(% stay in NC)(% employed by region_i), where *i*=pitt, Local area, ENC, NC

Table 29.

Table 29: Economic Impacts on Personal Income from Alumni Dividends on the Regional Economies of North Carolina

	Total (\$)*
Pitt County	332,220
Local Area	430,873
Rest of Eastern NC	948,620
Rest of NC	31,431,512
TOTAL EASTERN NC	1,711,713
TOTAL NC	33,143,225
*There are no direct or indirect effects, thus total impact = induced impact	

Alumni dividends were spent across the state. These spending gains impacted the regions where the ECU graduates worked and had spillover effects on the other regions in the state. For example, in total, the spending from the ECU graduates who stayed in the state to work after graduation increased the personal income in Pitt County by \$332,220; this included the spending from graduates who located in Pitt County and the sum of spillover effects to Pitt County from graduates who located in other counties across NC. The total personal income impacts from graduates' earnings (reported in Table 29 above) does not include the income earned by the graduates directly (reported in Table 28 above); it includes the impacts from *spending* of the alumni dividends. Effectively, personal income increased by another \$14.5 million due to the higher earnings of ECU graduates in Eastern NC—a total of \$16.18 million.³² For the state of NC, personal income increased by \$33.14 million attributable to the spending of ECU graduates' additional income of \$132.1 million. Thus, the total of the graduate's income and the impact on their spending on personal income in NC is \$165.29 million.

Table 30: Economic Impacts on Output from Alumni Dividends on the Regional Economies of North Carolina

	Total (\$)*
Pitt County	1,127,727
Local Area	1,594,603
Rest of Eastern NC	3,582,658
Rest of NC	99,527,469
TOTAL EASTERN NC	6,304,988
TOTAL NC	105,832,457
*There are no direct or indirect effects, thus total impact = induced impact	

Alumni dividends from graduates who located across the state increased output in Eastern NC by \$6.3 million and output in the state by \$105.8 million.

³² This value and the following value of \$165.29 come from summing the graduates' income gains listed in Table 28 with the income effects sparked by their spending listed in Table 29.

**Table 31: Economic Impacts on Employment from Alumni Dividends
on the Regional Economies of North Carolina**

	Total*
Pitt County	7
Local Area	10
Rest of Eastern NC	23
Rest of NC	541
TOTAL EASTERN NC	41
TOTAL NC	582
*There are no direct or indirect effects, thus total impact = induced impact	

The alumni dividend spending supported 7 jobs in Pitt County, 41 jobs in eastern NC, and 582 jobs in North Carolina. These numbers do not include any change in employment due to the graduates directly; they only include employment supported by the spending of their higher incomes.

Students invested in their human capital by earning their degrees which increased their earning potential. We assumed that the ECU graduates who stayed in the state were dispersed across the economy based on the overall employment rates by region. As they locate in these regions, their alumni dividends were spent in the regional economies where they work. These spending impacts positively affected both their local economies and had spillover effects on the other regional economies. The total of the spending impacts and spillover impacts are reported in Table 32 (summary from Tables 29-31).

**Table 32: Total Economic Impacts from the Spending from Alumni Dividends
on the Regional Economies of North Carolina**

	Total Income (\$)	Total Output (\$)	Total Employment
Pitt County	332,220	1,127,727	7
Local Area	430,873	1,594,603	10
Rest of Eastern NC	948,620	3,582,658	23
Rest of NC	31,431,512	99,527,469	541
TOTAL EASTERN NC	1,711,713	6,304,988	41
TOTAL NC	33,143,225	105,832,457	582

Alumni dividends from AY2022-23 graduates reverberated through Eastern NC and increased total income by \$1.71 million, increased total output by \$6.3 million, and supported additional 41 jobs. In the state, the higher income earned by ECU graduates increased personal income of other households by \$33 million, increased state output by \$105.8 million, and supported 582 jobs.

SUMMARY

ECU impacts the local, regional, and state economies in many ways. This report tracks the economic impacts of spending associated with university operations, payroll, student spending, visitor spending, and alumni dividends. Operations, payroll, student and visitor spending occurred within Pitt County while alumni dividends occurred where graduates were employed.

These spending categories represented injections into the economy (direct effect) and set off additional spending through the supply chains (indirect effects) and through household spending (induced effects). In this study we quantify economic impacts in three ways: increased personal income, increased output, and increased employment.

By the degree to which the spending by the university, students, visitors, and graduates are consistent over time, the impacts reported below can be considered recurring annual impacts. In this case, we are tracking university operational and payroll spending over FY23 and event visitor and graduate spending over the AY2022-23.

Table 1 is repeated below to provide a summary of the economic impacts of the different university and university-related activities on the 29 counties of Eastern North Carolina.

Table 1 (repeat): Total Economic Impacts of East Carolina University on Eastern North Carolina in FY23

ENC	Total Income (\$)	Total Output (\$)	Total Employment
University Operations	717,713,733	1,462,522,699	22,130
Research Spending	44,220,220	125,935,403	617
Student Spending	131,025,869	531,307,484	3,556
Visitor Spending	34,974,133	111,011,741	1,000
Alumni Dividends	1,711,713	6,304,988	41
Capital Expenditures (non-recurring)	6,556,899	15,536,097	106
Total for FY23	936,202,567	2,252,618,412	27,450
Recurring Impacts	929,645,668	2,237,082,315	27,344

University operations increased personal income in Eastern NC by \$717.7 million, student spending increased personal income in the region by \$131 million. In total, across the different university and university-related activities, personal income in Eastern NC was higher by \$936 million. This value does not include the income earned by ECU graduates directly which would increase personal income gain to \$950.7 million.³³

Another way to quantify economic impacts is to consider the effects of these spending categories on the output or gross regional product of Eastern NC. For example, the university operations increased output in Eastern NC by \$1.46 billion. In total, output in Eastern NC was \$2.25 billion higher due to ECU's university and university-related activities.

The university directly created jobs through its hiring of employees. In addition, the spending of the university, its employees, students, visitors, and graduates also created and supported jobs across Eastern NC. For example, university operations supported 22,130 jobs. In Eastern NC, there were 27,450 jobs that were supported by ECU's operations, student and visitor spending, alumni dividends, and capital expenditures.

The university also positively impacted the whole state of North Carolina. Table 2 is repeated as a summary of the total economic impacts from the university and university-related expenditures on the State of North Carolina.

³³ This comes from adding the \$14,469,762 higher earnings from ECU graduates in Eastern NC (Table 28).

Table 2 (repeat): Total Economic Impacts of East Carolina University on North Carolina

NC	Total Income (\$)	Total Output (\$)	Total Employment
University Operations	736,295,278	1,523,408,021	22,599
Research Spending	47,822,126	135,892,139	665
Student Spending	137,882,064	553,996,390	3,653
Visitor Spending	36,814,118	116,926,099	1,026
Alumni Dividends	33,143,225	105,832,457	582
Capital Expenditures (non-recurring)	6,899,105	16,678,135	111
Total for FY23	998,855,916	2,452,733,241	28,636
Recurring Impacts	991,956,811	2,436,055,106	28,525

The university operations increased personal income in the state by \$736.3 million. Student spending increased NC’s personal income by \$137.9 million. In total, the State of NC’s personal income was \$999 million higher as a result of ECU operations, its visitors, and alumni dividends. If we include the additional earnings of the graduates, personal income in the state increased by \$1.13 billion.³⁴ North Carolina’s output or gross state product was \$2.45 billion higher as a result of ECU’s activities and spending by students, visitors, and graduates. Another way to quantify economic impacts is by the number of jobs supported annually. In total, 28,636 jobs were supported in NC in 2023 due to the operations, student and visitor spending, alumni dividends, and capital expenditures.

³⁴ This comes from adding the \$132,143,945 higher earnings from ECU graduates in NC (Table 28).