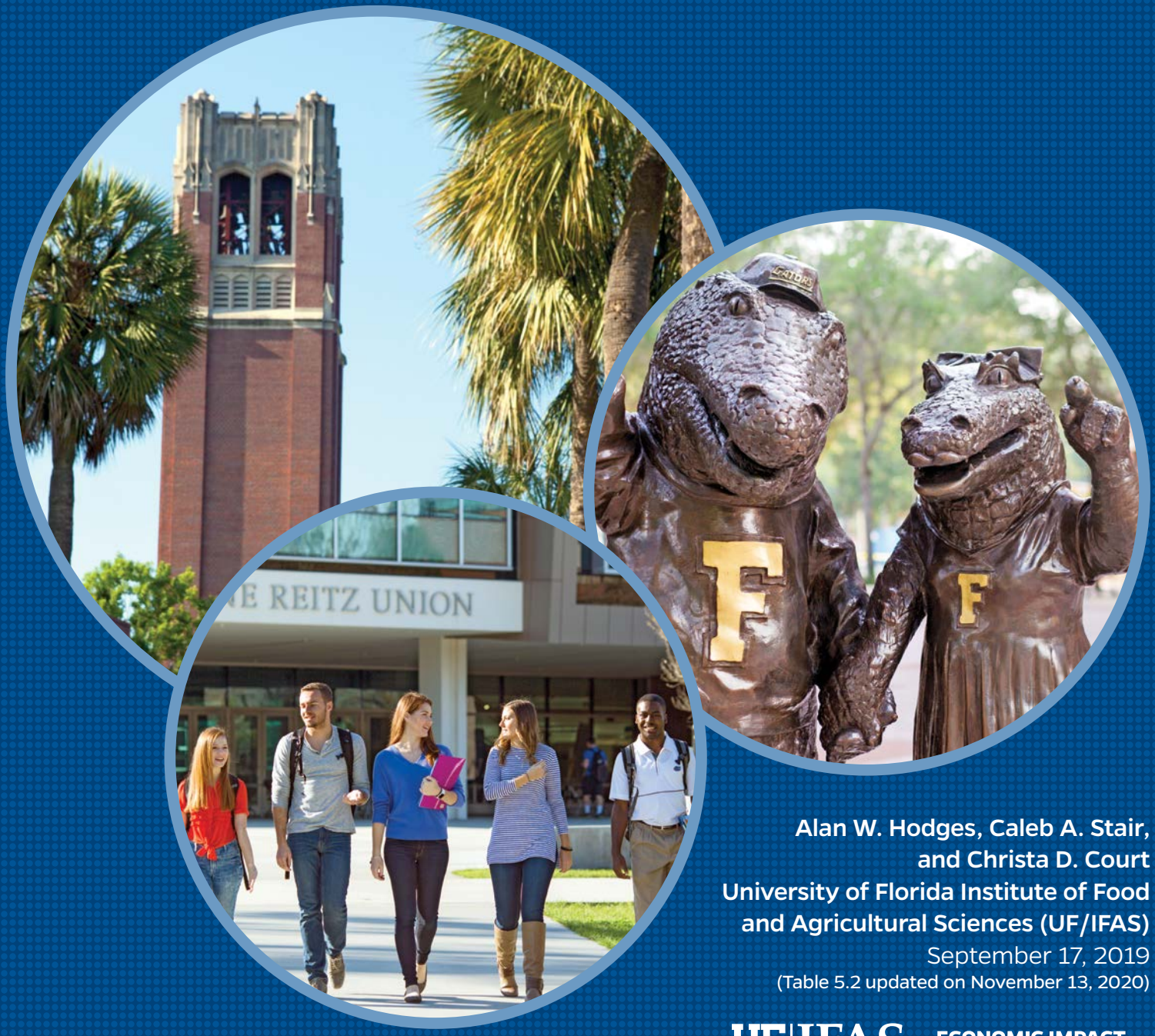
2017-2018

ECONOMIC CONTRIBUTIONS *of* THE UNIVERSITY OF FLORIDA *and* RELATED ENTITIES

Sponsored Project Report to the University of Florida Offices of Government and Community Relations and the Vice President for Research



Alan W. Hodges, Caleb A. Stair, and Christa D. Court
University of Florida Institute of Food and Agricultural Sciences (UF/IFAS)

September 17, 2019
(Table 5.2 updated on November 13, 2020)

UF IFAS UNIVERSITY of FLORIDA

ECONOMIC IMPACT ANALYSIS PROGRAM

fred.ifas.ufl.edu/economicimpactanalysis

Food and Resource Economics Department
Gainesville, Florida

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The University of Florida (UF) is one of the largest public universities in the United States and has operations throughout the State of Florida. The economic contributions of UF and related entities to the State of Florida and Alachua County, Florida were estimated for fiscal year 2017-18 using data on employment, revenues, and expenditures associated with university operations, construction, healthcare services and other direct-support organizations, student spending, visitor spending, and technology licensing companies, together with regional economic models that capture the direct, indirect, and induced multiplier effects of economic activity in the region.

A total of 55,862 undergraduate, graduate, and professional students were enrolled in the fall semester of 2017. There were 15,450 bachelor's, master's, doctoral, and professional degrees awarded by 16 colleges during the academic year. Total student spending in 2017-18 was $1.12 billion.

UF has 30 affiliated organizations (direct-support organizations) for grantmaking, healthcare, and other supporting services, with over 16,000 employees. There were 67 active companies licensing UF technologies in Florida with over 2,200 employees.

A total of 2.35 million visitor-days by nonaffiliated visitors (not students or staff) to UF for athletic, academic, and cultural events and healthcare services, with travel spending of $480 million.

Total revenues or applicable expenditures made within the state for UF and affiliated organizations were $8.98 billion, including $2.72 billion for university operations, $1.34 billion for technology licensing companies, $3.87 billion for healthcare and other direct-support organizations, $686 million for student spending, $306 million for campus visitor spending, and $50.1 million for construction (Table ES-1).

UF and related entities had direct employment of 65,323 jobs, and total employment contributions of 134,609 fulltime and part-time jobs in Florida including regional multiplier effects, which represented 1.1 percent of the state workforce in 2017 (Figure ES-2).

The total industry output or revenue contributions were estimated at $16.91 billion, including $5.25 billion for university operations, $8.25 billion for direct-support organizations, $2.47 billion for technology licensing companies located in the state, $562 million for visitors, $277 million for student spending, and $94 million for construction.

Table ES-1. *Summary of economic contributions of the University of Florida and affiliated entities in the State of Florida in 2017-18*

Entity	Value in-state	Output	Value added	Labor income	Property income	Business taxes	Employment
	Million Dollars						Jobs
University operations	2,723	5,250	3,926	2,847	913	167	70,370
Direct-Support organizations	3,873	8,254	4,744	3,289	1,198	256	47,237
Technology licensing companies	1,340	2,471	1,186	594	521	70	9,229
Visitor spending	306	562	328	167	122	39	4,782
Student spending	686	277	171	67	90	14	2,419
Construction	50	94	46	28	15	3	572
Total	**8,979**	**16,909**	**10,402**	**6,993**	**2,859**	**550**	**134,609**

Values in millions of 2017 dollars and employment represents fulltime and part-time jobs. Estimates include indirect and induced multiplier effects for the Florida regional economic model. Source: IMPLAN© software and data (IMPLAN Group, LLC, 2018).

Total value added contributions of $10.40 billion represented 1.1 percent of the Gross State Product (GSP) of Florida in 2017. Labor income contributions to employee compensation and proprietor income amounted to $6.99 billion, property income contributions were $2.86 billion, and business tax contributions to local, state and federal governments were $550 million.

In Alachua County, Florida, where the main UF campus is located, total economic contributions in 2017-18 were estimated at 93,764 jobs, $10.28 billion in industry output, and $6.46 billion in value added. These contributions represented 54 percent of total county employment, and 49 percent of county-level gross regional product (GRP) in 2017.

The estimated present value of increased lifetime earnings of UF graduates compared to high school graduates in Florida was $7.84 billion.

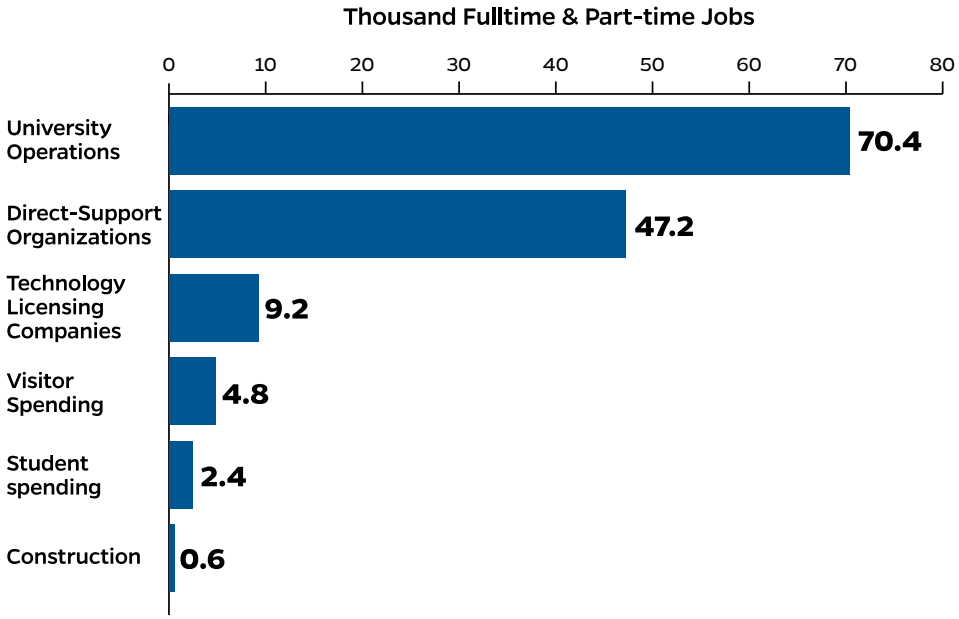


Figure ES-1. *Employment contributions of the University of Florida and affiliated entities in the State of Florida in 2017-18*

ACKNOWLEDGEMENTS

This study was commissioned by the University of Florida, Office of Government and Community Relations and the Office of the Vice President for Research. Valuable assistance and information used in preparation of this report was provided by the following persons:

- Mark Kaplan, Office of Government and Community Relations
- Jim O'Connell, Mark Long, and Patricia Reineke, UF Innovate
- Patrice Lecomte and James House, General Accounting and Financial Reporting
- Laura Huntley, Paul Lipori, and Alice Apathy, UF-Health
- Jay Jacobs, Steve McClain, and Alesha Busch, University Athletic Association
- James Haddix, College of Dentistry
- Laura Gruber and Rasa Williamson, College of Medicine
- Emely McKitrick, College of Pharmacy
- Brian Prindle and Lisa Stroud, Division of Sponsored Research
- Tami Wroath, Harn Museum of Art
- Brent Goodman, Human Resource Services
- Paul Ramey, Florida Museum of Natural History
- Kris Klann, New Student and Family Programs
- Erica Betz, Recruitment Services
- Jeremy Cynkar, Stephen C. O'Connell Center
- Andrew Campbell and Andrea Wherry, UF Distance and Continuing Education
- Susan Goffman, UF Foundation
- Beth Miller-Tipton, UF/IFAS Conferences and Institutes
- Brian Jose and Matt Cox, University Performing Arts

INTRODUCTION

The University of Florida (UF) traces its origins to several precursor institutions including the East Florida Seminary (Ocala, Florida – founded in 1853) and the Florida Agricultural College (Lake City, Florida – founded in 1884), which were consolidated and relocated to Gainesville, Florida in 1905 under the control of the State University System of Florida. Today, UF is one of the largest comprehensive public universities in the United States (U.S), with enrollment in excess of 50,000 students from throughout the U.S. and around the world. The University offers a broad array of educational programs in 16 academic colleges, with over 100 undergraduate majors, 200 graduate degrees, 30 training certificates, and 16 online degree programs. To date, the University has conferred over a half million degrees to students. The main campus in Gainesville has over 900 buildings on 2,000 acres. UF is one of two designated Land-Grant Universities in Florida, and the UF Institute of Food and Agricultural Sciences operates 12 Research and Education Centers, 6 Research and Demonstration Sites, and 3 4-H Camps throughout the state and Extension Offices in all 67 counties that provide a variety of public services (Figure 1.1). The University is affiliated with several hospitals and faculty clinics that provide healthcare services in Gainesville, Jacksonville, and Orlando. In addition, numerous direct-support organizations support the University mission through charitable giving and promotion of athletics. UF is a member of the prestigious Association of American Universities, a group of 62 elite public and private research universities in the U.S. It is consistently ranked as one of the best values in higher education in the U.S. due to its high educational standards and relatively low costs of attendance.

UF makes significant economic contributions to the State of Florida through its academic and physical operations, capital outlays, healthcare services, allied organizations, spending by students and visitors, and private companies licensing patented UF technologies. The purpose of this report is to provide an assessment of the economic contributions of UF to the State of Florida and Alachua County in fiscal year 2017-18 (July 2017 through June 2018), updating a previous study completed for fiscal year 2014-15[1]. Additionally, the increased lifetime earnings of UF graduates were estimated separately.

[1]Hodges, Alan W., M. Rahmani, and R. Clouser. Economic Contributions of the University of Florida and Related Entities in 2014-15. Economic Impact Analysis Program, University of Florida/IFAS, Food & Resource Economics Department, Gainesville, FL, May 2016. https://fred.ifas.ufl.edu/media/fredifasufledu/news/docs/Economic-Contributions-of-the-University-of-Florida-2014-15-5-26-16.pdf

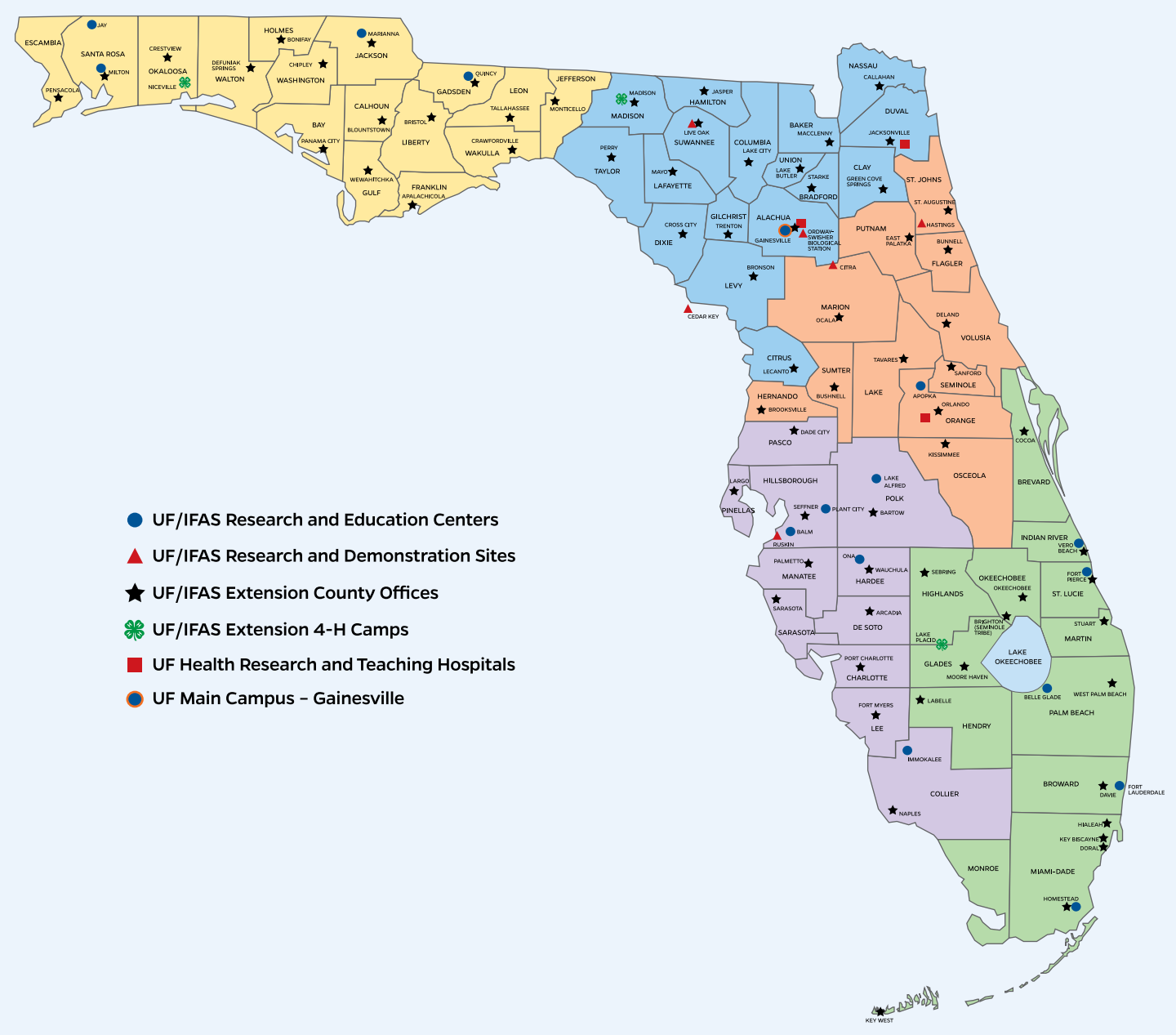


Figure 1.1. *Map of statewide locations of the University of Florida main campus, UF/IFAS and UF Health facilities.*
Source: Adapted from base map by UF/IFAS.

METHODS AND INFORMATION SOURCES

A number of recent studies by academic researchers and organizations have estimated economic impacts or contributions of universities (Parker Philips, 2018; Schultz, 2018; Allgrunn et al., 2016; Bowen and Meszaros, 2016; Hodges et al., 2016; Humphreys, 2016; CAI, 2015; EMSI, 2015; ESI, 2015; Hodges et al., 2012; Clinch, 2011). A critical review of the various methodological approaches of such studies was provided in Siegfried et al. (2007). Consequently, a set of guidelines for economic impact analysis applied to institutions of higher education was published by the Association of Public and Land-Grant Universities, which delineates the common pitfalls associated with such analyses and provides guidelines for more accurate and defensible estimates (Ambargis et al., 2014).

Economic *impacts* and *contributions* have distinct meanings and methods of estimation, however, these terms are often conflated and methodological descriptions for a particular study are not always clear enough to determine the assumptions used and their implications for interpretation of the results. Economic *impact* analysis aims to determine the change in overall economic activity resulting from new economic activity in the region in specific industries or sectors, while economic *contribution* analysis estimates the economy-wide effects of ongoing activity (IMPLAN Group, LLC, 2019; Watson et al., 2007). This study follows current best practices for economic contribution analysis of public university activities (Ambargis et al., 2014).

Total economic contributions were estimated using regional economic input-output models constructed with the IMPLAN© software and associated data representing the structure of the Florida economy in 2017 (IMPLAN Group, LLC, 2018). Models were created for the State of Florida and for Alachua County, Florida. UF has numerous locations statewide in addition to the main campus in Gainesville (Figure 1). This report employs a methodology akin to gross-base contribution analysis (IMPLAN Group, LLC, 2018), similar to the methodology proposed by Watson (2015).

IMPLAN© model data describe the mix of industries and institutions that make up the regional economy as well as the transactions that occur between industries, employees, households, and governments (Miller and Blair, 2009). IMPLAN© regional models account for industrial output, employment, value added, commodity production and consumption, personal income, household and institutional spending, domestic and foreign trade, wholesale, retail, and transportation margins, business inventories, capital investment, taxes, and transfer payments such as welfare and retirement pensions. IMPLAN© divides the regional economy into 536 industry sectors defined according to the North American Industrial Classification System (NAICS), as well as consumption spending profiles for nine household income categories. IMPLAN© and other regional input-output models enable the estimation of economic activity directly attributable to spending as well as economic multiplier effects representing the "ripple" effects of supply chain spending for input purchases (indirect effects), and household spending by employees (induced effects) within the regional economy.

Economic multipliers for each industry sector were used to estimate economic contributions, including output or revenue, employment (fulltime and part-time jobs), value added (Gross State Product), labor income (employee and proprietor salaries and benefits), other property income (rents, interest, dividends, royalties, etc.), and indirect business taxes to local, state and federal governments. Economic contributions were estimated for university operations, direct support organizations, technology licensing companies, student spending, visitor spending and construction. Care was taken to avoid double-counting certain expenditures by the university and students. Expenditures reported in purchaser prices were transformed to properly account for the producer value and transportation, wholesale, and retail margins. Total expenditures were adjusted to reflect the proportion made in the state or county using regional purchase coefficients (RPCs), which were estimated by the IMPLAN© software using a gravity model of trade flows, based on the balance of supply and demand in the state/county for each product or service. University operations expenditures for asset depreciation, real property purchases, interest payments, and certain transfers were excluded from the analysis because these items are transfers or non-cash expenses that do not generate economic activity. Expenditures by Florida resident students were not included since it is assumed that any increase in their daily spending is offset by a decrease in family spending (Cheney, 2018a). Known limitations of these assumptions are discussed in the conclusions section of this report. A glossary of input-output terminology and concepts is provided in Appendix A.

REVENUE, EXPENDITURE AND EMPLOYMENT DATA

Revenues and expenses for UF and affiliated organizations (direct-support organizations) in fiscal year 2017-18 are presented in Table 3.1. Total operating revenues for UF itself were $1.94 billion, operating expenses were $3.11 billion, net non-operating revenues were $1.15 billion, and other revenues, expenses, gains, or losses were $129 million. The largest operating and non-operating revenues to UF were for nongovernmental grants and contracts ($839 million), noncapital state appropriations ($766 million), student tuition and fees ($604 million), federal grants and contracts ($460 million), federal and state student financial aid ($208 million), and noncapital grants, contracts, and gifts ($126 million). Operating expenses for UF included employee compensation and benefits ($2.15 billion), services and supplies ($552 million), scholarships, fellowships, and waivers ($145 million), utilities and communications ($74 million), and depreciation ($138 million). Among UF affiliated organizations, operating and nonoperating revenues were $2.29 billion for Shands hospitals, $970 million for Health Science Center Affiliates, $513 million for the largest direct-support organizations, and $19 million for other minor component units. UF segment enterprises for parking services and residence halls had $84 million in operating and nonoperating revenues.

Consolidated expenditures for UF and revenues for affiliated organizations in 2017-18 that were used for the economic analysis are summarized in Table 3.2. Expenditures/income that occurred in state and were adjusted for margins totaled $9.20 billion, including $2.72 billion for UF operations, $3.87 billion for direct support organizations, $1.34 billion for technology licensing companies, and $50 million for UF construction. Within UF operations, expense items included employee compensation and benefits ($2.10 billion), services and supplies ($432 million), scholarships ($131 million), and utilities ($60 million). Among related entities, income was largest for hospitals and related entities ($2.29 billion), health science center affiliates ($980 million), and direct- support organizations ($513 million).

UF employed 46,805 people, including 31,120 fulltime equivalents for faculty, staff, and student positions. Academic colleges employed 34,858 people, including 7,608 in Medicine, 6,170 in the Institute for Food and Agricultural Sciences (IFAS), 5,183 in Liberal Arts and Sciences, and 3,817 in Engineering. Support departments employed 11,947 people, including 2,658 in the Office of Student Affairs, 903 in Physical Plant, 899 in Housing, and 708 in Information Technology (Table 3.3). UF employees received $1.69 billion in compensation. Component units had 16,195 employees, including 10,324 at Shands Teaching Hospital and Clinics in Gainesville, 4,012 at Shands Jacksonville Healthcare, 1,467 at UF Jacksonville Physicians, Inc., 351 at the University Athletic Association, 13 at Gator Boosters, Inc., and 28 at UF Self-insurance program.

Sponsored research funding to UF in 2017-18 totaled $751 million, with the largest share from federal agencies ($532 million), non-profit organizations ($86 million), private companies/corporations ($58 million) and Florida government agencies ($46 million), as shown in Table 3.4. The largest UF Colleges for research funding were Medicine ($269 million), Agriculture-Life Sciences ($151 million), Engineering ($84 million), and Liberal Arts and Sciences ($41 million), as shown in Table 3.5.

Construction project expenditures at UF in 2017-18 totaled $50.1 million, including both new construction of educational buildings ($34.4 million), and maintenance/repair construction of nonresidential structures ($10.9 million), as shown in Table 3.6.

Table 3.1. *Statement of income and expenses for the University of Florida and affiliated organizations, 2017-18*

Item	University of Florida	Direct-Support Organizations	Health Science Affiliates	Shands Hospital
	Thousand dollars			
Operating Revenues				
Student Tuition and Fees	603,859			
Scholarship Allowances	(208,007)			
Student Tuition and Fees, Net of Scholarship Allowances	395,852			
Federal Grants and Contracts	459,752			
State and Local Grants and Contracts	52,039			
Nongovernmental Grants and Contracts	839,154			
Sales and Services of Auxiliary Enterprises	129,994			
Sales and Services of Educational Departments	57,245			
Sales and Services of Component Units		199,634		
Hospital Revenues			872,399	2,180,891
Gifts and Donations - Component Units		102,915		
Royalties and Licensing Fees - Component Units		35,200		
Interest on Loans and Notes Receivable	1,194			
Other Operating Revenues	4,097	7,784	97,290	37,014
Total Operating Revenues	**1,939,327**	**345,533**	**969,689**	**2,217,905**
Operating Expenses				
Employee Compensation and Benefits	2,150,165	1,568	96,028	973,318
Services and Supplies	552,153	368,432	217,098	995,476
Utilities and Communications	73,636			
Scholarships, Fellowships, and Waivers, Net	144,627			
Depreciation	138,306	11,909	8,893	107,622
Self-Insured Claims and Expenses				8,734
Total Operating Expenses (Note 20)	**3,058,887**	**381,909**	**322,019**	**2,085,150**
Operating Income (Loss)	(1,119,560)	(36,376)	647,670	132,755
Non-operating Revenues (Expenses)				
State Noncapital Appropriations	766,103	8,000		7,050
Federal and State Student Financial Aid	208,173			
Noncapital Grants, Contracts, and Gifts	126,365			
Investment Income	59,848	148,581	1,125	43,738
Net Increase (Decrease) in the Fair Value of Investments	927	(3,996)	1,708	(2,209)
Investment Expenses	(4,624)	(392)	(892)	
Other Nonoperating Revenues	2,653	11,356		9,778
Gain (Loss) on Disposal of Capital Assets	(1,182)		634	8,218
Interest on Capital Asset-Related Debt	(6,771)	(2,003)		(26,080)
Other Nonoperating Expenses	(3,766)	(49,439)	(636,046)	(113,870)
Net Nonoperating Revenues (Expenses)	**1,147,726**	**112,107**	**(633,471)**	**(73,375)**
Income (Loss) Before Other Revenues	**28,166**	**75,731**	**14,199**	**59,380**
State Capital Appropriations	57,819			
Capital Grants, Contracts, and Donations	71,627			
Additions to Permanent Endowments	-	59,692		
Total Other Revenues, Expenses, Gains, or Losses	**129,446**	**59,692**		

Note: some small support organizations not included. Source: UF Annual Financial Statement.

Table 3.2. *Consolidated expenditures or income in-state and margined by the University of Florida and component units in 2017-18*

Entity / Category	Value	Value in-state, margined
	- - - - Million dollars - - - -	
University Operations	3,107.30	2,722.83
Asset purchases	48.41	0.88
Depreciation	138.31	
Employee compensation	2,098.60	2,098.57
Scholarships	144.63	130.67
Services and Supplies	603.71	432.37
Utilities	73.64	60.35
Component Units	3,873.38	3,873.38
Direct-support organizations	513.08	513.08
Health science center affiliates	980.10	980.10
Other minor component units	9.42	9.42
Shands Hospital and other UF-Health	2,286.69	2,286.69
UF segment enterprises	84.09	84.09

Table 3.3. *Employment and earnings for University of Florida colleges and support units in 2017-18*

University college or support entity	Number employees	Fulltime equivalents	Gross earnings (Million $)
Colleges	**34,858**	**23,757**	**1,417.10**
Business Administration	904	471	39.10
Liberal Arts and Sciences	5,183	2,937	121.13
Liberal Arts and Sciences – Fine Arts	948	476	18.54
Medicine	7,608	6,388	506.36
Dentistry	914	686	37.44
Design Construction Planning	527	317	15.15
Education	1,354	712	31.34
Engineering	3,817	2,079	97.11
Graduate School	55	35	2.05
Health & Human Performance	575	319	13.58
Health Affairs	298	282	18.86
Agriculture and Life Sciences (IFAS)	6,170	4,566	198.86
Shands Jacksonville	1,579	1,459	154.97
Journalism and Communication	841	372	16.64
Law	519	300	18.66
Military Units	9	5	0.16
Nursing	221	142	9.53
Pharmacy	1,060	597	34.34
Public Health Professions-Integ. Programs	196	143	8.69
Public Health and Health Professions	781	525	28.19
Veterinary Medicine	1,299	947	46.41

(Continued on next page)

Table 3.3 (continued). *Employment and earnings for University of Florida colleges and support units in 2017-18*

University college or support entity	Number employees	Fulltime equivalents	Gross earnings (Million $)
Support Units	**11,947**	**7,363**	**273.36**
Business Services	237	182	4.89
Chief Financial Officer	35	35	2.34
Division of Continuing Education	624	53	10.30
Emergency Management	2	2	0.17
Environmental Health and Safety	82	76	4.08
Facilities Planning & Construction	52	47	3.57
Finance & Accounting	182	169	7.49
Housing	899	648	15.54
Human Resources	374	285	8.20
Information Technology	708	600	30.41
International Center	141	52	2.72
Library	534	365	13.54
Natural History	486	320	12.91
O'Connell Center	711	299	1.86
Office of President	31	27	3.46
Office of Provost	292	179	8.21
Office of Student Affairs	2,658	923	18.82
Office of the Registrar	365	260	7.15
Physical Plant	903	896	30.96
Privacy Office	5	5	0.46
Reitz Union	413	236	3.93
Senior VP Administration	10	7	0.91
Small Business Vendor Relations	3	3	0.18
Sponsored Programs	721	563	28.39
Student Financial	205	131	3.09
Student Government	100	46	0.92
Student Health Care Center	232	207	8.16
University of Florida Press	41	38	1.40
University Police	160	152	8.06
University Relations	23	21	1.42
VP Business Affairs	30	18	1.14
VP Development	268	214	12.77
VP General Counsel	22	20	2.35
VP Governmental Relations	10	9	1.00
Whitney Labs	388	276	12.58
Total	**46,805**	**31,120**	**1,690.45**

Source: UF Office of Human Resource Services.

Table 3.4. *Sponsored research funding by sponsor type to the University of Florida in 2017-18*

Sponsor Category	Million dollars
Federal agencies	$532.0
Non-profit organizations	$85.7
Private corporations or companies for profit	$57.5
Florida government	$45.9
Florida regional government	$9.2
University of Florida Foundation	$5.8
UF Direct Support Organizations and Health Science Center affiliates	$5.7
Miscellaneous	$4.7
Non-Florida government	$4.3
Other universities	$0.5
Total	**$751.4**

Source: UF Division of Sponsored Research.

Table 3.5. *Sponsored research funding to University of Florida units in 2017-18*

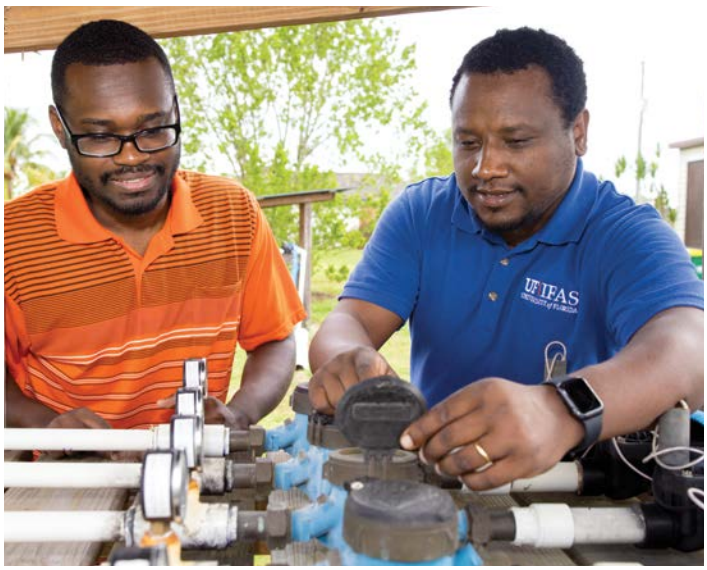
Units	Million dollars
Medicine	$268.6
Agriculture and Natural Resources	$150.5
Engineering	$84.2
Liberal Arts/Sciences	$40.6
Health Affairs	$27.0
Medicine Jacksonville	$26.9
Education	$24.1
Pharmacy	$19.2
Public Health Professions-Integ. Programs	$17.4
Veterinary Medicine	$17.1
Public Health and Health Professions	$16.3
Dentistry	$14.6
Office of Research	$8.5
Health and Human Performance	$7.8
Florida Museum Natural History	$6.8
Type One Centers	$6.5
Design, Construction and Planning	$4.7
Journalism and Communication	$3.1
Graduate School	$2.8
Nursing	$1.9
Office of Provost	$0.8
Business Administration	$0.5
University Libraries	$0.4
Arts	$0.3
International Center	$0.2
Division Continuing Education	$0.2
Total	**$751.4**

Source: UF Division of Sponsored Research.

Table 3.6. *Construction project spending at University of Florida in 2017-18*

IMPLAN© Industry Sector	Million dollars
55-Construction of new educational and vocational structures	34.4
57-Construction of new commercial structures, including farm structures	1.1
58-Construction of other new nonresidential structures	2.8
60-Construction of new multifamily residential structures	0.6
62-Maintenance and repair construction of nonresidential structures	10.9
64-Maintenance and repair construction of highways, streets, bridges, and tunnels	0.2
Total	**50.1**

Source: UF Finance and Accounting.



STUDENT ATTENDANCE AND SPENDING

UF student enrollment was 55,862 in the Fall 2017 semester, 53,598 in the Spring semester, and 32,970 in the Summer semester (Table 4.1). Some 43,534 students (77.9%) were Florida residents and 12,328 (22.1%) were non-residents.

Student expenditures for the 2017-18 academic year were calculated from cost of attendance data separately for different groups of students: resident, nonresident, and living on or off campus using average costs for fulltime undergraduate attendance (Table 4.2). The average cost per resident undergraduate student living on campus was $21,130, including tuition and fees ($6,380), room and board ($9,910), books and supplies ($1,210), transportation ($1,100), and other expenses ($2,530). Costs for nonresident undergraduate students on campus were the same except that tuition and fees were higher ($28,658).

Total UF student spending in 2017-18, not including tuition and on-campus housing, was $856 million, including $668 million for Florida residents and $188 million for nonresident students (Table 4.3). Expenses for tuition and fees paid by all students, and housing and food expenses by on-campus students were not considered for the economic analysis because this activity was accounted for in general university operations. Spending by nonresident students was treated as new final demand in the State of Florida, and subject to the full regional multiplier effects, however resident student spending was not considered, as per best practices guidelines (Cheney, 2018a).

Table 4.1. *Student enrollment at the University of Florida by semester in the 2017-18 academic year*

Student Type	Fall Semester	Spring Semester	Summer Semester
All students	55,862	53,598	32,970
Undergraduates	36,436	35,265	20,522
Graduate students	16,297	15,732	10,514
Unclassified students	3,129	2,601	1,934
Florida residents	43,534	41,769	25,694
Nonresidents	12,328	11,829	7,276
Living on campus	7,987	7,665	4,715

Sources: Board of Governors, State University System of Florida.

Table 4.2. *Cost of attendance to the University of Florida, by residency in the 2017-18 academic year*

Budget Item	Residents	Nonresidents
Tuition and fees	$6,380	$28,658
Books and supplies	$1,210	$1,210
Room and board	$9,910	$9,910
Transportation	$1,100	$1,100
Other Expenses	$2,530	$2,530
Total	**$21,130**	**$43,408**

Note: amounts are for fulltime attendance for Fall and Spring semester for undergraduate and graduate non-professional programs. Source: UF Office for Student Financial Affairs, http://www.sfa.ufl.edu/uf-online/cost-of-attendance.

Table 4.3. *University of Florida aggregate student expenditures in the 2017-18 academic year*

Budget Item	Resident students	Non-resident students	Total all students
	Million dollars		
Books and supplies	62.59	17.59	80.19
Other expenses	130.88	36.79	167.66
Room and board (off campus)	418.05	117.50	535.56
Transportation	56.90	15.99	72.90
Total	**668.42**	**187.88**	**856.30**

Note: amounts exclude tuition and on-campus housing.

VISITOR ATTENDANCE AND SPENDING

UF has a wide array of facilities that attract visitors for academic, cultural, and athletic events, while UF Health hospitals and clinics serve a large number of patients and accompanying family members.

A total of 2.94 million individuals visited UF educational, cultural, and healthcare venues in 2017-18 based on information provided by facility managers (Table 5.1). Attendance at academic and cultural venues totaled 690,575 visitors. UF Health clinics and hospitals in Gainesville and Jacksonville served 1.14 million inpatient admissions and outpatients. Major cultural venues included the Florida Museum of Natural History with 212,755 visitors, the Phillips Center for Performing Arts, University Auditorium, and Baughman Center (127,800), and the Harn Museum (90,666). The O'Connell Center had 169,896 visitors for non-athletic events. Continuing education events held by the Colleges of Medicine and Dentistry, UF Continuing Education, and UF/IFAS Conferences and Institutes had nearly 68,000 attendees. About 16,500 prospective students and accompanying family members visited the UF campus (Campus Preview) and over 5,000 employment recruiters visited UF for job fairs and student interviews.

UF is one of the premier institutions for collegiate athletics in the U.S., with national championships in many major sports. Attendance at UF home athletic events totaled 1.11 million, including men's sports of football (573,305, spring and fall games), baseball (165,551), and basketball (165,446). Women's sports attendance included volleyball (61,740), softball (55,608), gymnastics (41,518), basketball (25,755), soccer (7,987) and lacrosse (5,883). Men's and women's tennis had attendance of 3,650 and 2,854, respectively.

The share of visitors that were nonresidents was provided by some of the facility managers, and extrapolated for other venues. Each nonresident visitor was assumed to represent two visitor-days of spending, while each resident visitor was counted as one visitor-day. A total of 2.35 million visitor-days were estimated for all venues, including 851,754 for athletic events, 688,042 for academic/cultural events, and 814,096 for healthcare services.

Expenditures by UF visitors were estimated using average travel expense data for domestic travelers in Florida by *VISIT FLORIDA*, the quasi-official state tourism promotion organization, based on ongoing surveys conducted at points of entry. Expenditures averaged as $165 per person-day (in 2017 dollars), including lodging, food and beverage, entertainment, transportation (rental car, and other, excluding airfare), shopping, and miscellaneous other expenses. Total visitor spending in 2017-18 was estimated at $480 million, including $318 million by Florida residents and $162 million by nonresidents. Since this analysis is interested in gross contributions to the state economy, all visitor spending was considered applicable in the analysis (Table 5.2).

Table 5.1. *Attendance at University of Florida athletic, academic and cultural events and healthcare venues in 2017-18*

Event/Venue	Attendance	Nonresident share*	Total visitor-days
Athletic			
Baseball	165,551	6.0%	121,018
Men's basketball	165,446	7.0%	123,175
Women's basketball	25,755	5.0%	18,479
Football regular season games	520,290	12.0%	422,475
Football spring game	53,015	5.0%	38,038
Gymnastics	41,518	5.0%	29,789
Lacrosse	5,833	5.0%	4,185
Soccer	7,987	5.0%	5,731
Softball	55,608	5.0%	39,899
Men's tennis	3,650	5.0%	2,619
Women's tennis	2,854	5.0%	2,048
Volleyball	61,740	5.0%	44,298
Total athletic events	**1,109,247**	**13.1%**	**851,754**
Academic and cultural			
Florida Museum of Natural History	212,755	46.0%	270,412
Campus Preview	16,501	22.1%	15,649
Campus job recruiting	5,029	49.7%	6,643
Pharmacy cont. ed.	347	15.3%	297
Dentistry cont. ed.	1,047	16.7%	917
Medicine cont. ed.	52,319	15.0%	44,602
IFAS Conferences and Institutes	5,042	33.5%	5,560
UF Conferences	9,173	15.0%	7,820
O'Connell Center (non-athletic events)	169,896	15.0%	144,836
Harn Museum	90,666	22.8%	86,840
Performing Arts (Phillips Center, Univ. Auditorium, Baughman Center)	127,800	12.4%	104,467
Total academic and cultural events/venues	**690,575**		**688,042**
UF Health healthcare services			
Shands hospital-Gainesville	89,196	4.1%	62,914
UF Health Gainesville clinics	993,902	5.0%	713,125
Shands Jacksonville hospitals/clinics	56,214	2.0%	38,057
Total healthcare services	**1,139,312**		**814,096**
Total all events and venues	**2,939,134**		**2,353,892**

**Estimated 1 visitor-day for resident visitors, 2 visitor-days for nonresident visitors. Source: UF facility managers.*

Table 5.2. *Average travel spending per visitor-day and total spending by University of Florida visitors in 2017-18*

Item (industry)	Amount per person-day	Total expenditures (Million $)
Entertainment & recreation (amusement and recreation industries)	$20.70	$47.7
Food & Beverage (food stores)	$38.28	$88.1
Lodging (hotels)	$55.75	$128.3
Other expenses (gen. merchandise stores)	$4.53	$10.4
Shopping (gen. merchandise stores)	$19.73	$45.4
Airfare transportation	$59.85	$38.5
Other transportation-taxi, bus, gas, etc. (transit and ground passenger transportation)	$15.31	$35.2
Transportation - rental car (automotive equipment rental and leasing)	$37.42	$86.1
Total	**$168.66**	**$479.8**

Source: Visit Florida, Florida Visitor Study, 2015 and 2016. Spending amounts adjusted to 2017 dollars. Air travel expenses are for nonresident visitors only.

TECHNOLOGY LICENSING COMPANIES

UF has an active program for licensing of patented technologies developed by research faculty. In 2017-18, UF had active license agreements with 67 companies located in Florida, as shown in Appendix B and summarized in Table 6.1 by industry. Descriptions of the products or services of each company were obtained from company websites and industry databases. Technology licensing firms were classified under the appropriate industry sector within the IMPLAN© regional economic model. Direct employment of 2,263 positions was estimated for these companies, although employment information was not available for all firms. The largest industry sectors for technology licensing were surgical appliance and supplies manufacturing (838 jobs), pharmaceutical manufacturing (439 jobs), biological product manufacturing (306 direct jobs), environmental and other technical consulting services (260 jobs), and medicinal and botanical manufacturing (122 jobs). Total annual sales revenues for all companies were estimated at $1.34 million, based on the industry average output per employee in the regional economic model for the State of Florida. All employment and industry sales of the technology licensing companies were considered applicable in the economic analysis, since it was not possible to ascertain what portion of a company's revenue or employment were attributable to the use of UF technologies, therefore, estimated economic contributions may be overstated.

Table 6.1. *Summary of Florida companies licensing University of Florida technologies: number of firms and employment by industry sector, 2017-18*

IMPLAN© Industry Sector	Firms	Employment
164-Other basic inorganic chemical manufacturing	2	9
165-Other basic organic chemical manufacturing	1	7
166-Plastics material and resin manufacturing	1	1
168-Artificial and synthetic fibers and filaments manufacturing	1	
172-Pesticide and other agricultural chemical manufacturing	3	18
173-Medicinal and botanical manufacturing	8	122
174-Pharmaceutical preparation manufacturing	9	439
175-In-vitro diagnostic substance manufacturing	3	57
176-Biological product (except diagnostic) manufacturing	6	306
276-Heating equipment (except warm air furnaces) manufacturing	1	4
314-Electromedical and electrotherapeutic apparatus manufacturing	4	39
317-Industrial process variable instruments manufacturing	1	8
380-Surgical appliance and supplies manufacturing	2	838
449-Architectural, engineering, and related services	1	3
451-Custom computer programming services	3	46
455-Environmental and other technical consulting services	7	260
456-Scientific research and development services	10	83
479-Medical and diagnostic laboratories	4	23
Total	**67**	**2,263**

ECONOMIC CONTRIBUTIONS IN THE STATE OF FLORIDA

The estimated total economic contributions associated with UF and related entities in fiscal year 2017-18 are summarized in Tables 7.1, 7.2, and 7.3 and Figures 7.1 and 7.2. These estimates include the indirect and induced multiplier effects from the regional economic model for the State of Florida.

The total expenditures or revenues made within the State of Florida for all entities and activities in 2017-18 were estimated at $8.98 billion, including $2.72 billion for university operations, $3.87 billion for direct-support organizations, $1.34 billion for technology licensing companies, $686 million for student spending, $306 million for visitor spending, and $50 million for construction (Table 7.1).

Industry output or revenue contributions in the State of Florida from all UF-related activities were estimated at $16.91 billion, including $5.25 billion for UF operations, $8.25 billion for direct-support organizations, $2.47 billion for Florida technology licensing companies, $562 million for visitor spending, $277 million for student spending, and $94 million for construction outlays (Figure 7.1).

Value added represents labor income to individuals, business profits, other property-related income and business taxes, and is equivalent to Gross State Product (GSP) as a broad measure of net economic activity. The total value added contribution of UF and related entities was estimated at $10.40 billion in 2017-18, representing 1.1 percent of GSP in 2017. Among UF entities, value added contributions were $3.93 billion for UF operations, $4.74 billion for direct-support organizations, $1.19 billion for technology licensing companies, $328 million for visitor spending, $171 million for student spending, and $46 million for construction (Figure 7.1).

Employment contributions of UF and related entities totaled 134,609 fulltime and part-time jobs, which represented 1.1 percent of the state workforce in 2017. Direct employment in UF operations and indirect/induced employment generated by supply chain and employee expenditures accounted for 70,370 jobs, while activities associated with direct-support organizations accounted for 47,237 jobs. Other employment contributions were for technology licensing companies (9,229 jobs), visitor spending (4,782), student spending (2,419), and construction (572), as shown in Figure 7.2.

Labor income is a component of value added that represents all forms of employee compensation and benefits as well as self-employed (proprietor) income. Total labor income contributions to the State of Florida from UF and related entities was estimated at $6.99 billion, including $2.85 billion for UF operations, $3 billion for direct-support organizations, and $594 million for technology licensing (Table 7.1). Contributions to property income such as rents, royalties, interest, and dividends were estimated at $2.86 billion, including $913 million for UF operations, $1.20 billion for direct-support organizations, and $521 million for technology licensing companies. Business taxes on production and imports include sales, excise and fuel taxes, plus property taxes, fees and licenses paid to local, state, and federal governments, but do not include personal income taxes. A large share of business taxes are generated through sales taxes on retail purchases.

Table 7.1. *Summary of economic contributions of the University of Florida and related entities in the State of Florida in 2017-18*

Entity	Value In-State	Output	Value Added	Labor Income	Property Income	Business Taxes	Employment Jobs
	Million Dollars						
University operations	2,723	5,250	3,926	2,847	913	167	70,370
Direct-Support organizations	3,873	8,254	4,744	3,289	1,198	256	47,237
Technology licensing companies	1,340	2,471	1,186	594	521	70	9,229
Visitor spending	306	562	328	167	122	39	4,782
Student spending	686	277	171	67	90	14	2,419
Construction	50	94	46	28	15	3	572
Total	**8,979**	**16,909**	**10,402**	**6,993**	**2,859**	**550**	**134,609**

Values in millions of 2017 dollars. Employment represents fulltime and part-time jobs. Estimates include indirect and induced multiplier effects for the regional economic model. Source: IMPLAN© software and data (IMPLAN Group, LLC)

UF-related entities contributed an estimated $550 million in business taxes in 2017-18, including $167 million for UF operations, $256 million for direct-support organizations, $70 million for technology licensing companies, and $39 million for visitor spending.

Contribution results were also calculated by college and support units (Table 7.3). The largest colleges in terms of output and employment contributions to the State were Medicine ($1.37 billion, 13,190 jobs), Agriculture and Life Sciences or IFAS ($610 million, 8,862 jobs), and Liberal Arts and Sciences ($323 million, 6,525 jobs), while output and employment contributions for all support units were $1.13 billion and 17,500 jobs.

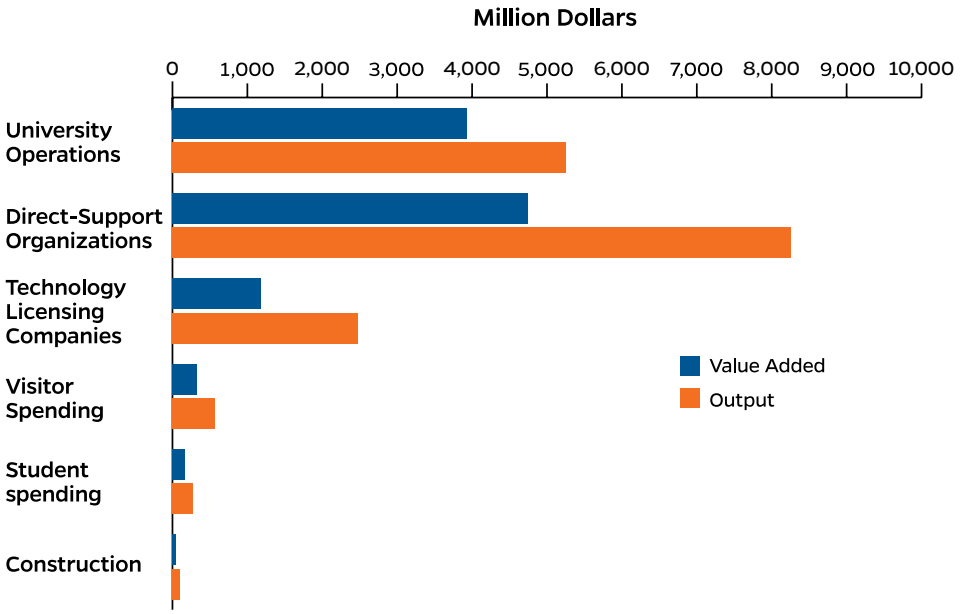


Figure 7.1. *Industry output and value-added contributions of the University of Florida and related entities in the State of Florida in 2017-18*

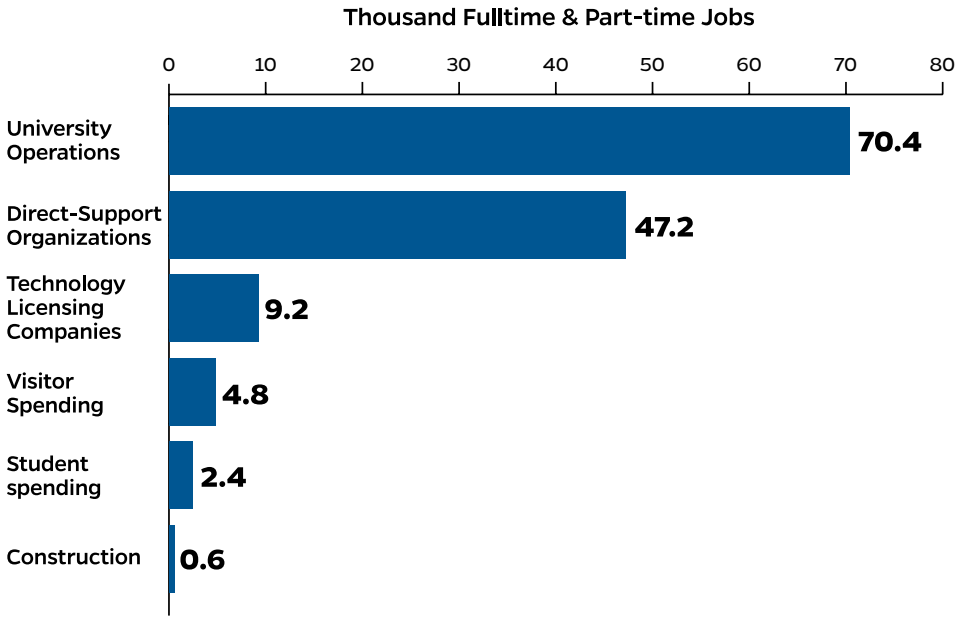


Figure 7.2. *Employment contributions of the University of Florida and related entities in the State of Florida in 2017-18*

Table 7.2. *Economic contributions for University of Florida operations categories and component units in the State of Florida in 2017-18*

Entity/Activity	Value in-state, margined	Output	Value Added	Labor Income	Property Income	Business Tax	Employment (Jobs)
	Million Dollars						
University Operations							
Employee Compensation	2,099	3,899	3,128	2,329	699	101	59,600
Services and Supplies	432	933	551	370	147	35	7,916
Scholarships	131	259	159	102	41	16	2,028
Asset Purchases	1	46	27	20	3	3	422
Utilities	60	114	61	26	23	12	404
Total	**2,723**	**5,250**	**3,926**	**2,847**	**913**	**167**	**70,370**
Component Units							
Shands Hospital and Others	2,287	4,967	2,719	1,923	643	153	33,184
Health Science Center Affiliates	980	2,162	1,322	1,023	230	69	9,807
Direct-Support Organizations	513	951	595	288	281	26	3,652
UF Segment Enterprises	84	157	97	49	40	7	534
Other Minor Component Units	9	17	11	5	5	0	59
Total	**3,873**	**8,254**	**4,744**	**3,289**	**1,198**	**256**	**47,237**

Table 7.3. *Economic contributions of University of Florida colleges and support units in the State of Florida in 2017-18*

College / Support Unit	Value in-state, margined	Output	Value Added	Labor Income	Property Income	Business Tax	Employment (Jobs)
	Million Dollars						
Colleges/Entities							
Medicine	723	1,372	1,048	770	241	38	13,190
Agriculture and Life Sciences (IFAS)	319	610	458	334	105	19	8,862
Liberal Arts and Sciences	170	323	249	184	56	9	6,525
Engineering	145	278	211	155	47	8	5,032
Shands Jacksonville	190	355	282	209	63	9	2,806
Veterinary Medicine	72	140	105	76	24	4	1,915
Education	53	104	76	55	17	3	1,853
Pharmacy	56	108	80	58	19	3	1,549
Dentistry	59	112	85	62	19	3	1,379
Business Administration	61	115	89	65	21	3	1,347
Health Affairs	73	138	107	79	24	4	1,232
Liberal Arts and Sciences – Fine Arts	31	59	43	31	10	2	1,210
Public Health and Health Professions	43	83	62	46	14	2	1,168
Journalism and Communication	25	47	36	26	8	1	1,029
Law	37	70	51	35	13	3	822
Health & Human Performance	21	41	31	22	7	1	772
Design Construction Planning	23	43	33	24	8	1	706
Public Health Professions – Integrated Programs	18	37	24	18	5	1	447
Nursing	14	27	21	15	5	1	326
Graduate School	8	15	11	8	2	1	172
Military Units	0	0	0	0	0	0	10
Total	**2,140**	**4,078**	**3,102**	**2,274**	**710**	**118**	**52,353**
Support Units							
Office of Student Affairs	30	60	42	29	11	2	2,912
Student Financial	199	356	231	118	77	36	1,940
Physical Plant	93	176	114	70	32	11	1,704
Housing	33	64	46	32	11	2	1,189
Sponsored Programs	45	85	65	47	15	3	1,084
Information Technology	39	76	60	45	13	2	1,029
Institutional	44	93	54	39	11	4	858
O'Connell Center	3	5	4	3	1	0	733
Library	21	42	32	23	8	1	717
Division of Continuing Education	6	11	8	5	2	0	680

(Continued on next page)

Table 7.3 (continued). *Economic contributions of University of Florida colleges and support units in the State of Florida in 2017-18*

College / Support Unit	Value in-state, margined	Output	Value Added	Labor Income	Property Income	Business Tax	Employment (Jobs)
	Million Dollars						
Whitney Labs	29	57	40	30	9	2	674
Natural History	20	38	29	21	7	1	651
Office of Provost	20	40	28	19	7	2	493
Business Services	22	44	29	19	8	1	493
Office of the Registrar	14	27	20	14	5	1	489
Reitz Union	7	13	10	7	2	0	477
Human Resources	12	24	18	13	4	1	469
VP Development	17	33	26	19	6	1	376
Student Health Care Center	12	25	19	14	4	1	334
University Police	12	23	18	13	4	1	253
International Center	4	8	6	5	1	0	172
Student Government	3	7	5	3	1	0	148
Environmental Health & Safety	6	12	9	6	2	0	127
Direct Support Organizations	5	11	7	5	1	0	103
University of Florida Press	4	8	5	3	1	0	81
Office of President	6	11	8	6	2	0	80
Facilities Planning & Construction	4	7	6	4	1	0	76
VP Governmental Relations	4	9	6	4	1	0	61
VP Business Affairs	3	5	4	3	1	0	58
VP General Counsel	4	8	6	4	1	0	53
University Relations	2	3	2	2	1	0	35
Senior VP Administration	1	3	2	2	0	0	21
Business & Economic Development	1	2	1	1	0	0	14
Privacy Office	1	2	1	1	0	0	12
Small Business Vendor Relations	0	1	0	0	0	0	5
Women's Athletics	0	1	0	0	0	0	5
Emergency Management	0	1	0	0	0	0	5
Contracts & Grants	0	0	0	0	0	0	4
Board of Trustees	0	0	0	0	0	0	3
Chief Financial Officer	1	2	1	1	0	0	-7
Institutional Activities	-25	-49	-34	-27	-6	-2	-395
Finance & Accounting	-123	-215	-129	-50	-50	-29	-619
Total	**582**	**1,126**	**798**	**553**	**199**	**46**	**17,595**

Source: UF Finance and Accounting.

ECONOMIC CONTRIBUTIONS IN ALACHUA COUNTY, FLORIDA

Economic contributions of UF and related entities within Alachua County, Florida, the location of the main campus in Gainesville, were estimated using adjusted employment and spending data to account for activities occurring within Alachua County. Faculty and staff employees and compensation were deducted for UF/IFAS Research and Education Centers and county extension offices, UF-Health Shands hospitals and clinics in Jacksonville, and other minor units located outside of the county. An IMPLAN© regional economic model for Alachua County was created to provide regional economic multipliers and RPCs specifically for the county.

Economic contributions of UF and related entities in Alachua County are summarized in Table 8.1. Total expenditures or revenues made within the county adjusted for margins in 2017-18 were estimated at $6.94 billion. Total industry output contributions in the county were $10.28 billion, including $3.78 billion for UF operations, $4.71 billion for direct-support organizations, $1.30 billion for technology licensing companies, $255 million for visitor spending, $164 million for student spending, and $67 million for construction. Total employment contributions of UF in Alachua County totaled 93,764 fulltime and part-time jobs, which represented 54 percent of the county workforce in 2017, and value added contributions in the county were $6.46 billion, representing 49 percent of county-level GRP in 2017.

Table 8.1. *Summary of economic contributions of the University of Florida and related entities in Alachua County, Florida in 2017-18*

Entity	Value in-county margined	Industry Output	Value Added	Labor Income	Property Income	Business Taxes	Employment (Jobs)
	Million dollars						
University operations	2,368.0	3,777.9	2,884.1	2,115.4	647.8	121.0	59,264
Direct-support organizations	2,860.8	4,711.1	2,698.9	1,867.7	694.0	137.2	25,345
Technology licensing companies	989.7	1,303.4	608.5	291.1	286.3	31.2	4,624
Visitor spending	170.1	255.0	135.9	59.6	54.4	21.8	2,678
Student spending	507.8	164.0	106.9	30.7	67.4	8.8	1,418
Construction	45.2	67.2	29.6	17.2	10.7	1.6	435
Total	**6,941.5**	**10,278.7**	**6,463.9**	**4,381.7**	**1,760.6**	**321.6**	**93,764**

Values in millions of 2017 dollars. Estimates include indirect and induced multiplier effects. Source: IMPLAN© software and data (IMPLAN Group, LLC).

COMPARISON OF STATEWIDE ECONOMIC CONTRIBUTIONS IN 2014-15 AND 2017-18

A variety of issues complicate the comparison of the values estimated in this study with those of the previous study for 2014-15. Several of these differences were described in the methodology section and reflect changes in best practices. For example, this analysis only considered nonresident student spending to reflect a change APLU guidelines. Finally, regional economic multipliers for some key industry sectors evaluated may have changed over time.

Economic contributions for UF and related entities in fiscal year 2017-18 were compared to results from a previous study for 2014-15, with values for the earlier period adjusted for inflation to express in constant dollar terms. Between 2014-15 and 2017-18, overall applicable expenditures or revenues in-state increased by 27.6 percent, and estimated output contributions increased 28.2 percent, value added increased 26.5 percent, labor income increased 25.5 percent, property income increased 32.3 percent, business tax contributions increased 18.6 percent, and employment decreased 0.7 percent, as shown in Table 9.1. Contributions from visitor spending increased substantially for output (96.1%) and employment (61.8%), and contributions from direct support organizations also increased sharply for output (61.5%) and employment (38.1%). Output and employment contributions decreased for student spending (-66.7%, -70.7%), and construction (-82.2%, -83.2%). University operations had a increase in output contributions (29.8%) but a decrease in employment contributions (-7.6%).

Table 9.1. *Percent change in economic contributions of the University of Florida and related entities in fiscal year 2017-18 compared to 2014-15*

Entity	Value In-State Margined	Industry Output	Value Added	Labor Income	Property Income	Business Tax	Employment
University operations	-0.3%	29.8%	23.8%	20.0%	31.8%	55.6%	-7.6%
Direct-Support organizations	81.7%	61.5%	57.7%	57.9%	61.1%	41.5%	38.1%
Technology licensing companies	40.4%	3.7%	9.5%	-3.1%	35.9%	-18.3%	-13.0%
Visitor spending	15.1%	96.1%	88.6%	63.3%	144.9%	78.7%	61.8%
Student spending	-2.0%	-66.7%	-67.0%	-74.6%	-56.4%	-70.3%	-70.7%
Construction	-80.2%	-82.2%	-82.5%	-82.1%	-82.6%	-85.6%	-83.2%
All entities	27.6%	28.2%	26.5%	25.0%	32.3%	18.6%	-0.7%

LIFETIME EARNINGS OF UNIVERSITY OF FLORIDA GRADUATES

The economic contribution of UF to human capital formation was measured in terms of the lifetime earnings of UF graduates compared to the same-age cohort of high school graduates. A total of 15,450 degrees were awarded by UF in 2017-18, including 9,114 Bachelor's degrees, 4,305 Master's degrees, 1,053 professional degrees, and 978 doctorate degrees (Table 10.1). The mean starting salaries for UF graduates in 2017 were $50,720 for Bachelor's degrees, $70,292 for Master's degrees, and $69,948 for professional and doctorate degrees combined, based on surveys conducted by the Florida Department of Education-Florida Education and Training Placement Information Program (FETPIP) (Table 10.1). UF graduate starting salaries were significantly higher than equivalent average earnings for students graduating with a high school diploma ($24,284).

Table 10.1. *Degrees awarded by the University of Florida in academic year 2017-18 and average annual starting salaries of graduates*

Degree	Number	Average salary
Bachelors	9,114	$50,720
Masters	4,305	$70,292
Professional	1,053	$69,948
Doctorate	978	$69,948
Total	**15,450**	

Source: Florida SUS Board of Governors and Florida Department of Education, FETPIP.

Mean annual earnings by age and education in the United States in 2017 are shown in Figure 10.1. Data for each degree type show a similar trend over time, initially increasing through mid-life and eventually declining. Trend lines estimated for each degree program were used to project the respective salaries of UF graduates in five-year time intervals (Table 10.2). The lifetime earnings analysis estimated the net present value (NPV) of increased lifetime earnings for university graduates in comparison to high school graduates up to age 65. It was assumed that high school graduates enter the labor market at 18 years of age, Bachelor's degree recipients at 22 years, Master's at 24 years and both doctoral and professional degree students at 25 years. The NPV of the average lifetime earnings differential was computed using an annual discount factor of 5 percent, and expanded to reflect the total number of UF graduates in 2017-18.

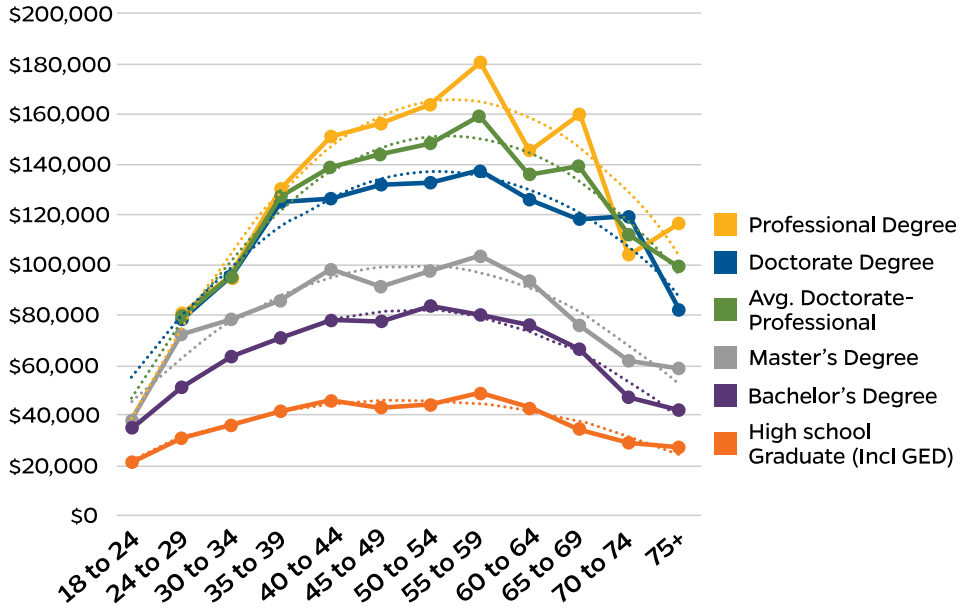


Figure 10.1. *Mean annual earnings of graduates by age and education level in the U.S., 2017. Note: Dotted lines represent fitted equations for each degree type (2nd order polynomial). Source: U.S. Census Bureau, Current Population Survey, 2018 Annual Social and Economic Supplement.*

Over the assumed working lifetime period, the total aggregate NPV of lifetime earnings differential for all degrees at UF was $7.84 billion, including $4.29 billion for Bachelor's degree graduates, $2.09 billion for Master's degree graduates, and $1.46 billion for doctorate/professional degree graduates (Table 10.4).

Table 10.2. *Projected mean annual earnings for 2017-18 University of Florida graduates and Florida high school graduates, by degree and age*

Age (Years)	High school	Bachelors	Masters	Doctorate-Professional
18 to 24	$24,284	$50,720		
25 to 29	$31,957	$65,765	$70,292	$69,948
30 to 34	$38,131	$77,872	$84,229	$94,959
35 to 39	$42,806	$87,043	$94,833	$114,835
40 to 44	$45,982	$93,276	$102,103	$129,577
45 to 49	$47,659	$96,573	$106,041	$139,183
50 to 54	$47,837	$96,932	$106,645	$143,655
55 to 59	$46,516	$94,355	$103,916	$142,992
60 to 64	$43,697	$88,840	$97,854	$137,194
65 to 69	$39,378	$80,389	$88,458	$126,262
70 to 74	$33,561	$69,000	$75,730	$110,194
75+	$26,245	$54,675	$59,668	$88,992

Table 10.3. *Aggregate net present value of lifetime earnings differential for University of Florida graduates compared to high school graduates in 2017-18*

Degree	Aggregate Net Present Value (Million $)
Bachelors	$4,293
Masters	$2,085
Doctorate/Professional	$1,463
Total	**$7,841**

Values in 2017 dollars.

REFERENCES

Allgrunn, M., T. Letellier, and J. Clauson. The Economic Impact of the South Dakota Public University System. South Dakota Chamber of Commerce & Industry, 2016. https://www.sdbor.edu/mediapubs/Documents/EconImpact2016.pdf

Ambargis, Z., C.I. Mean, S.J. Rzeznik, D. Swenson, and J. Weisenberger. Economic Engagement Framework: Economic Impact Guidelines. Association of American Universities, December 2014. https://eric.ed.gov/?id=ED555635

Bowen, E. & J. Meszaros. The Economic Impact of Public Institutions of Higher Education in West Virginia. Bureau of Business and Economic Research, 2016. http://busecon.wvu.edu/bber/pdfs/BBER-2016-04.pdf

Cheney, P. Considerations of College Impacts. IMPLAN Group, LLC, 2018a. https://IMPLANhelp.zendesk.com/hc/en-us/articles/115009713328-CONSIDERATIONS-OF-COLLEGE-IMPACTS

Cheney, P. Case Study 11: Impacts of a Public College. IMPLAN© Group, LLC, 2018b, https://IMPLANhelp.zendesk.com/hc/en-us/articles/115009542387-CASE-STUDY-11-IMPACTS-OF-A-PUBLIC-COLLEGE

Clinch, R. The Economic Impact of the University System of Maryland: A Fiscal Perspective. The Jacob France Institute University of Baltimore, 2011, https://www.usmd.edu/newsroom/docs/USMEconomicImpact_final-1.pdf

Community Attributes INC. (CAI). Washington State University Economic Reach and Impact. Washington State University. 2015. https://economicdevelopment.wsu.edu/documents/2015/06/wsu-economic-impact.pdf/

Economic Modeling Specialists International (EMSI), Demonstrating the Collective Economic Value of the University of North Carolina System. Economic Modeling Specialists International, 2015.

Econsult Solutions, Inc (ESI). IMPACT: University of Pennsylvania. Penn Office of the Executive Vice President. 2015. http://www.evp.upenn.edu/pdf/Penn_Economic_Impact_Powering_PHL_PA.pdf

Florida Department of Education, Florida Education and Training Placement Information Program (FETPIP) Division of Accountability, Research and Measurement; State Annual Outcomes Report, data for fall 2017-18; University Reports at http: //www.fldoe.org/fetpip/sus.asp; high school data for 2017-18 retrieved from http://www.fldoe.org/accountability/fl-edu-training-placement-info-program/initial-quarterly-earnings.stml

Hodges, A.W., J. Harrington, M. Rahmani, M, Niekus, R. Clouser, N. James, and J. Alvarez. Economic Contributions of the State University System of Florida in 2014-15. Sponsored Project Report to the Board of Governors of the State University System of Florida, 45 pages, April 2016. https://cefa.fsu.edu/sites/g/files/imported/storage/original/application/5d4b762de630408b3d85be3b878e43e4.pdf

Hodges, A.W., M. Rahmani and R.L. Clouser. Economic Contributions of the University of Florida in 2014-15. Sponsored project report to the University of Florida, Office of University Relations, 45 pages, March 2015. https://fred.ifas.ufl.edu/pdf/Extension/EconomicContributionsUniversityOfFloridaMay2016.pdf

Hodges, A.W., T. Stevens, R. Clouser, J. Harrington, M. Niekus, and K. Baker. Economic Contributions of the State University System of Florida in Fiscal Year 2009-10. Sponsored project report to the State University System Board of Governors, University of Florida-IFAS, Food and Resource Economics Department, and Florida State University-Center for Economic Forecasting and Analysis, 55 pages, March 2012, http://www.fred.ifas.ufl.edu/pdf/economic-impact-analysis/SUS-of-Florida-FY-2009-10.pdf

Hodges, A.W., T.J. Stevens and M. Rahmani. Economic Impacts of the University of Florida in 2009-10. Sponsored project report to the University of Florida, Office of University Relations, 24 pages, March 2011, https://fred.ifas.ufl.edu/economicimpactanalysis/publications/

Humphreys, J. The Economic Impact of University System of Georgia Institutions on their Regional Economies in FY 2015. Selig Center for Economic Growth, Terry College of Business, University of Georgia, 2016. https://www.usg.edu/assets/economic_development/documents/USG_Impact_20152.pdf

IMPLAN Group, LLC. Economic Impact, Economic Contribution, and Export Base. IMPLAN Group, LLC., 2019. https://IMPLANhelp.zendesk.com/hc/en-us/articles/360008185474-Economic-Impact-Economic-Contribution-and-Export-Base

IMPLAN Group, LLC. IMPLAN© Impact Analysis and Social Accounting Software, version 3, and 2017 state and county model data for Florida. Huntersville, NC, 2018, www.IMPLAN.com

Miller, Ronald E. and Peter D. Blair. Input-Output Analysis: Foundations and Extensions. 2nd edition, Cambridge University Press, 750 pages, May 2009.

Parker Philips. Minnesota State: Driving Economic and Social Vitality across Minnesota. 2018. http://www.minnstate.edu/IMPACT/docs/EconomicContributionAnalysis.pdf

Schultz, L. The Economic Impact of the State University of New York. Rockefeller Institute of Government. 2018. https://rockinst.org/wp-content/uploads/2018/11/11-1-18-BTN-SUNY-Drives-NYS-Economic-Engine.pdf

Siegfried, J.J., A.R. Sanderson, and P. McHenry. The economic impact of colleges and universities. Economics of Education Review 26(5), 546-558, 2007, https://www.sciencedirect.com/science/article/pii/S0272775706001464

U.S. Bureau of Census. Educational attainment--people 18 years old and over, by total money earnings, work experience, age, race, Hispanic origin, and sex, table PINC-04, 2017, https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-pinc/pinc-04.html

Watson, P.J., D. Wilson, D. Thilmany and S. Winter. Determining economic contributions and impacts: what is the difference and why do we care? Journal of Regional Analysis and Policy 37 (2): 140-146, 2007. http://www.jrap-journal.org/pastvolumes/2000/v37/F37-2-6.pdf

APPENDIX A: GLOSSARY OF REGIONAL ECONOMIC ANALYSIS TERMS

Contribution (economic) represents the value of economic activity supported by an existing industry within a regional economy. Total contributions include regional multiplier effects.

Employee compensation is comprised of wages, salaries, commissions, and benefits such as health and life insurance, retirement and other forms of cash or non-cash compensation.

Employment is a measure of the number of jobs involved, including fulltime, part-time and seasonal positions. It is not a measure of fulltime equivalents (FTE).

Exports are sales of goods to customers outside the region in which they are produced, which represents a net inflow of money to the region. This also applies to sales of services to customers visiting from other regions.

Final Demand represents sales to final consumers, including households and governments, and exports from the region.

Gross Regional Product is a measure of total economic activity in a region, or total income generated by all goods and services. It represents the sum of total value added by all industries in that region, and is equivalent to Gross Domestic Product for the nation or Gross State Product for a state.

IMPLAN© is a computer-based input-output modeling system that enables users to create regional economic models and multipliers for any region consisting of one or more counties or states in the U.S. The current version of the IMPLAN© software, version 3, accounts for commodity production and consumption for 440 industry sectors, 10 household income levels, taxes to local/state and federal governments, capital investment, imports and exports, transfer payments, and business inventories. Regional datasets for individual counties or states are purchased separately.

Imports are purchases of goods and services originating outside the region of analysis.

Income is the money earned within the region from production and sales. Total income includes labor income such as wages, salaries, employee benefits and business proprietor income, plus other property income.

Indirect business taxes are taxes paid to governments by individuals or businesses for property, excise and sales taxes but do not include income taxes.

Input-Output (I-O) model and Social Accounting Matrix (SAM) is a representation of the transactions between industry sectors within a region that captures what each sector purchases from every other sector in order to produce its output of goods or services. Using such a model, flows of economic activity associated with any change in spending may be traced backwards through the supply chain.

Intermediate sales are sales to other industrial sectors. The value of intermediate sales is netted-out of Total Value Added.

Local refers to good and services that are sourced from within the region, which may be defined as a county, multi-county cluster, or state. Non-local refers to economic activity originating outside the region.

Margins represent the portion of the purchaser price accruing to the retailer, wholesaler, and producer/manufacturer, in the supply chain. Typically, only the retail margins of many goods purchased by consumers accrue to the local region, as the wholesaler, shipper, and manufacturer often lie outside the local area.

Multipliers capture the total effects, both direct and secondary, in a given region, generally as a ratio of the total change in economic activity in the region relative to the direct change. Multipliers are derived from an I-O model of the regional economy. Multipliers may be expressed as ratios of sales, income, or employment, or as ratios of total income or employment changes relative to direct sales. Multipliers express the degree of interdependency between sectors in

a region's economy and therefore vary considerably across regions and sectors. **A sector-specific multiplier** gives the total changes to the economy associated with a unit change in output or employment in a given sector (i.e. the **direct economic effect**) being evaluated. **Indirect effects multipliers** represent the changes in sales, income, or employment within the region in backward-linked industries supplying goods and services to businesses (e.g., increased sales in input supply firms resulting from more industry sales in the directly affected industry). **Induced effects multipliers** represent the increased sales within the region from household spending of the income earned in the direct and supporting industries for housing, utilities, food, etc. An **imputed multiplier** is calculated as the ratio of the total impact divided by direct effect for any given measure (e.g. output, employment).

Other property income represents income received from investments, such as corporate dividends, royalties, property rentals, or interest on loans.

Output is the dollar value of a good or service produced or sold, and is equivalent to sales revenues plus changes in business inventories.

Output-consumption ratio is the total industry output divided by the apparent consumption, for any given commodity or industry, and is a measure of the degree to which local demands are met by local production.

Producer prices are the prices paid for goods at the factory or point of production. For manufactured goods the purchaser price equals the producer price plus a retail margin, a wholesale margin, and a transportation margin. For services, the producer and purchaser prices are equivalent.

Proprietor income is income received by non-incorporated private business owners or self-employed individuals.

Purchaser prices are the prices paid by the final consumer of a good or service.

Region defines the geographic area for which impacts are estimated, usually an aggregation of several counties defined on the basis of worker commuting patterns.

Sector is an individual industry or group of industries that produce similar products or services, or have similar production processes. Sectors are classified according to the North American Industrial Classification System (NAICS).

Value Added is a broad measure of income, representing the sum of employee compensation, proprietor income, other property income, indirect business taxes and capital consumption (depreciation). Value added is the basis for calculation of Gross Domestic Product, and is a commonly used measure of the contribution an industry to regional economy because it avoids double counting of intermediate sales.

APPENDIX B: FLORIDA COMPANIES LICENSING UNIVERSITY OF FLORIDA TECHNOLOGIES

Company name	Location(s)	Employees	Product or service
Aavet Therapeutics	Alachua FL	3	biotechnology
Advtravl, Inc.	Ocala FL		apparatus for facilitation of probabilistic selling
AlfaChemInvent	Alachua FL	2	contract research and manufacturing of novel organic compounds and drugs
AlphaChem	Alachua FL, Mississauga Ontario	5	laboratory and industrial chemicals
AP LifeSciences, LLC	Gainesville FL	5	oxolate detection
Apollidon	Oldsmar FL	4	online program management for STEM graduate programs
Applied Genetic Technology Corporation (AGTC)	Alachua FL, Cambridge MA	80	treatment for rare inherited eye conditions
Avekshan	Alachua FL	3	treatment for ADHD
AxoGen	Alachua FL, Tampa, Burleson TX, Vandalia OH, Dayton OH	275	peripheral nerve repair
Banyan Biomakers	Alachua FL, San Diego CA	34	blood test for traumatic brain injury
BIKAM	Alachua FL		drugs for degenerative diseases of the eye
BioEnergy International	Alachua FL, Stockholm Sweden, Quincy MA	7	renewable biochemicals and biofuels
BioInfoExperts	Alachua, FL	5	genomic analysis and sequencing
BioRegency	Alachua FL	1	biomarkers of Liver Ischemic Injury
Bit Caldron	Gainesville FL	6	wireless virtual audio file technology
Brio Ventures DBA CancerPOP	Alachua FL	3	cancer assessment
Captozyme	Gainesville FL	20	therapeutic enzyme-based products for health
Cool Flow Dynamics, Inc.	Sarasota FL	5	energy efficiency, aerodynamic design for trucks
Curtiss Healthcare	Alachua, FL	17	vaccine technology
EcoArray	Alachua FL	4	clinical laboratory testing services
Encor	Gainesville FL	5	antibody reagents.
Entrinsic Health Solutions	Alachua, FL	14	amino acid technology to address critical digestive and hydration related health concerns
EriVan Bio	Alachua FL	2	exosomes for biopharmaceuticals
eTect	Newberry FL	3	medication adherence monitoring
Florida Insect Control Group, LLC	Gainesville FL		insect control
FLUCEL	Alachua FL	2	quadrivalent vaccines
GeneAidyx, LLC	Gainesville FL	9	Alpha-1 detection
GenoMechanix	Gainesville FL	16	support for research and drug discovery
GenomeGyde	Alachua FL	2	genomics


UF IFAS

Company name	Location(s)	Employees	Product or service
Green Liquid & Gas	Gainesville FL	4	biofuel pyrolysis technology
Innovative Space Technologies LLC	Orlando FL	3	aerospace engineering
IPG	Gainesville	5	crop improvement and pathogen control
iviGene	Alachua FL	5	technologies related to infectious diseases
Lacerta Therapeutics	Alachua, FL	12	adeno-associated virus vector gene therapeutics
Medosome	Alachua FL	3	nuteric product taken orally to target calcium receptors in the intestine
MLM Biologics	Alachua FL	4	wound healing materials
Morphogenesis	Tampa FL	20	novel cell and gene therapies
Myolyn, LLC	Gainesville FL	23	functional electrical stimulation
NanoPhotonica	Orlando FL	8	nanomaterial quantum dot digital displays
NxtGen Nano, Inc.	Palm Beach FL		nano fibers
OBMedical Company	Newberry FL	11	fetal patient monitoring systems
Oceanyx Pharmaceuticals, Inc.	Alachua FL	2	aprotoxin
Ology (previously Nanotherapeutics)	Alachua, FL	160	pharmaceutical development and manufacturing
OneVax	Alachua FL	7	vaccines, time release drug delivery
OraGenics	Alachua FL	6	antibiotics targeting infectious diseases, and probiotics
Pasteuria	Alachua FL	13	plant-parasitic nematode control
peerFit	Gainesville FL	36	corporate fitness programs
Pheronym	Alachua FL	4	nematode pheromones
Praesidio	Alachua FL, UK	1	cyber security
Prevacus	Tallahassee FL	5	treatment for concussions
Prometheon Pharma, LLC	Gainesville FL	6	biopolymer for topical drug delivery
RAPiD Genomics, LLC	Gainesville FL	12	agribusiness applied genomics
ReliOx Corporation	Alachua FL	4	chlorine dioxide on-demand generators
Respitrend	Gainesville FL	2	blood glucose and propofol monitoring technology
RTI Surgical	Alachua FL, Marquette MI, Minnetonka MN, Deerfield IL, Greenville NC, Austin TX, Brand Germany	749	biologic, metal and synthetic surgical implants
Satlantis, LLC	Gainesville FL, Spain	16	spaceflight payload technology
SharpSpring, LLC nka SMTP	Gainesville FL	185	marketing automation
Signum Biosciences	Alachua FL, Monmouth Junction NJ	2	therapeutic drugs
Soil Culture Solutions, LLC (dba Soilcea)	Palmetto FL	6	resolving citrus canker


EVOS FL

Company name	Location(s)	Employees	Product or service
Structured Monitoring Products, Inc.	Orlando FL	6	low radar for detection of cardiopulmonary motion
Sun BioPharma, Inc.	Ponte Vedra Beach FL, Minnesota	258	small molecule pharmaceuticals for oncology
TAO Connect, Inc.	Gainesville FL	28	online therapy assistance
TearClear Corp.	Alachua FL	6	ophthalmic pharmaceuticals
True Motion Spine	Gainesville FL	89	cervical and lumbar prosthetic disc replacements
U.S. Bioplastics, Inc.	Winter Park FL	1	bioplastic resins
Verigo	Gainesville FL	25	cold chain monitoring
Xhale Diagnostics	Gainesville FL	4	breath-based devices to detect substances in the blood

UF IFAS
UNIVERSITY of FLORIDA

ECONOMIC IMPACT
ANALYSIS PROGRAM

fred.ifas.ufl.edu/economicimpactanalysis

Food and Resource Economics Department
Gainesville, Florida

On the cover: *Century Tower (top circle), J. Wayne Reitz Union (bottom circle), and Albert and Alberta statue in front of Emerson Alumni Hall (middle circle) in Gainesville, FL. Photos courtesy of UF/IFAS*