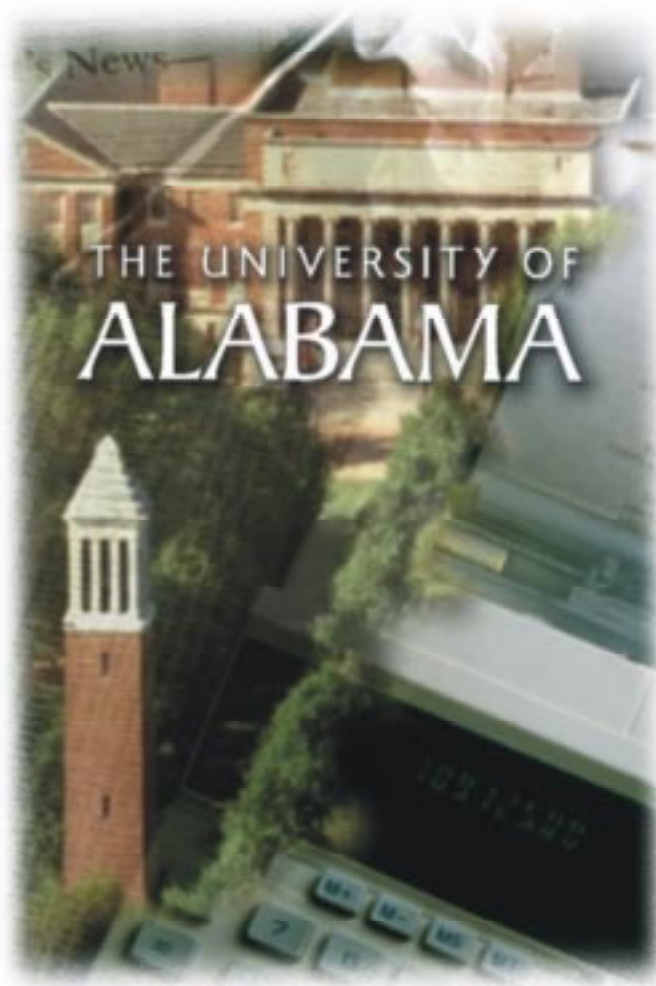


The University of Alabama 1999-2000 Economic Impacts

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This report presents the economic impacts of The University of Alabama (UA) on Tuscaloosa County and the State of Alabama. Both expenditure and employment impacts are presented. UA education is an investment by both the state and the students. Thus, public and private investment analyses of UA education are also presented. The analyses show that both types of investment are worthwhile.

The University provides numerous benefits that have lasting impacts on the general public and its graduates through its teaching, research, and service activities. UA generates jobs and yields large tax revenues. Other benefits include the attraction of business and industry to the region and state, the provision of assistance with business creation and growth, and the promotion of innovation. The University improves workforce skills and the general quality of life in Tuscaloosa County, the state, and the nation. Graduates' learning abilities and intellectual growth are enhanced, enabling them to earn high incomes, and contribute significantly in various ways to society. The higher incomes result in more tax revenues for the state and other tax jurisdictions. UA has an extensive outreach program and links with communities, business, industry, and government, through which it is involved in economic development and social programs at the community, region, and state levels.

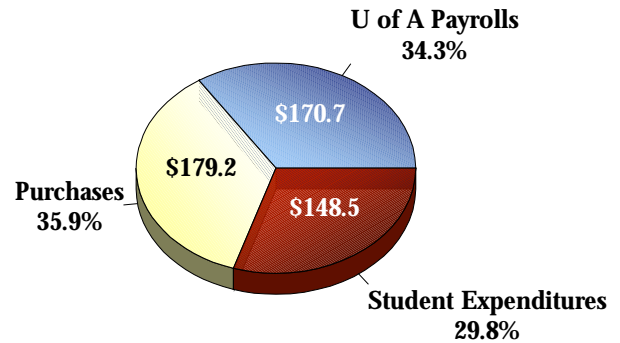


Total UA expenditure for 1999-2000 is \$498.5 million. The University spent almost \$350.0 million on payroll and purchases, and students spent \$148.5 million on off-campus housing, food, books, clothing, etc. State appropriations of \$119.1 million in 2000 represents 32.7 percent of UA revenues, but only 23.9 percent of total UA expenditure for the year. UA research grants and awards increased to \$71.6 million from \$67.0 million the previous year. The research awards component grew by 9.7 percent to \$35.8 million.

Visitors to the University make local expenditures in addition to the above-mentioned \$498.5 million. Football alone has a visitor expenditure impact of about \$10.6 million per game. UA visitors include athletic event spectators, visiting parents and relatives, visiting academic personnel, business representatives, and others. Visitors are drawn to activities such as honors day, commencement ceremonies, homecoming, band competitions, alumni weekends and reunions, etc. Academic and business visitors attend conferences, seminars, lectures, and other educational programs. Other business visitors include media representatives, educational officials, vendors, research sponsors, and candidates for faculty and staff positions.

The direct UA expenditure generates more rounds of spending in the county and the state that are captured by multipliers determined from the Regional Input-Output Modeling System (RIMS II). RIMS II is an input-output model developed and maintained by the U.S. Department of Commerce's Bureau of Economic Analysis. The model is available for every state in the nation, and also for

Direct Expenditures of The University of Alabama, 1999-2000



Source: Center for Business and Economic Research, Culverhouse College of Commerce, The University of Alabama.

UA Research Grants and Awards 2000

Total = \$71.6 Million

Research Awards = \$35.8 Million

Source: Center for Business and Economic Research, Culverhouse College of Commerce, The University of Alabama.



many counties. An economic model that uses RIMS II multipliers for Tuscaloosa County and the State of Alabama was developed and used in this study.

UA Economic Impacts on Tuscaloosa County

A portion of the total \$498.5 million UA expenditure in 2000 went to vendors outside Tuscaloosa County. About 40 percent of purchases were made to such vendors, and 10 percent of payroll was to employees who live outside the county. Adjusting for leakages out of the county and taxes, UA expenditures in Tuscaloosa County totaled \$375.6 million.

This results in an expenditure impact of \$688.5 million.

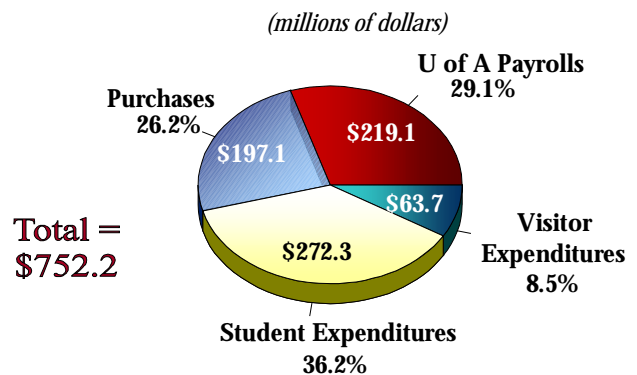
An additional visitor expenditure impact of \$63.7 million is estimated, comprising \$46.5 million from athletics and \$17.2 million from other visitor expenditures. Football alone has a visitor expenditure impact of \$42.2 million from the four-game season, at about \$10.6 million per game. Basketball, baseball, gymnastics, swimming, etc. are estimated to have a \$4.2 million expenditure impact.

Total UA expenditure impact on Tuscaloosa County in 2000 is \$752.2 million (Table 1). This expenditure impact is estimated to generate Tuscaloosa County and city sales tax revenues of approximately \$19.1 million. The University of Alabama employed 3,477 full-time, 587 part-time, and 2,436 student workers in the year. The UA employment is equivalent to 4,379 full-time workers, and results in an employment impact of 6,160 jobs on Tuscaloosa County.

Economic Impact of Visitors

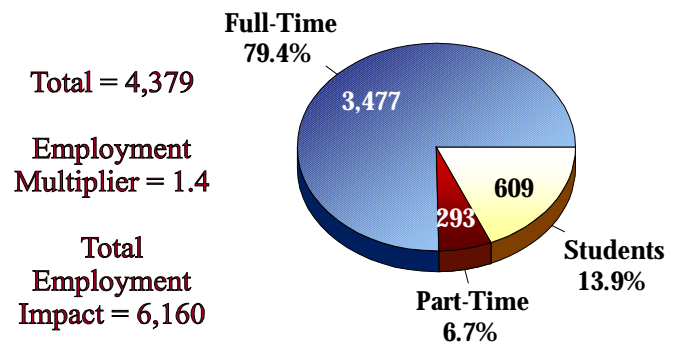
Football	
Stadium Capacity	83,818
Total Impact Per Game	\$10.6 million
4 Game Season	\$42.2 Million
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Basketball, Baseball, Gymnastics Swimming and other	\$4.2 million
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Total Athletics	\$46.5 million
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Other Visitor Impact	\$17.2 million
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Total Visitor Impact	\$63.7 million

Total Economic Impact of The University of Alabama On Tuscaloosa County, 1999-2000



Source: Center for Business and Economic Research, Culverhouse College of Commerce, The University of Alabama.

Employment Impact of The University of Alabama, 1999-2000 Full Time Equivalent



Source: Center for Business and Economic Research, Culverhouse College of Commerce, The University of Alabama.

UA Economic Impacts on Alabama

The economic impacts of UA on the state in 2000 are \$1,101.5 million and 7,047 jobs (Table 2). The \$1.1 billion expenditure impact is generated from \$441.3 million direct in-state expenditures and a visitor impact of \$110.4 million. The expenditure impact is estimated to have generated state sales and income tax revenues of approximately \$41.2 million. Two home games played in Birmingham and larger state multipliers are primarily responsible for state impacts that are greater than the county impacts. The larger multipliers derive from the fact that there are more rounds of spending in the larger geographical area of the state.

The preceding paragraph's UA impacts on the state are only part of what the state gets in return for state appropriations of \$119.1 million. Many public benefits of education are hard to measure—innovation promotion, both direct and indirect new business development and job creation, general improvements in the quality of life, some public service, etc.—but others such as additional tax receipts can be measured. These tax revenues are the main measurable benefits the state derives from making the appropriation. UA education from a state investment perspective is considered for the Class of 2000 assuming that 30 percent of the class will reside permanently out of state, and also that state sales and income tax rates remain unchanged. Historically, about two-thirds of UA active alumni reside in Alabama, but there are increasingly more opportunities for college graduates in the state than in the past.

Total Impact of The University of Alabama on Alabama 2000

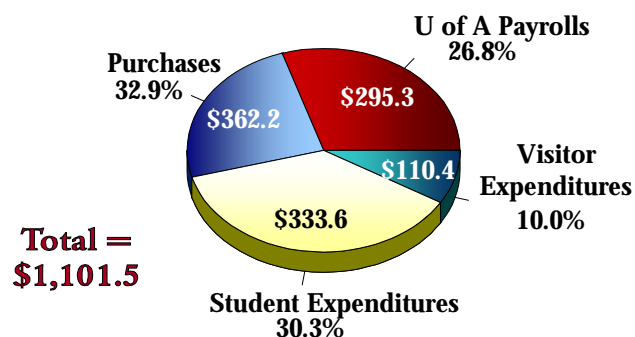
\$1,101.5 Million

7,047 Jobs

Source: Center for Business and Economic Research, Culverhouse College of Commerce, The University of Alabama.

Total Economic Impact of The University of Alabama on Alabama 2000

(millions of dollars)



Source: Center for Business and Economic Research, Culverhouse College of Commerce, The University of Alabama.

Return on Investment to State of Alabama (Class of 2000)

	Millions of Dollars
2000 State Appropriations to UA	\$119.1
Less Direct Taxes from 2000 UA Expenditure	19.7
Net Investment by State	99.4
Working Life Tax Collections	415.2
Annual Rate of Return on Appropriations from Class Lifetime Tax Collections	6.1%

Source: Center for Business and Economic Research, Culverhouse College of Commerce, The University of Alabama.

The \$119.1 million state funding in 2000 is offset in the same year by \$19.1 million direct sales and income taxes generated by UA expenditures, resulting in a net investment by the state of \$99.4 million. This net investment generates \$415.2 million in state only sales and income tax collections over the working life of the Class of 2000, and represents a 6.1 percent annual rate of return on the state's investment. This rate of return is higher than the current 30-year U.S. Treasury Bond rate. There are additional tax revenues that are not considered here such as property and county and city sales taxes.



UA Education as Private Investment

The University of Alabama education is also an investment by students. Every year thousands of new students enroll in UA degree programs. What's in it for them? First, education is its own reward. Additionally, the ability to learn and grow intellectually increases the graduate's earning potential. However, the college degree comes at a cost that includes the obvious cost of the education (tuition, room and board, books, etc.), as well as forgone earnings while in school.

The forgone earnings, often called the opportunity cost, is taken to be the earnings potential of the educational level immediately below the graduate's highest degree. For example, the opportunity cost of a master's degree is the earnings potential of a bachelor's degree holder. The total UA education cost is the opportunity cost plus the direct expenditure to obtain the degree. This total cost is the actual marginal cost of pursuing the degree, which can be

**Estimated Return on Investment by Degree Level
Graduating Class of 2000
The University of Alabama**

	Value Added (\$ 2000)	"Cost" (\$ 2000)	Real Annual Return on Investment	Annual Return Relative to High School
Some College	\$191,823	\$28,817	11.1%	11.1
Bachelor's	648,712	47,214	21.3	15.0
Master's	\$792,786	43,171	33.8	16.9
Doctorate	233,622	89,464	9.9	12.5

Source: Center for Business and Economic Research, Culverhouse College of Commerce, The University of Alabama.

compared to the marginal benefit or addition to value (called value added) for the graduate, to determine whether the decision to obtain a UA degree is prudent. Only half the opportunity cost is included

in the marginal cost of the UA degree since many students work an average of 20 hours a week to support their education.

The methodology for estimating marginal value added is straightforward. Value added is obtained by determining the difference in salaries of the graduate with that of a person with the degree level immediately below. A category of people with “some college” is included in the study to capture individuals who began college but did not complete the bachelor’s degree requirements. These individuals will earn more income in their working lives than high school graduates will without college experience. The average doctoral degree salary is compared to that of the master’s degree, a master’s is compared to a bachelor’s, and a bachelor’s with a high school graduate with some college experience. The value added of people with some college is obtained by comparing their income to that of high school graduates. Table 3 shows the results of the investment analysis with the assumption that graduates will retire at 67 years of age.

People who attend some college will have lifetime earnings of \$898,724 (in 2000 dollars), \$191,923 more than a high school graduate. This yields an 11.1 percent real annual rate of return on their UA investment. The real annual rate of return on private investment in a UA education is determined by generating the annual cost and income streams over the different lifetimes of the categories being considered. Bachelor and master degree holders will earn marginal value added of \$648,712 (a real annual return of 21.3 percent) and \$792,786 (a real annual return of 33.8 percent), respectively. A doctorate

will earn \$233,622 more than a master, a 9.9 real annual rate of return.

The positive real rates of return and their magnitude indicate that the decision to pursue a UA degree is very sensible, whether or not one completes the degree. Higher returns can be obtained by completing the degree. The master’s degree has the highest marginal return on investment, but the doctoral degree earns the most, even over the shorter working life. The doctoral degree, however, has the smallest return. One may also consider the rate of return on all degrees relative to the high school graduate. The master’s degree is again the most profitable with a 16.9 percent real annual rate of return, followed by the bachelor’s at 15.0 percent. The doctorate yields a 12.5 percent return, and some college has the lowest return of 11.1 percent.

Summary and Conclusions



The 1999-2000 University of Alabama economic impacts on the State of Alabama are \$1.1 billion expenditure impact and 7,047 jobs. The University is also an excellent investment opportunity for the state, providing a 6.1 percent annual rate of return on state

appropriations to UA. The economic impacts on Tuscaloosa County are a \$752.2 million expenditure impact and an employment impact of 6,160 jobs.

UA education is a very sound investment for its students. The real annual rate of return on some college attendance is 11.1 percent over a high school graduate. The bachelor's degree has a 21.3 percent real annual rate of return over some college attendance, and the master's degree yields a 33.8 percent return over a bachelor's degree. The doctorate provides the lowest marginal return, 9.9 percent over the master's, but earns the most.

It is important to note that any study of this kind has many uncertainties. The real rates of earnings growth may change. So may income and sales tax rates, student enrollment, rate of alumni residence in the state, etc. However, under the assumptions of this report, UA education is a very sound investment for students, and a better investment for the state than many bonds. In addition, there are several intangible benefits of UA education that cannot be measured.

UA is in the education business, producing skilled and knowledgeable people, knowledge, and information. The

University enhances graduates' ability to learn and grow intellectually, and to contribute in various ways to society. It also provides valuable research, adding to the stock of knowledge. In the modern high-tech economy, the intangible, yet very real and critical, role of higher education is acknowledged. Economic growth is attributable to the knowledge economy characterized by increasing returns, rather than the physical economy with its diminishing returns. Physical products, on the other hand, depreciate and become obsolete. The information age makes UA essential to the economic development of the county, state, and nation. The 2000 economic impacts of UA on Tuscaloosa County and the state certainly exceed by far the measurable component.

Acknowledgments

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Table 1
The University of Alabama 1999-2000 Expenditure Impacts on Tuscaloosa County

(millions of dollars)

Source	Total	Spent in Tuscaloosa County	Indirect Impact	Total Impact
University of Alabama				
Payrolls	\$170.7	\$119.5	\$ 99.6	\$219.1
Purchases	<u>179.2</u>	<u>107.5</u>	<u>89.6</u>	<u>197.1</u>
	\$349.9	\$227.0	\$189.2	\$416.2
Student Expenditures	\$148.5	\$148.5	\$123.8	\$272.3
Visitor Expenditures				\$ 63.7
Total	\$498.5	\$375.5	\$313.0	\$752.2
Employment Impact (Jobs)				6,160

Note: Rounding errors may be present.

Source: Center for Business and Economic Research, The University of Alabama.

Table 2
The University of Alabama 1999-2000 Expenditure Impacts on Alabama

(millions of dollars)

Source	Total	Spent in Alabama	Indirect Impact	Total Impact
University of Alabama				
Payrolls	\$170.7	\$131.5	\$163.8	\$295.3
Purchases	<u>179.2</u>	<u>161.3</u>	<u>200.9</u>	<u>362.2</u>
	\$349.9	\$292.7	\$364.7	\$657.5
Student Expenditures	\$148.5	\$148.5	\$185.1	\$333.6
Visitor Expenditures				\$110.4
Total	\$498.5	\$441.3	\$549.8	\$1,101.5
Employment Impact (Jobs)				7,047

Note: Rounding errors may be present.

Source: Center for Business and Economic Research, The University of Alabama.

Table 3
UA Education as Private Investment (Class of 2000)

<u>Degree</u>	<u>Average Starting Salary</u>	<u>Total Cost of Degree (\$ 2000)</u>	<u>Lifetime Earnings (\$ 2000)</u>	<u>Marginal Value Added</u>	<u>Real Annual Return on Investment</u>	<u>Real Return Relative to High School</u>
High School	\$13,021		\$ 706,802			
Some College	15,674	\$28,817	898,724	\$191,923	11.1 %	11.1 %
Bachelor's	27,091	47,214	1,547,436	648,712	21.3 %	15.0 %
Master's	43,560	43,171	2,340,222	792,786	33.8 %	16.9 %
Doctorate	52,265	89,464	2,573,843	233,622	9.9 %	12.5 %

Note: Total cost of degree is the direct cost of the education (tuition, room and board, books, etc.), as well as forgone earnings while in school.

Source: Center for Business and Economic Research, The University of Alabama.