

1997

## The economic impact of the University of Northern Iowa on the state of Iowa

Marshall Blaine  
*University of Northern Iowa*

*Let us know how access to this document benefits you*

Copyright ©2017 Marshall Blaine

Follow this and additional works at: <https://scholarworks.uni.edu/pst>



Part of the [Economics Commons](#)

---

### Recommended Citation

Blaine, Marshall, "The economic impact of the University of Northern Iowa on the state of Iowa" (1997). *Presidential Scholars Theses (1990 – 2006)*. 25.

<https://scholarworks.uni.edu/pst/25>

This Open Access Presidential Scholars Thesis is brought to you for free and open access by the Student Work at UNI ScholarWorks. It has been accepted for inclusion in Presidential Scholars Theses (1990 – 2006) by an authorized administrator of UNI ScholarWorks. For more information, please contact [scholarworks@uni.edu](mailto:scholarworks@uni.edu).

**Offensive Materials Statement:** Materials located in UNI ScholarWorks come from a broad range of sources and time periods. Some of these materials may contain offensive stereotypes, ideas, visuals, or language.

**THE ECONOMIC IMPACT OF THE UNIVERSITY OF NORTHERN IOWA  
ON THE STATE OF IOWA**

**A Presidential Scholar Senior Thesis**

**University of Northern Iowa**

by

**Marshall Blaine**

**Spring 1997**

**Ken Brown**

---

Faculty Mentor

Date

Department of Economics

**Edward C. Rathmell** *5/1/97*

---

Chair, Presidential Scholars Board      Date

## **Abstract**

This paper measures the economic impact of the University of Northern Iowa on the state of Iowa following the incremental approach which is the current academic thinking on quantifying a university's impact on its state. The methodology established by Bluestone (1993) and Elliot et. al. (1988) serves as the basis for this study. This paper attempts to answer the question: how much money would the state lose if the university were dissolved and the funding diverted to other areas? The economic impact can be measured on an incremental tally of the economic base and also on a skill-based approach. This paper takes a conservative, definite estimate, therefore, the economic base is stressed with no weight being given to the skill-based effects.

Following this approach, I estimate UNI's economic impact on the state of Iowa at almost \$48 million for the 1995-1996 fiscal year. State appropriations to UNI for the year were approximately \$71 million. While this may appear as a loss for Iowa, the social gain to the state from UNI's existence should be taken into account along with the knowledge that the \$48 million is a conservative estimate.

## **Introduction**

As it has always been and likely will always be, state governments are pressured to reduce spending in order to keep from building a deficit and/or to decrease the public's tax burden. With this pressure, politicians are looking to cut extra money from any programs that appear to be unworthy of the funding they are receiving. One of the large budget items that is often examined for budget cuts is the state's public universities. The threat of having their state appropriations decreased has caused many universities to attempt to demonstrate to the politicians that not only are they educating young adults, but that they are also providing a positive economic impact for the state. The university then argues that money going to the university is actually an investment which often has a higher rate of return to the state than other common investments.

This paper will attempt to quantify the economic impact of the University of Northern Iowa (UNI) on the state of Iowa for the 1995-1996 fiscal year in an unbiased fashion. Methodologies used in previous analyses will serve as a basis but various points will be argued and modified. A review of current literature will follow this section. Then an explanation of the methodology of this study is discussed followed by the analysis of UNI's impact on the state of Iowa. The conclusion presents some comments and criticisms of university economic impacts.

## **The Literature**

Economic impact studies have been done by many institutions for much of the last half century. The methodologies used in these studies were often varying, thus making them difficult to compare and irrelevant, until 1971 when Caffrey and Isaacs published a manual setting guidelines for economic impact studies for the American Council of Education. This methodology was mainly designed for measuring impact at the local level and focused on short-term impacts.

There has been an increased interest recently in completing studies with a wider scope, such as state impact. Many of these studies focus on the increase in human capital gained at universities thus causing higher wages and, therefore, higher taxes being paid to the state. There is some disagreement among economists as how to quantify this data, if it can be measured at all. Bluestone's 1993 study of the economic impact of the University of Massachusetts at Boston (UMB) on the state Massachusetts entails a lengthy discussion of how the increase in skills of UMB's students is turning UMB into "a net revenue producer for the state." In response to Bluestone and others using the skill based approach to do university impact analysis, Brown and Heaney (1996) state, "recent applications of the technique fail to consider fully the effects of migration on a university's economic impact and, thus, substantially overestimates the impact."

The methodology for the economic-base approach, which measures actual inflow of dollars to the university, has been defined by Elliot et al. (1988) as a five step procedure. The first step calls for identifying whether the region of analysis will be the metropolitan area, county, region, state, or some other geographic area. The second and third steps are performed concurrently and, depending on the region, require the calculation of student, staff, and/or professor expenditures and, also, the amount of grants entering the university from the federal and/or state governments and other sources. The fourth step involves summing the two totals arrived at in steps two and three. Then in the fifth step multipliers are applied to the incoming money to determine the total economic base impact.

## **Methodology**

The region of analysis for this study is the state of Iowa. The study is done assuming the effect upon the state if the University of Northern Iowa did not exist and everything else was the same. The fiscal year 1995-1996, which ran from June, 1995, to May, 1996, served as the time frame for the study. This is the year for which the most



recent data is available. This fiscal year includes the summer sessions and the fall semester of 1995 and the spring semester of 1996. UNI is an university of approximately 13,000 students located in Cedar Falls, Iowa. About ninety percent of its students are undergraduates.

On the tabulating of student expenditures, one of the required steps is figuring how many of those attending UNI would have still attended school in Iowa had UNI not existed. This would require extensive surveying of students requesting them to recall their earlier choices for college which would be biased after attending UNI for a time. Therefore, this study follows the assumption that all Iowa residents attending UNI would have attended another in-state college or university. This assumption causes there to be no deduction for the amount of money lost due to residents choosing to attend college in another state if not for UNI. The same assumption reversed assumes all non-residents would choose to attend college in a state other than Iowa assuming UNI didn't exist. This allows for the sum of tuition and living expenses of non-residents to be considered flowing into the state solely due to UNI. In reality, the assumptions would offset each other to some degree. A 1990 survey by the admissions office supports both of these assumptions.

The surveying of students also would help determine levels of student spending and funding to more accurately tabulate the money flowing into the state. In this study, it will be assumed all non-residents are funded with money originating out of state, except for the state/institutional aid which will be deducted along with federal money. All Iowa residents are assumed to be funded from sources within the state. The financial aid office has yearly estimates of living expenses for on- and off-campus students, and these will be used in figuring student spending.

The third step entails summing the money flowing into UNI from outside the state. The largest proportion of this money comes from the federal government for the purpose of student financial aid, research, public services, and academic support. Any donations to the university from any source outside the state are included in this section. The fourth

step then involves summing the totals from the previous two steps to arrive at the total amount of money flowing into Iowa due to UNI's existence.

The fifth step is the application of the multiplier to the total in step four to arrive at the total economic base impact. When choosing the multiplier, care must be taken to insure that it is being selected for the correct region. In this study, the multiplier for the state of Iowa set by the model RIMS II (U.S. Department of Commerce, 1992) will be used.

After completing the economic base impact, many studies go on to access the skill based impact. These studies often argue the investment the state has made in the university will be paid back as the university's students join the work force able to earn higher wages and, thus, pay higher taxes. These studies are based upon the assumption that the jobs are created and filled solely by the university's graduates. This study contends that even without the existence of the university in question the same jobs would be created and filled at the same pay by someone from a different university. This would cause the state to take in the same amount of money in taxes as if the job had been filled by someone from the university being studied. The only difference being that it would be someone from a different university, therefore, the university being studied would have no or minimal effect on the state's future taxes. This assumption is applied when one university is being studied, obviously, if every university did not exist, taxes would be substantially lower.

### **UNI Data for 1995-1996**

The main sources of money flowing into the state due to UNI are from federal grants, out-of-state donations, and non-residents' spending on tuition and living expenses. These will be totaled and adjusted before having the multiplier effect applied to them to result at the total economic impact of UNI on the state of Iowa.

Grants from the federal level totaled \$13,171,012 for the year and can be broken down two ways: the source of the money from the government and the purpose for which it is intended at UNI. Both of these are detailed in the following table:

<b>Grants from the Federal Government</b>	
<b>Source:</b>	
Dept. of Commerce	\$31,300
Dept. of Defense	2,674,428
Dept. of Education	8,195,069
Dept. of Energy	301,719
Dept. of Health and Human Services	644,047
Environmental Protection Agency	417,742
NASA	85,436
National Science Foundation	261,853
Other	559,418
<b>Total</b>	<b>\$13,171,012</b>
<b>Purpose:</b>	
Academic Support	\$438,047
Public Service	6,089,320
Research	1,113,070
Student Financial Aid	5,530,575
<b>Total</b>	<b>\$13,171,012</b>

The Department of Education was the largest contributor to UNI for the year, and their total includes money for student grants as well as each of the other purposes. The over two million dollars contributed by the Department of Defense was mainly due to Camp Adventure, an organization which supplies summer staff to military establishments around the world. Under the purposes category, the money designated as academic support was to help improve the professor's instructional skills through workshops and other experiences. The public service money went to programs at UNI which attempted to serve the university community as well as the surrounding community. The research grants were primarily to professors doing research on projects on which they had applied for funding. The student financial aid figure only includes work study and grants, such as the Pell Grant and Supplemental Educational Opportunity Grant, since they do not have to



be repaid at a later date. Federal loans are not included since the money from them will have to be repaid at a later date, thus causing a negative impact on the state at that time.

Another major source of money is out-of-state donations. The total given to UNI in 1995-96 was \$1,800,000. This figure encompasses all of the funds given by individuals, businesses, and organizations to the university whether it is intended for athletics, scholarships, the arts, buildings, or anything else.

The last primary inflow of money to Iowa due to UNI's existence is non-resident student spending totaling \$11,341,584 for the year. Student spending includes tuition for the semesters attending and also living expenses for those semesters. For the fall and spring semesters, the undergraduate tuition for a full-time student was \$3,317 while full-time graduate tuition was \$3,579 each semester. Summer tuition costs were based upon six hours of enrollment which is considered full-time for the summer. Tuition for six hours totaled \$1,740 for undergraduates and \$2,508 for graduate students. Enrollment of non-resident undergraduates was 141, 493, and 456 for the summer, fall, and spring semesters, respectively. Graduate enrollment was 209, 250, and 226 for the three semesters. All the enrollment figures are based on full-time equivalency. On-campus living expenses were estimated to be \$3,181 per semester for the 328 non-residents that lived on-campus in the fall and the 304 in the spring. The 415 out-of-state students residing off-campus in the fall and 378 in the spring paid an estimated \$3,579 per semester. For the summer, the 36 on-campus non-residents had an estimated \$2,130 in living expenses while the 314 living off-campus had costs of \$2,417. These numbers are totaled in the table that follows to arrive at \$11,341,584 as total non-resident spending for the year.

The impact of students attending UNI was figured taking the number of students here each semester multiplied by tuition that semester. Since the exchange programs are strictly for undergraduates, all tuition figures are UNI undergraduate full-time tuition amounts. Due to the national student exchange there were five, seven, and five students attending UNI for the summer, fall, and spring semesters, respectively. The international student exchange accounted for eight, twenty-one, and twenty UNI students in the summer, fall and spring semesters.

The total economic impact of UNI on the state of Iowa is then figured by summing the previous numbers to reach the flow of money into the state and then applying the multiplier effect to the total. The multiplier effect refers to the amount of times the money will be respent after each person/business keeps their share. The most recent figure for the multiplier for the state of Iowa is 2.0166 taken from the RIMS II model developed by the U.S. Department of Commerce in 1992. The total economic impact is figured in the following table.

<b>UNI's Impact on the State of Iowa</b>	
Federal Grants	\$13,171,012
Out-of-State Donations	1,800,000
Non-Resident Spending	9,152,310
National Student Exchange	(204,969)
International Student Exchange	(188,164)
Total Inflow of Money	\$23,730,189
Multiplier Effect	2.0166
<b>Total Economic Impact</b>	<b>\$47,854,299</b>
State Appropriations for 1995-96	\$71,673,771
Difference	(\$23,819,472)

The \$23,730,189 entering Iowa due to UNI, after being applied to the multiplier effect results in a total economic impact of \$47,854,299. State Appropriations to UNI were \$71,673,771 for the same year resulting in a difference of \$23,819,472.

<b>Non-Resident Student Spending</b>			
Tuition and Fees	Summer	Fall	Spring
Undergrad	\$245,340	\$1,635,281	\$1,512,552
Grad	524,172	894,750	808,854
Living Expenses			
On-Campus	76,680	1,043,368	967,024
Off-Campus	<u>758,938</u>	<u>1,504,375</u>	<u>1,370,250</u>
Semester Totals	\$1,605,130	\$5,077,774	\$4,658,680
<b>Total Non-Resident Spending = \$11,341,584</b>			

The total non-resident spending amount must now be adjusted to obtain the net amount of funds spent by non-residents. Since only money entering the state is being considered, the \$877,687 in funding to non-residents coming from UNI or the state of Iowa in the form of scholarships or aid must be deducted from their spending total. Also, since the money entering the state from the federal government was already counted, the \$1,311,587 out-of-state students received in federal loans and grants must be deducted so that it is not included twice.

<b>Financial Aid to Non-Residents</b>	
State/Institutional Aid	\$877,687
Federal Loans	1,187,741
Federal Grants	<u>123,846</u>
<b>Total</b>	<b>\$2,189,274</b>

The total aid to non-residents, \$2,189,274, is then deducted from the previous non-resident spending total, \$11,341,584, to reach \$9,152,310 as the net impact of out-of-state students on Iowa.

Two other UNI programs which have minor effects on Iowa's economy are the national and international student exchange programs. In each of these programs, the student pays tuition at his home institution while attending classes at another university. The non-resident numbers totaled earlier include those students here on exchange



programs, therefore, their tuition must be subtracted since they didn't pay tuition at UNI. The students leaving UNI to attend other universities also have a negative impact on the state because their living expenses are spent elsewhere. The national student exchange program results in a negative impact of \$204,969 while the international student exchange program has a negative impact of \$188,164.

<b>National Student Exchange</b>			
	Summer	Fall	Spring
Leaving UNI	\$0	\$86,925	\$69,540
Attending UNI	<u>8,700</u>	<u>23,219</u>	<u>16,585</u>
Semester Totals	\$8,700	\$110,144	\$86,125
<b>Net Impact = (\$204,969)</b>			

<b>International Student Exchange</b>			
	Summer	Fall	Spring
Leaving UNI	\$0	\$10,431	\$27,816
Attending UNI	<u>13,920</u>	<u>69,657</u>	<u>66,340</u>
Semester Totals	\$13,920	\$80,088	\$94,156
<b>Net Impact = (\$188,164)</b>			

The impact of UNI students leaving through the exchange programs was based on the number of students gone that semester times their likely living expenses. Since it is unknown if those leaving lived on-campus or off-campus, it will be assumed their living habits were the same as the student body's in that a third lived on-campus. The semester living expenses were then figured weighting the off-campus amount two parts and the on-campus one part to arrive at \$3,477 as the average spent on living expenses per semester by those leaving. UNI had no students leaving for the summer. In the fall, 25 participated in the national student exchange and 3 in the international student exchange. In the spring, 20 left through the national student exchange and 8 due to the international student exchange.



## **Conclusion**

As the previous numbers attest, the economic impact of UNI on Iowa is far below the amount invested in UNI by the state. While this may at first appear as though UNI is a waste of Iowa's money because it is not helping the state economically, the social benefits of UNI must be acknowledged along with the fact that this is a conservative estimate of UNI's impact. The approximately \$24 million being 'lost' on the university each year breaks down to about \$8 a person, considering Iowa's near three million population. For this \$8 per person, the state of Iowa receives a university which offers the option of a smaller learning environment for its 13,000 students than the other state universities at an equal tuition cost. UNI's emphasis is on undergraduate education, thus it is not expected to bring in the research money of the other state universities. UNI is also home to the largest teaching program in the state which contributes many teachers to Iowa's highly rated public schools.

This study only includes economic impacts which are direct and can be quantified with some degree of accuracy. As mentioned earlier, many of these studies, including Bluestone, assume much of the student body will stay in the state and work and, thus, pay personal income and sales taxes all their lives. It is argued that their increased salary due to being educated at the university will boost the state's income and sales tax intake. This is where many of the outlandishly high figures are arrived at, for example, Bluestone estimates a 8.9% rate of return. It should be realized that if one university didn't exist many of the jobs would still exist, they would just be filled by those from other universities. There is undoubtedly some jobs created specifically due to UNI, for example, if an intern from UNI gets hired even though a company wasn't planning on hiring anyone. These cases are probably few, and they will have a small impact. Another source of money due to UNI is the income to professors in the form of royalties on published books. Also difficult to measure is the jobs and businesses that are created due to the university

compared to the ones which could be created by spending the \$71.6 million in an alternative way.

Considering the role of a university and the difficulty in quantifying its impact, it could be argued that an economic impact study of a university is irrelevant for anything beyond simple curiosity. A conservative estimate such as this one can be tabulated to give a vague, low-end estimate of what type of impact a university may be having, but without being able to truly grasp all the impact, the results are of little importance. Many studies, often commissioned by the university itself, are then overly pressured to result in a positive impact to increase funding for the university. This causes the future-earnings and taxes figures to be overestimated in order to meet this need. Therefore, it is concluded that any economic impact analysis of a university should be only one of many considerations that go into the funding and decision making for a university and it should be used with the understanding that there may be significant error in its measurement.

## REFERENCES

- Backhaus, K., and Whiteman, C. H. (1994, July 29). *The Regional Economic Impact of the University of Iowa*. Iowa City: Institute for Economic Research.
- Bania, N., R. W. Eberts, and M. S. Fogarty (1993, November). Universities and the Startup of New Companies: Can We Generalize from Route 128 and Silicon Valley? *The Review of Economics and Statistics* 75(4): 761-766.
- Bartel, A. P. (1979, December). The Migration Decision: What Role Does Job Mobility Play? *The American Economic Review* 69(5): 775-786.
- \_\_\_\_ and F. R. Lichtenberg (1987, February). The Comparative Advantage of Educated Workers in Implementing New Technology. *The Review of Economics and Statistics* 69(1): 1-11.
- Beeson, P., and E. Montgomery (1993, November). The Effect of College and Universities on Local Labor Markets. *The Review of Economics and Statistics* 75(4): 753-761.
- Bluestone, B. (1993, January). *UMASS/Boston: An Economic Impact Analysis*. Boston: John W. McCormack Institute of Public Affairs, The University of Massachusetts.
- Booth, G. G., and Jarrett, J. E. (1976, September/October). The Identification and Estimation of a University's Economic Impacts. *Journal of Higher Education* 47(5): 565-576.
- Brown, K. H., and Heaney, M. T. (1996). *A Note on Measuring the Economic Impact of Institutions of Higher Education*. Working Paper, Indiana University.
- \_\_\_\_, K. H. (1996, April). *The Economic Impact of the University of Northern Iowa on the State of Iowa*. Working Paper, University of Northern Iowa.
- Caffry, J., and Isaacs, H. H. (1971). *Estimating the Impact of a College or University on the Local Economy*. Washington, DC: American Council on Education.
- Council of State Governments (1980). *The Book of the States, 1994-95, Vol 16*. Lexington, KY: The Council of State Governments.

- Dorsett, R. A., and Weiler, W. C. (1982, July/August). The Impact of an Institution's Federal Research Grants on the Economy of Its State. *Journal of Higher Education* 53(4): 419-428.
- Elliot, D. S., Levin, S. L., and Meisel, J. B. (1988). Measuring the Economic Impact of Institutions of Higher Education. *Research in Higher Education* 28(1): 17-33.
- Fields, G. S. (1979, February). Place-to-Place Migration: New Evidence. *The Review of Economics and Statistics* 61(1): 21-32.
- Fowkes, A. S. (1983). The Economic Impact of Higher Education in the Yorkshire and Humberside Region of England. *Higher Education* 12: 591-96.
- Greenwood, M. H. (1973, Fall). The Geographic Mobility of College Graduates. *The Journal of Human Resources* 8(4): 506-515.
- Krieg, Randall G. (1991, Winter). Human-Capital Sensitivity in Interstate Migration. *Growth and Change* 22(1): 69-76.
- Kubala, T., and Butler, T. (1980-81, December/January). Speaking the Language of Dollars. *Community and Junior College Journal* 51(4): 11-13.
- Lillis, C. M., and Tonkovish, D. (1976, September/October). The Impact of Importation of Grant and Research Money on a State Economy. *Journal of Higher Education* 47(5): 577-587.
- Romans, J. T. (1974, January). Benefits and Burdens of Migration (With Specific References to Brain Drain). *Southern Economic Journal* 40(3): 447-455.
- University of Northern Iowa Admissions Office (1990). Enrollment Trends of Incoming Students.