

THE UNIVERSITY OF WISCONSIN-MADISON'S \$12.4 BILLION IMPACT ON THE WISCONSIN ECONOMY

March 2011



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Executive Summary

UW-Madison, along with affiliated organizations and connected startup companies, contributes \$12.4 billion per year to the Wisconsin economy (\$2.1 billion from out-of-state monies), while supporting 128,146 Wisconsin jobs and generating \$614 million in state tax revenue.

The University of Wisconsin-Madison is one of the largest educational enterprises in the country, with a budget of nearly \$2.5 billion, and more than 21,000 people directly employed. Closely affiliated with the University are the UW Hospital and Clinics, and the connected physician group practice, with a budget of nearly \$1.5 billion, and nearly 9,700 people directly employed. Direct spending of more than \$4 billion generates an additional \$5.6 billion in economic activity.

Since the economic impact of UW-Madison was studied in 2003, research awards have grown to more than \$1 billion, University enrollments have increased, hospital operations have increased, and the University and its affiliates have grown and contributed to the growth of the state economy. UW-Madison, along with the UW Hospital and Clinics, has an annual economic impact of \$9.6 billion, while supporting more than 97,000 Wisconsin jobs and generating \$474 million in state tax revenue.

There are numerous entities affiliated with UW-Madison, including the Wisconsin Alumni Association, the Center for Advanced Studies in Business, the Fluno Center for Executive Education, the Morgridge Institute, the University of Wisconsin Foundation, the Wisconsin Alumni Research Foundation (WARF), the Wisconsin Film Festival, University Research Park, WiSys and WiCell. These organizations contribute an additional \$862 million to the state economy, while supporting more than 9,400 additional jobs, and generating more than \$43 million in additional tax revenue.

UW-Madison research has fostered the formation of at least 283 startup companies in Wisconsin. These Wisconsin startup companies support more than 21,000 jobs, and contribute approximately \$2 billion to the Wisconsin economy.

THE ECONOMIC IMPACT OF THE UNIVERSITY OF WISCONSIN-MADISON

Annual Impact on the Wisconsin Economy:

- > \$12.4 Billion in total impact on the Wisconsin economy
 - > \$9.6 Billion economic impact from UW-Madison operations and spending of faculty, staff, students, and visitors
 - > \$2.1 Billion economic impact from out-of-state monies
 - > \$1 Billion in research & development expenditures
 - > \$2 Billion economic impact from UW-connected startups
 - > \$862 Million economic impact from UW-affiliated organizations
- > 128,146 Wisconsin jobs created and supported
- > \$614 Million in tax revenue generated



Purpose and Scope

The purpose of this study is to measure the economic impact that the University of Wisconsin-Madison has on the state economy¹. The University's economic impact comes from spending on operations of the campus, spending of faculty, staff, students, and visitors, spending of University-related entities, and spending of start-up companies that are based upon UW-Madison research and development. The spending from these sources, in turn, creates jobs and generates tax revenue.

The UW-Madison economic impact study was divided into three phases:

1) Phase I, which was completed in October 2010, replicated the 2003 economic impact study. The Phase I report included several measures of the economic impact of the University: total economic impact on the state economy, jobs created and supported, and tax revenue generated as a result of University activity.

This UW-Madison impact study is based on 2009-2010 expenditures. These expenditures include operating expenses of UW-Madison (including payroll and non-payroll spending), spending of University staff, faculty, and students, and expenditures made by visitors to the campus. It also includes the economic impact of the University of Wisconsin Hospital and Clinics.

- 2) Phase II of the study incorporated analyses of the economic impact of University-affiliated entities, such as the UW Foundation, the Wisconsin Alumni Association, Wisconsin Alumni Research Foundation (WARF), and University Research Park. This phase also included preparing an estimate of the economic impact of Wisconsin businesses created from UW-Madison research and development. Finally, Phase II provided a measure of economic impact from money that the University attracts from sources outside of the state.
- 3) Phase III combines the Phase II analysis with the information published in the Phase I report document into a single comprehensive report on the statewide economic impact of UW-Madison, its affiliates, and UW-related startups.



The University of Wisconsin—Madison, founded in 1848, is a public, land-grant institution offering a complete spectrum of liberal arts studies, professional programs and student activities. The university spans 935 acres along the southern shore of Lake Mendota in Madison.

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¹ This study updates economic impact studies done for UW-Madison in 1971, 1985, 1991, and 2003. The methodology used in this study is consistent with that which was used in the prior studies.

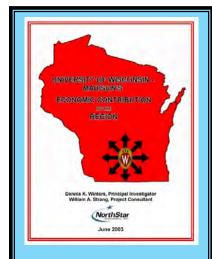
Overview

The University of Wisconsin-Madison is one of the largest educational enterprises in the United States. The 2009-10 budget for campus operations was \$2,448,000,000. The University and the University Hospital & Clinics directly employed 23,405 people (full-time equivalent), including faculty, staff, and graduate assistants.

Closely affiliated with the University are the UW Hospital and Clinics, and the group physician practice connected with these operations. The 2009-10 budget for these operations was \$1,457,000,000. The hospital and clinics employed 6,436 people (full-time equivalent).

In the period since the 2003 study (which was based on 2001-02 data), there has been significant growth in a number of University operations. For example, research awards -- largely money brought into the state -- have grown to more than \$1 billion. University enrollments have increased modestly. UW health clinic and hospital operations have increased substantially. Overall, education and health care operations have grown and contributed to the growth of the state economy.

Upon completion of Phase I of this study, a report was issued, indicating that UW-Madison, along with the UW Hospital and Clinics, had an annual economic impact of \$9.6 billion.



The University of Wisconsin-Madison's **Economic Contribution to** the Region, published by NorthStar Economics in June of 2003, was principally investigated and authored by NorthStar Vice President and Director of Research Dennis K. Winters. Dr. William A. Strang consulted on the project, which concluded that UW-Madison contributed nearly \$4.7 billion to the regional economy. In addition, UW-Madison was responsible for creating almost 75,000 jobs in the state and generated nearly \$347 million in state tax revenue, nearly 90% of state funding.

Phase II of the study looked at UW-Madison affiliated organizations and startup companies. There are numerous entities affiliated with UW-Madison. There are several organizations and programs which simply would not exist but for their connection to UW-Madison, including the Wisconsin Alumni Association, the Fluno Center for Executive Education, the University of Wisconsin Foundation, the Wisconsin Alumni

Research Foundation (WARF), the Wisconsin Film Festival, University Research Park, WiSys and WiCell. There is significant economic activity connected with these organizations, which was not captured in previous studies.

UW-Madison is a premier research institution. The influx of federal research and development funds, the presence of University Research Park, and WARF's role in technology transfer and the commercialization of intellectual property, have fostered the formation of at least 283 startup companies. These startup companies support more than 21,000 jobs, and contribute approximately \$2 billion to the Wisconsin economy.



Bascom Hall

UW-Madison offers instruction in more than 100 fields, with more than 4,200 course listings in a typical semester. Learning takes place in a variety of settings — from traditional classrooms, to undergraduate research opportunities, to service-learning experiences in the community.

Additional opportunities for growth range from more than 750 student organizations to unique residential learning communities.



Wisconsin Institutes for Medical Research Building

The Total Economic Impact of UW-Madison (Including UW Hospital and Clinics)

The economic impact of UW-Madison and the UW Hospital and Clinics comes from spending in the Wisconsin economy. The sources of related spending include operations, faculty and staff, students, and visitors.

The total economic impact comes from two sources:

- 1. The <u>direct spending</u> of faculty and staff, students, visitors and University operations. Direct spending supports local and state businesses and those businesses in turn employ workers and spend money in the state economy.
- 2. Indirect or induced spending results from direct spending cycling through the regional and state economy. The spending from businesses that benefit from the direct spending of faculty and staff, students, visitors, and University operations creates additional indirect or induced economic activity that results in jobs and taxes generated within the state.

Direct spending of over \$4 billion feeds the economic engine that in turn generates nearly \$5.6 billion in indirect and induced spending.

Overall, the sum of the economic activity generated by UW-Madison and the UW Hospital and Clinics is more than \$9.6 billion.

Direct spending of over \$4 billion feeds the economic engine that in turn generates nearly \$5.6 billion in additional economic activity.

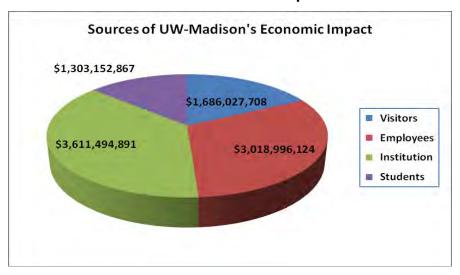


The \$9.6 billion of economic impact comes from the following sources:

Figure 1: UW-Madison Total Economic Impact to the State of Wisconsin

Contributor	Contribution	% Share
Institution	\$3,611,494,891	37.5%
Employees	3,018,996,124	31.4%
Students	1,303,152,867	13.6%
Visitors	1,686,027,708	17.5%
Total Contribution	\$9,619,671,590	100.0%

Figure 2: Sources of UW-Madison's Economic Impact to the State of Wisconsin





economic impact is calculated using the IMPLAN economic impact modeling system from the Minnesota IMPLAN Group (MIG, Inc.). IMPLAN is used to create complete, extremely detailed social accounting matrices and multiplier models of local economies. MIG, Inc. provides region-specific data to enable users to make in-depth examinations of state, multi-county, county, subcounty, and metropolitan regional economies. MIG, Inc. has been developing complex localized databases, and distributing IMPLAN® software to public and private organizations since 1993.

The Direct Economic Impact of UW-Madison

UW-Madison-related direct spending in the state economy amounts to over \$4 billion per year. The primary contributors of that spending are students, employees, visitors, and UW-Madison's non-payroll spending for operations of the University and related medical facilities.

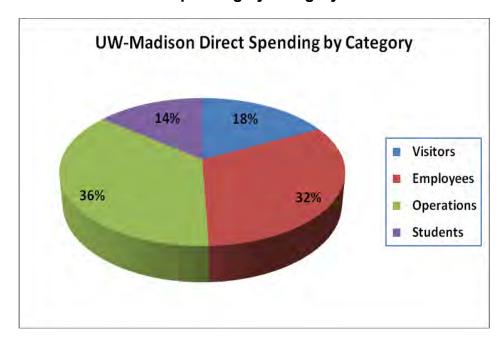
This spending contributes more than \$3.6 billion to private businesses, \$321 million to government revenue, and more than \$53 million to not-for profits or charities.

Figure 3: UW-Madison Direct Spending Balance Sheet

CONTRIBUTOR	SPENDING
Employees	\$1,288,848,188
Students	\$578,069,902
Operations	\$1,470,050,468
Visitors	\$708,796,330
Total	\$4,045,764,888
RECIPIENT	
Private Business	\$3,660,876,895
Households	\$10,230,011
Not-for-profits	\$53,647,691
Local Govt.	\$321,010,290
TOTAL	\$4,045,764,888

uw-Madisonrelated
direct spending
in the
state economy
amounts to
over \$4 billion
per year.

Figure 4: UW-Madison Direct Spending by Category



The Impact of UW-Madison on Wisconsin Jobs

Spending related to UW-Madison and the UW Hospital & Clinics has a large impact on Wisconsin jobs. Jobs attributable to UW-Madison occur in five ways:

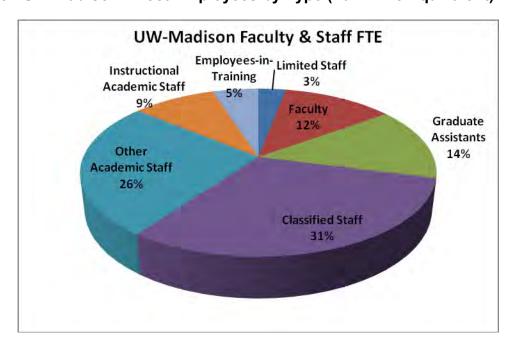
- Faculty and staff are directly hired by the University to teach, conduct research, do public service, and perform a variety of administrative functions.
- Operational spending creates jobs in regional and state businesses.
- Employee spending creates jobs in the region and state.
- Student spending creates jobs in the region and state.
- Visitor spending creates jobs in the hospitality and related industries.

Figure 5: UW-Madison Impact on Jobs (Full-Time Equivalent)

JOB GENERATOR	JOBS
Employees directly employed by the UW*	23,405
Operational spending	31,518
Employee spending	12,057
Student spending	13,470
Visitor spending	16,907
Total Job Impact	97,357

^{*}Includes UW Hospital & Clinics

Figure 6: UW-Madison Direct Employees by Type (Full-Time Equivalent)



<u>UW-Madison Tax Revenue Impact</u>

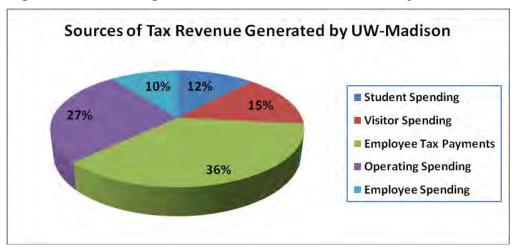
The economic activity generated by UW-Madison results in tax revenue. The tax revenue comes from state income tax payments, sales tax payments and payments for local property taxes. The sources of that tax revenue are shown below.

Figure 7: UW-Madison Tax Revenue by Source

TAX REVENUE SOURCE	TAX REVENUE
Employee sales and income tax payments	\$172,515,654
Operational expenditures	\$126,896,779
Employee spending	\$48,908,156
Student spending	\$56,150,238
Visitor spending	\$69,617,596
Total Tax Revenue	\$474,088,423

UW-Madison's tax impact results from the overall economic activity of the University. UW faculty and staff pay state income taxes on their University and other income. They pay sales taxes on many types of expenditures. Faculty and staff spending and the spending of the University on operations generate jobs. Those jobs in turn generate income taxes, sales taxes and property tax payments. The spending of students and visitors generates sales taxes. That spending, in turn, creates jobs, and spending from those jobs generates sales and income taxes. Overall, University economic activity generates \$474 million in tax revenue.

Figure 8: Percentage of UW-Madison Tax Revenue by Source



Overall,
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Return on Public Investment

The University of Wisconsin-Madison is one the world's great public universities. The University is based upon public investment in higher education that goes back to the founding of the State of Wisconsin in 1848. For over 150 years, the citizens of the State of Wisconsin have supported the teaching, research and public service missions of UW-Madison. Without the annual public investment by the State of Wisconsin, UW-Madison could not generate the total economic impact reported in this study.

As economic conditions have changed, the University has drawn resources from other sources to complement state investment. In 2009-10, the State of Wisconsin invested \$457 million in state tax dollars. The total University budget for 2009-10 was \$2.448 billion.

What does the State of Wisconsin get in terms of return on investment for the investment of \$457 million? Unlike almost all other public programs, the University attracts money into the state and creates significant economic activity, jobs and tax revenue. The 2009-10 economic impact of UW-Madison as reported in this study is \$9,619,671,590.

For every \$1.00 of state tax investment in the University, there is \$21.05 in economic activity in the state. This rate of return is possible because of the state's long term investment in the University and the resulting infrastructure and worldwide reputation that has resulted.

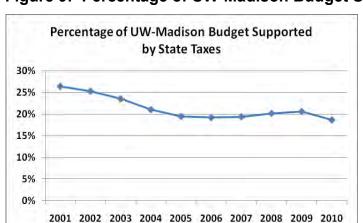


Figure 9: Percentage of UW-Madison Budget Supported by State Taxes

For every \$1.00 of state tax investment in the University, there is \$21.05 in economic activity in the state.

Who Benefits from The Economic Impact of UW Madison?

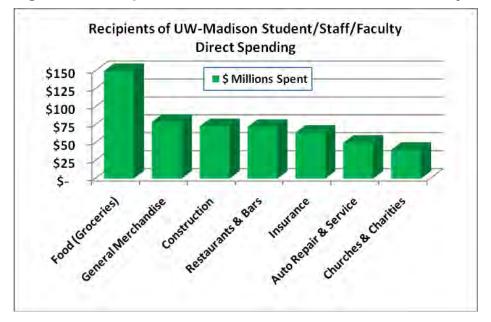
The overwhelming beneficiary of the economic activity of UW-Madison is private business. The direct expenditures of UW-Madison alone create \$3.6 billion in business for private companies.

The impact of spending by students and faculty and staff provides a good indication of how that spending supports private business. The direct spending of these two groups means the following:

- > \$150 million spent on food
- \$79 million spent on general merchandise
- > \$73 million spent on construction
- > \$72 million spent at eating and drinking establishments
- > \$64 million spent on insurance
- > \$50 million spent on auto repair and service
- \$40 million spent on churches and charities

These expenditures are a partial example of how spending affects a variety of business sectors. This activity supports a wide variety of businesses and a wide variety of Wisconsin jobs.

Figure 10: Recipients of UW-Madison Student/Staff/Faculty Direct Spending



The direct
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The Total Economic Impact of Organizations Affiliated with UW-Madison

In addition to the University itself, there are many affiliated organizations and programs that owe their very existence to their connection with UW-Madison. These organizations include the Center for Advanced Studies in Business (CASB), the Wisconsin Alumni Association, the Fluno Center for Executive Education, the Morgridge Institute for Research, the University of Wisconsin Foundation, the Wisconsin Alumni Research Foundation (WARF), the Wisconsin Film Festival, University Research Park, WiSys and WiCell. For more information about these affiliated organizations, see Appendix 3.

There is significant economic activity and impact connected with these organizations as well. As with the University itself, these affiliated entities produce economic impact from direct spending, as well as indirect and induced spending.

In the case of UW-Madison affiliated organizations, direct spending feeds the economic engine that in turn generates more than \$862 million in total economic impact, as shown in Figure 11 below.

Figure 11: Total Economic Impact of UW-Madison Affiliated Organizations to the State of Wisconsin

Contributor	Contribution	% Share
University Research Park*	\$652,447,532	75.7%
UW Foundation	\$76,870,167	8.9%
WARF	\$64,534,344	7.5%
Morgridge Institute	\$19,553,638	2.3%
Wisconsin Film Festival	\$17,381,789	2.0%
WiCell	\$11,983,827	1.4%
Fluno Center	\$7,844,250	.9%
Wisconsin Alumni Association	\$6,553,786	.8%
CASB	\$3,614,660	.4%
WiSys	\$1,488,231	.2%
Total Contribution	\$862,252,224	100.0%

^{*} University Research Park total excludes the economic impact of UW-connected startups shown in a separate section of this report.

The Impact of UW-Madison Affiliated Organizations on Wisconsin Jobs

Spending by organizations affiliated with UW-Madison has a large impact on Wisconsin jobs. As with the UW itself, UW-affiliated organizations create jobs directly as well as indirectly as a result of the spending of their operational and employee spending.

Figure 12: UW-Madison Affiliated Organizations Impact on Jobs (Full-Time Equivalent)

Contributor	Jobs Contributed
University Research Park*	7,374
UW Foundation	687
WARF	613
Morgridge Institute	175
Wisconsin Film Festival	173
WiCell	92
Fluno Center	128
Wisconsin Alumni Association	116
CASB	55
WiSys	15
Total Contribution	9,428

^{*} University Research Park total excludes the economic impact of UW-connected startups shown in a separate section of this report.

UW-Madison Affiliated Organizations Tax Revenue Impact

The economic activity generated by organizations affiliated with UW-Madison results in tax revenue. The tax revenue comes from state income tax payments, sales tax payments and payments for local property taxes. The sources of that tax revenue are shown below.

Figure 13: UW-Madison Affiliated Organizations Tax Revenue by Source

Contributor	Tax Contribution
University Research Park*	\$33,790,106
UW Foundation	\$3,441,138
WARF	\$2,659,306
Morgridge Institute	\$768,754
Wisconsin Film Festival	\$1,031,583
WiCell	\$428,698
Fluno Center	\$411,132
Wisconsin Alumni Association	\$350,475
CASB	\$186,367
WiSys	\$69,758
Total Contribution	\$43,137,316

^{*} University Research Park total excludes the economic impact of UW-connected startups shown in a separate section of this report.

UW-Madison affiliated organizations' tax impact results from the overall economic activity of each organization. Staff at each organization pays state income taxes on their income. They pay sales taxes on many types of expenditures. Organizational and staff spending by each entity generate jobs. Those jobs in turn generate income taxes, sales taxes and property tax payments. The spending of each organization's end users generates sales taxes. That spending, in turn, creates jobs, and spending from those jobs generates sales and income taxes. Overall, economic activity related to organizations affiliated with UW-Madison generates \$43,137,316 in state and local tax revenue.

The Total Economic Impact of UW-Madison Startup Companies

UW-Madison is a premier research institution. The influx of federal research and development funds, the presence of University Research Park, and WARF's role in technology transfer and the commercialization of intellectual property, have fostered the formation of at least 283 Wisconsin startup companies. To be counted among UW-connected startup companies, a company must have at least one of the following components:

- The company is based upon research or intellectual property developed at UW-Madison
- The company was founded by a UW-Madison faculty or academic staff member
- The company was formed by a UW-Madison graduate within one year of graduation

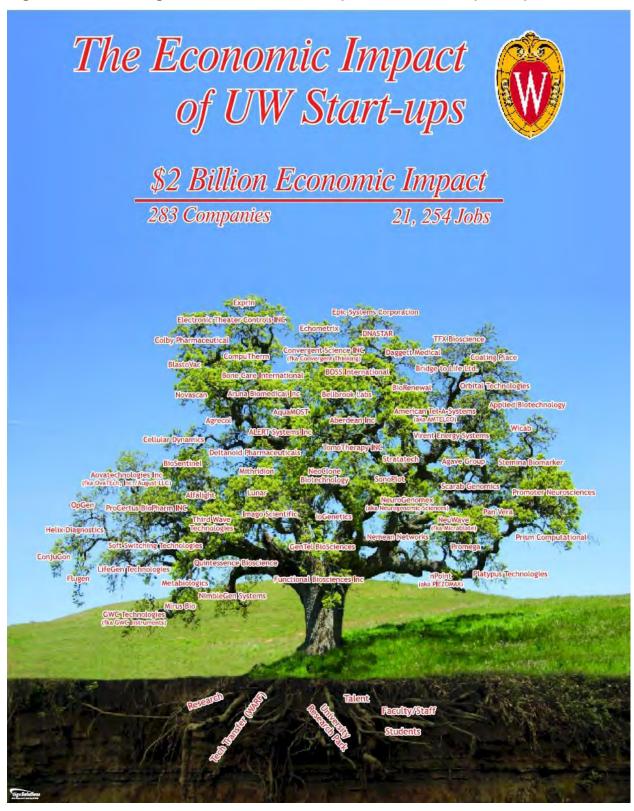
All companies identified in the 283-company list are Wisconsin-based companies. While many of these companies are located close to UW-Madison, there are UW-connected startup companies spread across the state.

As with the University and its affiliated organizations, these UW-connected startup companies produce economic impact from direct spending, as well as indirect and induced spending.

Overall, the sum of the economic impact of these UW-connected Wisconsin startup companies is \$1,982,395,507. That impact includes the direct impact of payrolls and company operating expenses, as well as the subsequent indirect and induced economic impacts.

On the following page is a tree diagram, Figure 14, which shows about 100 of these UW-connected Wisconsin-based startup companies. These companies include many life science, IT-based, and engineering-related companies.

Figure 14: Tree Diagram - The Economic Impact of UW Startup Companies



The Impact of UW-Madison Startups on Wisconsin Jobs

Spending by UW-Madison-related startup companies has a large impact on Wisconsin jobs. Jobs attributable to these companies occur both as employees and staff directly hired by each company, as well as indirectly as a result of operational and employee spending.

Figure 15: UW-Madison Affiliated Organizations Impact on Wisconsin Jobs

SOURCE	JOBS
Direct Employment	7,924
Indirect and Induced Jobs	13,330
Total Jobs	21,254

The jobs created by these Wisconsin startup companies are high-paying jobs. The average annual pay - based upon survey data - is \$64,310, which does not include fringe benefits.

UW-Madison Startups Tax Revenue Impact

The economic activity generated by UW-Madison startup companies results in state and local tax revenue. The tax revenue comes from state income tax payments, sales tax payments and payments for local property taxes.

The tax impact of UW-related startup companies results from the overall economic activity of each organization. Staff at each company pays state income taxes on their income. They pay sales taxes on many types of expenditures. Organizational and staff spending by each entity generate jobs. Those jobs in turn generate income taxes, sales taxes and property tax payments. The spending of each organization's end users generates sales taxes. That spending, in turn, creates jobs, and spending from those jobs generates sales and income taxes. Overall, economic activity related to organizations affiliated with UW-Madison generates \$96,735,028 in state and local tax revenue.

Qualitative Impacts

In addition to economic impact, the University of Wisconsin-Madison's reputation and its extensive network of alumni benefit the state in many ways. The University's reputation for teaching and research excellence makes Wisconsin an often studied model in higher education. The presence of a world class university in a state that is average in population and economic resources creates a level of national and international recognition that helps the state in commerce and business development.

*THE NATIONAL ACADEMIES PRESS

According to an assessment released by the National Research Council of the National Academies in September 2010, 23 doctoral programs at UW-Madison rank in the top 15% in their respective fields.

UW-Madison's top-ranked doctoral programs include:

- Biochemistry
- Botany
- Chemical Engineering
- Chemistry
- Civil & Environmental Engineering
- Communicative Disorders
- Computer Sciences
- Economics
- English
- Forestry
- French
- Geography
- Industrial Engineering
- Limnology & Marine Science
- Mass Communications
- Mathematics
- Nutritional Sciences
- Physics
- Plant Breeding & Plant Genetics
- Political Science
- Psychology
- Sociology
- Zoology

The University's extensive network of alumni creates contacts around the global economy. As the state seeks to increase exports and to attract direct foreign investment in the state, the University plays an active role in connecting with the global economy.

In addition, the value of an educated workforce, community involvement/ volunteers, role models, and providing a safe and challenging environment for people to share and explore new and diverse ideas, becomes difficult to translate into a specific and accurate metric.

Finally, what is the value of UW-Madison's status as a national and international leader in higher education research, and medical advancements? Although these impacts are difficult to measure precisely, the value of the University's qualitative impacts is far-reaching and profound.

Summary

UW-Madison-related spending supports businesses throughout the state, creates jobs for the citizens of the state, and generates tax revenue for state and local governments.

Total Economic Impact of the University of Wisconsin-Madison, Affiliated Organizations and Startup Companies

Total Economic Impact
Jobs Created/Supported
Taxes Generated

\$12.4 Billion 128,146 \$614 Million



APPENDIX 1 – UW-MADISON: A WORLD CLASS UNIVERSITY

The University of Wisconsin-Madison is highly ranked in a variety of areas. In addition to having many top-ranked doctoral programs (see page 11), UW-Madison has also been recognized in a number of other ways:

- Corporate recruiters ranked UW-Madison 16th in a Wall Street Journal survey analyzing where companies are placing the majority of their hiring efforts (2010).
- The National Science Foundation ranked UW-Madison 3rd in R&D expenditures in science and engineering fields and 5th in non-science and engineering fields for Fiscal Years 2007-2009 (2010).
- UW-Madison was included in the Kaplan/Newsweek -Finding the Right College for You" guide, ranking among the most desirable large schools (25th) and among the best schools for future power brokers (25th) (2010).
- Poets and Writers magazine ranked UW-Madison's master of fine arts program 3rd in the country, while also ranking specialties in poetry (2nd) and fiction (3rd) (2010).
- UW-Madison was ranked 17th among world universities in an annual ranking by Shanghai's Jiao Tong University (2010).



The Wisconsin School of Business at the University of Wisconsin-Madison was recognized in September 2010 by The Princeton Review for Entrepreneur magazine as having one of the top 25 entrepreneurship programs at both the graduate and undergraduate levels in the country.

Out of the more than 2,000 schools surveyed, Wisconsin ranks 19th in the nation among graduate entrepreneurship programs and 23rd among undergraduate programs. It was the only Big Ten program to make both undergraduate and graduate lists.



- Washington Monthly ranked UW-Madison 23rd in its 2010 national rankings, which
 assess -social mobility" (including the percentage of students receiving Pell Grants and
 graduation rates), research and service (2010).
- Parade magazine named UW-Madison as a part of the -College A-List" (2010).
- U.S. News and World Report's 2011 edition of America's Best Colleges named UW-Madison 13th among public universities (2010).
- Working Mother magazine named UW Hospital among the **Top 10** companies for working parents (2010).
- The UW School of Medicine and Public Health in Madison has been ranked in the nation's **Top 20** medical schools for fulfilling its social mission in a study published in the *Annals of Internal Medicine* (2010).
- UW Hospital and Clinics ranked in the Top 50 U.S. hospitals in seven medical specialties, according to the 2010 edition of *U.S. News and World Report's* "America's Best Hospitals" guide (2010).

APPENDIX 2 – UW HEALTH

UW Hospital and Clinics

Established in 1924, University of Wisconsin Hospital and Clinics is a 493-bed academic medical center with 85 outpatient clinics. UW Hospital and Clinics has six intensive care units (trauma and life support, pediatric, cardiac, cardiothoracic, burn, neurosurgery).

Physicians at the UW Hospital and Clinics are paid through the University of Wisconsin Medical Foundation. The Foundation is the clinical practice organization for the faculty physicians of the UW School of Medicine and Public Health, the largest academic, multispecialty physician group in Wisconsin.

UW Hospital & Clinics is a public authority and treated more than 600,000 patients in the first half of 2010.



With more than 1,200 UW Health physicians and 85 outpatient clinics, UW Hospital and Clinics also offers six intensive care units with 83 total beds. UW Hospital and Clinics is one of only two organizations in Wisconsin with designated Level One adult and pediatric trauma centers.

Adjacent to UW Hospital and Clinics is the American Family Children's Hospital, UW Health's complete children's medical and surgical center with a pediatric intensive care unit, an internationally recognized transplant surgery program, a children's cancer center and a family-friendly atmosphere.

UW Health Direct Spending

Direct spending related to operating UW Hospital and Clinics contributes approximately \$1.5 billion to the state economy. Approximately 1/3 of that spending is contributed by the UW Medical Foundation, as indicated below.

Figure 16: UW Health Direct Spending Balance Sheet

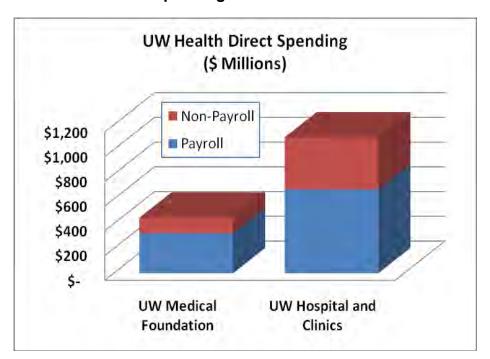
CONTRIBUTOR	SPENDING
UW Medical Foundation Payroll & Benefits	\$324 Million
UW Medical Foundation Non-Payroll	\$126 Million
UW Hospital & Clinics Payroll & Benefits	\$679 Million
UW Hospital & Clinics Non-Payroll	\$421 Million
TOTAL	\$1.5 Billion



The UW Medical Foundation, with more than 900 UW School of Medicine & Public Health faculty physicians, is:

- The largest multi-specialty medical group in Wisconsin
- One of the 10 largest medical groups in the nation
- The clinical faculty and group practice plan of the UW School of Medicine & Public Health
- The medical staff of UW Hospital and Clinics
- The medical staff of over 60 clinical practice locations throughout Wisconsin

Figure 17: UW Health Direct Spending



The University of Wisconsin School of Medicine and Public Health



Although students are trained to work in every area of patient care and research, the UW School of Medicine and Public Health has chosen seven areas of medicine on which to focus its resources. These include aging, cancer, cardiovascular and respiratory services, neuroscience, population and community health sciences, rural health, and women's health.

APPENDIX 3 - UW-MADISON AFFILIATED ORGANIZATIONS

The following UW-Madison affiliated organizations have been included in the economic impact analysis contained in this report.



The Center for Advanced Studies in Business, Inc. is a nonprofit organization designed to support the activities of the University of Wisconsin Business School. CASB owns and operates the Fluno Center for Executive Education.

The Fluno Center for Executive Education connects UW-Madison's vast resources to the professional community. Located in the heart of campus, the Fluno Center provides a total-immersion learning environment for individuals, professional groups, and corporate teams. The Fluno Center provides the ideal location for UW-Madison public enrollment and custom programs, including corporate and industry-specific symposia, seminars, and conferences.





The Morgridge Institute for Research is a private, not-for-profit interdisciplinary biomedical research organization dedicated to the vision of

-Discovery to Delivery," of accelerating the movement of science from the laboratories of researchers to public use around the world as treatments and cures. The Morgridge Institute is part of the twin institutes of the Wisconsin Institutes for Discovery, a public-private initiative that facilitates interdisciplinary research and breakthrough discoveries to advance human health and well-being. The new state-of-the-art facility housing the institutes opened in December 2010.

University Research Park, established in 1984 and located three miles west of the UW-Madison campus, is home to more than 126 companies that employ over 3,500 people.



The non-profit, internationally recognized research and technology park has 37 buildings with more than 1.8 million square feet of office and laboratory space used by a broad range of start-up companies, many of which are focused on biotechnology.



The University of Wisconsin Foundation is the official fund-raising and gift-receiving agency for UW-Madison and other donor-designated units of the UW System. An independent, nonprofit, tax-exempt organization, the Foundation has an elected board of directors that oversees its assets and activities. The Foundation's staff works closely with UW administration and the various schools, colleges and other academic units on campus to determine fund-raising priorities.

WiCell Research Institute is a non-profit research institute established in 1999 to advance the science of stem cells. WiCell is a supporting organization of UW-Madison, a world-leader in the area of human pluripotent stem cell research. A number of UW-Madison faculty members use laboratory space at WiCell to facilitate



collaborative research between the institute and the university. WiCell employs a staff of 30, including scientists engaged in novel research to increase the understanding of basic stem cell biology and improve stem cell culture techniques, often in collaboration with UW research scientists. WiCell also runs an exceptional Education program which provides technical training for scientists wishing to culture and develop human pluripotent stem cells.



The Wisconsin Alumni Association was founded in 1861 to promote the welfare of the University of Wisconsin and serve the interests of its alumni. The association carries out this mission today through marketing, communications, services, and programs that link alumni back to the university, the university with alumni, and alumni with each other.

The Wisconsin Alumni Research Foundation (WARF) was founded in 1925. Since that time, WARF has served the UW-Madison scientific community by patenting the discoveries of



UW-Madison researchers and licensing these technologies to leading companies in Wisconsin, the United States and worldwide. In this way, WARF also facilitates the use of UW-Madison research for the maximum benefit of society.



The Wisconsin Film Festival began in 1999, and has grown into the largest campus-based film festival in the United States, averaging 200 films and 34,000 attendees each spring. It is a project of the University of Wisconsin–Madison Arts Institute, with dozens of campus and community partners.

WiSys Technology Foundation, Inc. works hand in hand with the UW System to support research and technology development, link campus innovators with industry leaders and speed technology transfer through patent and licensing



activities. Established in 2000 as an affiliate of the Wisconsin Alumni Research Foundation (WARF), WiSys operates as a private nonprofit organization for the benefit of the UW System.

APPENDIX 4 - ABOUT NORTHSTAR ECONOMICS, INC.

NorthStar Economics, Inc. (NorthStar) is an economic consulting and research firm located in the University Research Park's Metro Innovation Center in Madison, Wisconsin. NorthStar has served a wide variety of clients in both the public and private sectors. One of the primary practices of NorthStar is the preparation of economic impact and feasibility studies. NorthStar's work covers the spectrum from higher education to research facilities to special events and programs.



NorthStar has completed economic impact studies for the University of Wisconsin-Madison, as well as the UW campuses at Oshkosh, Platteville, Stevens Point, and Stout. The firm has also studied the economic impact of the entire University of Wisconsin System, as well as the system of public colleges and universities in the state of Kansas on behalf of Citizens for Higher Education. Outside the realm of higher education, NorthStar has analyzed the economic impact of Wisconsin Public Libraries, the construction industry in Southeastern Wisconsin, and more specifically, the economic contribution of skilled apprenticeship programs. The firm has explored the feasibility of research incubators in Southeast Iowa, Wisconsin Rapids, Marinette, and Whitewater, as well as a commercial kitchen incubator in Racine, Wisconsin. NorthStar has analyzed the economic impact of trout fishing in the Driftless Area for Trout Unlimited, and the firm calculated the total economic impact of the 2004 PGA Championship in Kohler, Wisconsin.

Key personnel who participated in conducting in this study include all three NorthStar principals: CEO and founder David J. Ward, Ph.D., President Bruce E. Siebold, Ed.D., and Vice President and Director of Operations Alan J. Hart, J.D. NorthStar's former Vice President and Director of Research, Dennis K. Winters, M.S., conducted the primary economic analysis.



APPENDIX 5 – DATA SOURCES

Figure 1: UW-Madison Total Economic Impact to the State of Wisconsin

NorthStar Economics, Inc. calculations based on 2009-10 spending data provided by UW-Madison Office of Budget, Planning & Analysis, UW Hospital & Clinics and UW Medical Foundation

Figure 2: Sources of UW-Madison's Economic Impact to the State of Wisconsin

NorthStar Economics, Inc. calculations based on 2009-10 spending data provided by UW-Madison Office of Budget, Planning & Analysis, UW Hospital & Clinics and UW Medical Foundation

Figure 3: UW-Madison Direct Spending Balance Sheet

NorthStar Economics, Inc. calculations based on 2009-10 spending data provided by UW-Madison Office of Budget, Planning & Analysis, UW Hospital & Clinics and UW Medical Foundation

Figure 4: UW-Madison Direct Spending Balance Sheet, Spending by Category

NorthStar Economics, Inc. calculations based on 2009-10 spending data provided by UW-Madison Office of Budget, Planning & Analysis, UW Hospital & Clinics and UW Medical Foundation

Figure 5: UW-Madison Impact on Jobs (Full-Time Equivalent)

NorthStar Economics, Inc. calculations based on 2009-10 spending data provided by UW-Madison Office of Budget, Planning & Analysis, UW Hospital & Clinics and UW Medical Foundation

Figure 6: UW-Madison Direct Employees by Type (Full-Time Equivalent)

NorthStar Economics, Inc. calculations based on 2009-10 spending data provided by UW-Madison Office of Budget, Planning & Analysis, UW Hospital & Clinics and UW Medical Foundation

Figure 7: UW-Madison Tax Revenue by Source

NorthStar Economics, Inc. calculations based on 2009-10 spending data provided by UW-Madison Office of Budget, Planning & Analysis, UW Hospital & Clinics and UW Medical Foundation

Figure 8: Percentage of UW-Madison Tax Revenue by Source

Data Digest 2009-2010, published by UW-Madison Academic Planning & Analysis, Office of the Provost and the Office of Budget, Planning & Analysis

Figure 9: Percentage of UW-Madison Budget Supported by State Taxes

NorthStar Economics, Inc. calculations based on 2009-10 spending data provided by UW-Madison Office of Budget, Planning & Analysis, UW Hospital & Clinics and UW Medical Foundation

- Figure 10: Recipients of UW-Madison Student/Staff/Faculty Direct Spending

 NorthStar Economics, Inc. calculations based on 2009-10 spending data provided
 by UW-Madison Office of Budget, Planning & Analysis, UW Hospital & Clinics and

 UW Medical Foundation
- Figure 11: Total Economic Impact of UW-Madison Affiliated Organizations

 NorthStar Economics, Inc. calculations based on 2009-10 spending data

 provided by UW-Madison and the organizations listed in Appendix 3
- Figure 12: Impact of UW-Madison Affiliated Organizations on Wisconsin Jobs

 NorthStar Economics, Inc. calculations based on 2009-10 spending data

 provided by UW-Madison and the organizations listed in Appendix 3
- Figure 13: UW-Madison Affiliated Organizations Tax Revenue by Source
 NorthStar Economics, Inc. calculations based on 2009-10 spending data
 provided by UW-Madison and the organizations listed in Appendix 3
- Figure 14: Tree Diagram The Economic Impact of UW Startups
 Sign Solutions, based on NorthStar Economics, Inc. research
- Figure 15: UW-Madison Startup Company Impact on Wisconsin Jobs

 NorthStar Economics, Inc. calculations based on 2009-10 spending data
 provided by UW-Madison and the organizations listed in Appendix 3
- Figure 16: UW Health Direct Spending Balance Sheet

 NorthStar Economics, Inc. calculations based on 2009-10 spending data provided by UW Hospital & Clinics and UW Medical Foundation
- Figure 17: UW Health Direct Spending

 NorthStar Economics, Inc. calculations based on 2009-10 spending data provided by UW Hospital & Clinics and UW Medical Foundation