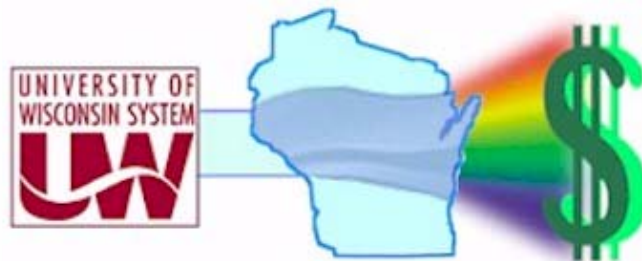


THE  
UNIVERSITY OF WISCONSIN SYSTEM'S  
ECONOMIC CONTRIBUTION  
TO  
WISCONSIN



Dennis K. Winters, Principal Investigator  
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# EXECUTIVE SUMMARY ONLY

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We accept full responsibility for any errors of omission or commission.

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## **Preface**

Dr. William A. Strang, then Director, Bureau of Business Research, School of Business, University of Wisconsin—Madison, undertook an initial study of the economic contribution the University of Wisconsin System (UWS) made to the state economy in 1997.<sup>1</sup> Sufficient time has passed to require updating that study to determine if UWS impact on the state has changed in an appreciable manner.

The 1997 study credited UWS with an economic impact of roughly \$8.2 billion. Today that figure is almost \$9.5 billion. Adjusting for inflation (GDP Implicit Price Deflator), UWS's total contribution to the region has expanded in real terms by almost 6% from 1997 to 2002.

UWS would rank 350 on the Forbes Fortune 500 list of the United States' largest companies. More importantly the UWS economic contribution occurs almost entirely within Wisconsin and the benefits accrue to all the state's citizens. The economic activity generated by UWS presence in the state accounts for more than 5% of total Wisconsin gross state product. UWS is responsible for over 150,000 jobs, almost 6% of Wisconsin's employed workforce.

The UW System is a growing force in the Wisconsin economy. Its impact on economic activity and employment need to be thought of as part of a higher education industry cluster. This cluster, which includes the private universities and public technical colleges, is a substantial and increasing economic force.

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<sup>1</sup> William A. Strang, David L. Funk, and M. Matthew Onofrio, Economic Impact of the University of Wisconsin System, Bureau of Business Research, University of Wisconsin—Madison School of Business, April 1997.

## **PURPOSE AND SCOPE**

### **PURPOSE**

Private businesses are touted as the drivers of economic activity and prized for the jobs they provide. Often overlooked are the public institutions in a region that also bring jobs to the local populace. Such institutions not only supply employment opportunities, they also purchase goods and services from area businesses. Moreover, higher education institutions draw a clientele that contributes significantly to a local economy. These components often comprise a substantial share of the economic activity of a region.

The purpose of this study is to measure the economic contribution of the UW System, the sixth largest system of higher education in the United States. The UWS is spread out over thirteen four-year campuses, thirteen two-year campuses and UW-Extension. The University of Wisconsin-Madison is the flagship campus of the system. The University of Wisconsin-Milwaukee is the other primary campus to award Ph.D. degrees. The four-year comprehensive universities are located across the state with the two-year campuses further extending the higher education opportunities available to Wisconsin's citizens.

The UWS purchases goods and services from private businesses and pays wages to its employees, who in turn spend their income in the local economy. UWS students also purchase goods and services and hold jobs in the local economy. All these expenditures are magnified throughout the local economy as the employee compensation and business revenues are further cycled through the local economy, multiplying the economic impact to the region.

The purpose of this study is to quantify the monetary contribution UWS makes to the state. The monetary contribution stems from UW institutional spending, employee, student, and visitor spending. The components are summed to yield the total economic contribution resulting from UWS presence in the state. The analysis results in this report of the total economic contribution UWS makes to the region.

### **SCOPE**

In order to identify and estimate the total economic contribution the UWS makes to the state, one has to look beyond the direct expenditures made by the institution itself. There is a ripple effect of the expenditures made for goods and services supplied to UWS. Wages paid to UWS faculty and staff are spent by the employees on housing, food, clothing, entertainment, etc. Likewise, business revenues generated from supplying goods and services to UWS are paid out in wages, and material costs, which in turn are spent on living costs. This multiplier effect enlarges the economic impact of the initial UWS expenditures.<sup>2</sup>

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<sup>2</sup> The "multiplier effect" refers to the recurrent economic activity generated by an initial expenditure. For example, \$100 spent directly on construction will cycle through the local economy again as wages to the tradesman, purchases of construction materials such as lumber, tools and nails, gasoline for machinery and worker transportation. The initial wave of spending generates a second and third wave of spending as

This study quantifies the total economic contribution UWS makes to the region by collecting data, analyzing spending patterns, applying multiplier coefficients and calculating the final fiscal effects.

Throughout the report, we refer to “the economic contribution attributable to UWS’s presence in the region.” This means we count only the money spent by the universities and colleges, its employees and students that occurs because UWS is located where it is. The presence of UWS institutions across the state, and the economic activity that they generate creates an enormous economic benefit for Wisconsin businesses, households, and local governments.

This study is confined to the economic contribution of the UW System, which comes from institutional expenditures and payroll, student expenditures, and visitor expenditures. It does not measure the economic contribution of affiliated UW organizations such as alumni associations and foundations, the economic impact of faculty and staff earnings from private consulting, book and patent royalties, the economic impact of faculty and staff expertise used by state businesses and organizations, and a host of other collateral economic activities. With this in mind, the economic impact of the UW System reported in this study understates the overall economic impact of the UW System by the factors mentioned above.

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wages paid and profits made on the direct UW spending spins through the economy in several cycles. Some money leaks out of the local economy at each level as some spending is done outside the region, the lumber may originate in Georgia or Canada, for example. Thus, the original direct expenditure yields a greater economic impact than just the \$100 initially spent.

## **HIGHLIGHTS OF FINDINGS**

- The University of Wisconsin System (UWS) contributes \$9.5 billion dollars to Wisconsin's economy annually, over 5% of the state's gross state product.
- UWS activities are responsible for over 150,000 in-state jobs, almost 6% of Wisconsin's employed workforce.
- The UWS presence in the state generates almost \$408 million dollars in state income and sales tax revenue annually; about 40% of the UWS state \$982 million budget allocation for fiscal 2001-2002.
- Almost 70% of the \$3.6 billion UWS revenue comes from sources other than state taxes.
- UWS employees spend over \$1.0 billion in Wisconsin annually.
- UWS students spend over \$1.3 billion annually in Wisconsin over and above tuition, fees, and university supplied room and board.
- Visitors to UWS related events spend over \$726 million dollars in the state.
- Wisconsin realizes a 9% return on its investment in a UWS baccalaureate degree through higher taxes paid by UWS graduates.
- The state's payback for educating a UWS baccalaureate student is less than 10 years.
- UWS baccalaureate degree holders reap a 30% return on their education investment beyond high school.
- A UWS student's payback period is less than 3 years.
- A UWS graduate will earn almost \$1 million dollars more than a high school graduate, twice that amount for a doctoral or professional degree.
- The positive cultural and social impacts of an educated populace immeasurably enhances Wisconsin's quality of life.

**CHAPTER 1**

**EXECUTIVE SUMMARY**

## **CHAPTER 1: EXECUTIVE SUMMARY**

The University of Wisconsin System (UWS) can be considered one of the major economic engines of the state. With a total budget of over \$3 billion and a workforce of almost 32,000 full-time faculty and staff, the UWS would qualify as one of the United States Fortune 500 companies. UWS is spread out over thirteen four-year campuses, thirteen two-year campuses and Extension. The University of Wisconsin-Madison is a research I university, ranked as one of the nations top public universities. The University of Wisconsin-Milwaukee is a research II university and is the other primary campus to award Ph.D. degrees. The four-year comprehensive universities are located across the state with the two-year campuses further extending the higher education opportunities available to Wisconsin's citizens. A list of all the UWS campuses can be found in the appendix.

### **UWS Revenues**

Fiscal year 2002 UWS revenue totaled \$3.7 billion. This includes University of Wisconsin Health Center (UWHC) revenues to be consistent with the 1997 Strang study.<sup>3</sup> The largest single share of UWS revenue came from state taxes, 30.7%. Over 21% of total revenue was accounted for by federal grants, 19% by program revenue, 18% by tuition, and 10% by private gifts, donations, and grants.

Figure 1 – 1

### **UWS Revenues** FY 2001-02

| <b><u>Revenue Source</u></b>  | <b><u>Amount</u></b>   | <b><u>Percent of Total</u></b> |
|---|------------------------|--------------------------------|
| State Taxes   | \$981,626,651          | 30.7%                          |
| Federal Grants  | 685,069,515            | 21.4                           |
| Program Revenue   | 617,997,098            | 19.3                           |
| Tuition   | 584,468,663            | 18.3                           |
| Private Gifts, Donations, & Grants                                  | 325,506,216            | 10.2                           |
| <b>Total UWS Revenue</b>  | <b>\$3,194,668,143</b> | <b>99.9%</b>                   |
| UWHC Revenue*   | 493,497,000            |                                |
| <b>Total UWS Revenue</b>  | <b>\$3,688,165,143</b> |                                |
| * UW Health Center included to be consistent with 1997 Strang study |                        |                                |
| Source: UW System   |                        |                                |

### **UWS Expenditures**

UWS spent almost \$3.6 billion dollars in fiscal year 2001-02 on payroll and other goods and services. Total UWS payroll including wages, salaries and benefits amounted to

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<sup>3</sup> The University of Wisconsin Health Center became a public authority in 1996 although it continues a close affiliation with the University of Wisconsin-Madison Medical School. The revenue and expenses of the UWHC are included in this study for comparative purposes with the 1997 Strang study.

almost \$2.2 billion. Expenditures on non-payroll goods and services totaled about \$1.4 billion.

Almost two-thirds of those non-payroll institutional expenditures were spent in Wisconsin, some \$926 million. Total UWS non-payroll, in-state spending is reduced to \$870 million by internal transfers and student grants, which are assumed to return to the UWS in the form of tuition and fees, to avoid double counting of dollars. Construction spending is added into UWS non-payroll, in-state expenditures to capture the flow of construction spending attributable to the UWS presence in the state.

UWS non-payroll expenditures flow to four main areas: Private Industry, Households, Not-for-Profits, and Government. The vast majority of UWS spending flowed into private businesses, 95.5%. Governments received 4.2% of UWS expenditures. Payments made to households and not-for-profits accounted for a small portion of total expenditures, but a significant amount of money. It is shown in the body of the report that staff and students make considerable contributions to government, households and not-for-profits as well.

Figure 1 - 2

**UWS In-State Expenditures**

| <b><u>Recipient</u></b>            | <b><u>Expenditures</u></b> |
|------------------------------------|----------------------------|
| Private Business                   | \$831,233,486              |
| Services from Households           | 789,390                    |
| Not-for-Profits                    | 1,152,150                  |
| Government                         | 36,943,277                 |
| <b>Total In-State Expenditures</b> | <b>\$870,118,304</b>       |
| Source: UWS                        |                            |

UWS employees, students and visitors also contribute to increased state economic activity. Without the UWS, a large share of its employees, the students, and visitors would not be present in Wisconsin.

**UWS Economic Contribution**

UWS spending contributes to Wisconsin’s economy through direct UWS spending on goods and services, payroll, UWS student spending and UWS visitor spending. This direct spending then multiplies through the state economy as UW dollars finance business expenditures and payrolls resulting in many rounds of indirect spending, the re-spending of UW direct expenditures.

**Direct Spending**

Direct UWS related spending amounts to almost \$4 billion dollars per year for Wisconsin’s economy. The primary components of that spending are students and employees, although UWS non-payroll expenditures and visitor spending contributions are large shares also.

The direct contribution UWS makes to the region in just fiscal terms includes over \$3.7 billion to private businesses, almost \$154 million in government revenue and over \$56 million to local charities.

Figure 1 - 3

**UWS Economic Contribution Balance Sheet**

|                    |                        |                        |
|--------------------|------------------------|------------------------|
| <b>Contributor</b> |                        |                        |
| Institution        | \$870,118,304          |                        |
| Employees          | 1,054,703,890          |                        |
| Students           | 1,309,419,203          |                        |
| Visitors           | 726,398,972            |                        |
| <b>Total</b>       | <b>\$3,960,640,368</b> |                        |
| <b>Recipient</b>   |                        |                        |
| Private Business   |                        | \$3,737,614,948        |
| Households         |                        | 12,991,302             |
| Not-for-Profits    |                        | 56,662,046             |
| Local Government   |                        | 153,372,072            |
| <b>Total</b>       |                        | <b>\$3,960,640,368</b> |

**Total Contribution**

The economic contribution the UWS makes to the state is much greater than the direct fiscal spending made by the institution. All the dollars spent by UWS on goods and services recycle through the state economy to be spent again on goods and services by the businesses and citizens that serve the UWS. This rippling effect of spending is captured in multipliers that are applied to the direct UWS spending.

The total economic contribution made by UWS to the state is almost \$9.5 billion. The institutional non-payroll expenditures account for about 23% or \$2.1 billion of the total contribution. UWS employees contribute 27% of the total, \$2.5 billion. The UWS student population, over 150,000, accounts for the largest share, 33% of the total contribution, some \$3.1 billion. Visitor spending accounts for another 18% of the total contribution, around \$1.7 billion.

Figure 1 - 4

**UWS Total Contribution to the State**

FY 2001-02

|                           |                        |
|---------------------------|------------------------|
| <b>Contributor</b>        | <b>Contribution</b>    |
| Institution               | \$2,147,165,353        |
| Employees                 | 2,514,864,541          |
| Students                  | 3,087,168,486          |
| Visitors                  | 1,712,603,580          |
| <b>Total Contribution</b> | <b>\$9,461,801,960</b> |

From a business model point of view, the UWS is a successful economic development construct. Direct UWS outlays of \$4 billion generate a \$9.5 billion dollar contribution to the state of Wisconsin economy.

**UWS Job Generation**

The money the UWS spends on goods and services generates jobs for Wisconsin citizens. Jobs attributable to the UWS occur in four ways. The first is the direct faculty and staff jobs for people working for the UWS. The second job creator is the jobs generated by non-payroll, in-state UWS expenditures. The third job creator is for the people that serve the UWS workforce in their professional and private lives. The fourth job creator is the jobs generated by student and visitor spending.

UWS non-payroll, in-state spending creates more than thirty-six jobs for every \$1 million dollars spent. As a result, about 30,000 Wisconsin jobs are generated by UWS non-payroll, in-state institutional spending of \$833 million.<sup>4</sup>

The UWS directly employs some 32,000 full time faculty and staff. The presence of the UWS workforce creates other jobs for workers that supply the goods and services to the UWS workforce in their professional duties and in their private lives. Every UWS full-time equivalent position creates another 0.39 jobs, generating an additional 13,000 jobs.

Student spending also creates jobs. UWS students are responsible for another 49,000 jobs in Wisconsin.

Visitors to UWS spend a significant amount of money in the state. Visitor spending is responsible for the creation of about 27,000 jobs in Wisconsin. Resident visitor spending is not a factor in Wisconsin job creation, as that money would be spent in the state anyway. However, without the UWS, state resident visitors would spend some of this money out-of-state. Non-resident visitor spending wouldn't occur at all without the UWS.

Total jobs created in Wisconsin due to the presence of UWS are over 150,000.

Figure 1 - 5

**UWS Job Creation**

| <b><u>Job Generator</u></b>        | <b><u>Number of Jobs</u></b> |
|------------------------------------|------------------------------|
| UWS Non-payroll, In-state Spending | 30,238                       |
| UWS Faculty and Staff              | 31,743                       |
| UWS Employee Presence              | 12,535                       |
| Student Spending                   | 49,000                       |
| Visitor Spending                   | 27,183                       |
| <b>Total Jobs Created</b>          | <b>150,699</b>               |

<sup>4</sup> In-state institutional spending is in 1999 dollars

## UWS State Tax Revenue Generation

Not only do UWS employees pay state income taxes and sales taxes on their purchases, but the UWS presence in the state establishes an expanded tax base. As seen above, the money UWS spends generates jobs. Those jobs, in turn, generate income and spending. That subsequent income and spending are taxed through personal income and sales taxes. A state sales tax rate of 5.25% is also applied to student and visitor spending. The total Wisconsin income and sales tax revenue generated due to UWS presence in the state totaled nearly \$408 million, about forty percent of the \$982 million state UWS budget allocation.

Figure 1 - 6

### UWS Tax Revenue Generation

| <u>Tax Revenue Generator</u>             | <u>Tax Revenue</u>   |
|--|----------------------|
| UWS Non-Payroll Spending                 | \$53,932,000         |
| UWS Employee Withholding                 | 127,129,934          |
| UWS Employee Presence                    | 22,356,961           |
| UWS Student Spending                     | 118,145,176          |
| UWS Visitor Spending                     | <u>86,618,026</u>    |
| <b>Total State Tax Revenue Generated</b> | <b>\$408,182,096</b> |

### Summary

The UWS fiscal year 2001-02 budget was almost \$3.6 billion. The UWS employs a workforce of some 32,000 full-time equivalent faculty and staff. State taxes accounted for less than one-third of total revenues.

UWS expenditures on payroll and other goods and services totaled \$3.6 billion. Two-thirds of institutional expenditures were spent on payroll, including wages, salaries, and benefits. UWS institutional non-payroll in-state spending totaled \$870 million of which the majority, \$831 million, flowed into local area private businesses.

Total in-state spending attributable to UWS almost \$4 billion in fiscal year 2001-02. About \$3.7 billion of the total was spent in private businesses. Total direct spending cycles through the economy by means of the multiplier effect. As a result, the total UWS economic contribution to the state was almost \$9.5. UWS student spending was responsible for 33% or \$3.1 billion of the total contribution.

The presence of UWS employees, UWS non-payroll expenditures, and student and visitor spending are responsible for an additional 151,000 new Wisconsin jobs and state income and sales tax revenue generation of over \$400 million.