

# **THE ECONOMIC IMPACT OF NORTHERN MICHIGAN UNIVERSITY ON THE UPPER PENINSULA OF MICHIGAN**

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## **PREFACE**

This report was written for NMU President Dr. Leslie Wong in preparation for his testimony to the Appropriations Committee of the Michigan state legislature on April 27, 2004. I relied on two previous studies to guide this research: the 1998 and 2001 Economic Impact Reports, conducted by Dr. Harry P. Guenther and Dr. James Scheiner, respectively. While the methodology used here is similar to the previous methodology, in some cases new data allowed me to abandon previous assumptions and replace them with actual numbers. The appendix to this report provides detailed analysis allowing anyone to recreate these numbers and, in cases where assumptions are made, examine the different results that can be obtained using different possible assumptions.

I have made a consistent effort to use the most conservative numbers possible, thus the numbers reported represent a lower bound on NMU's impact on the Upper Peninsula (U.P.). Also, I should note that this report details NMU's impact on the U.P. economy, but NMU also has an impact on the state of Michigan as a whole. Some of the economic activity generated by NMU has its effects in the Lower Peninsula (L.P.) of Michigan but is unobserved by this study. NMU's purchases of goods and services from the L.P. and the fact that its graduates often work in the L.P. are two examples of this. Also, a survey of nearly 1800 NMU students shows that 38% of them would be in another state if NMU were not an option for them, much more than the 19% of NMU students that come from a different state. Without NMU, the state of Michigan would be not only be losing tuition and spending from the 19% of students it draws from other states, but also an additional 19% of students who are Michigan residents and who would leave the state to go to school elsewhere, resulting in lost Michigan output of over \$35 million.

Finally, one must note that the economic impacts reported in this study are only the direct effects resulting from spending and output associated with the University. They do not reflect the increase in productivity and earnings of Northern students who, upon successfully completing their degrees, contribute more to the U.P. economy and the country at large.

## EXECUTIVE SUMMARY

Direct spending by the University, its students, University-generated visitors to the Upper Peninsula, and affiliated organizations totaled over \$182 million in the 2003-04 academic year.

University	\$132,901,000	72.7%
Students of NMU <sup>†</sup>	41,615,000	22.7%
Visitors to NMU	4,047,000	2.2%
Northern Initiatives	2,043,000	1.1%
WNMU-TV&FM*	1,895,000	1.0%
USOEC*	432,000	0.2%
<b>TOTAL SPENDING</b>	<b>\$182,933,000</b>	

The total economic impact of these expenditures on the Upper Peninsula is estimated to be in excess of \$287 million, generating over 4,800 jobs in the U.P. With annual state appropriations of approximately \$45 million, this amounts to more than a 500% return on investment. The overall impact on output, household earnings, and employment for each of the spending groups identified above are shown in the table below.

### Output, Earnings and Employment Resulting from NMU-related Expenditures, by Spending Source

	Total Increase in Output	Total Increase in Earnings	Total Increase in Employment
University	\$216,157,042	\$84,029,732	3,758
Students	\$59,288,874	\$16,265,550	937
Visitors	\$6,057,063	\$2,025,184	122
Northern Initiatives	\$3,140,152	\$1,303,205	27
NMU-TV&FM	\$2,684,836	\$668,935	17
USOEC	\$653,184	\$240,192	10
<b>TOTAL:</b>	<b>\$287,981,151</b>	<b>\$104,532,798</b>	<b>4,872</b>

<sup>†</sup> Only including student spending directly caused by NMU, omitting spending by students that would remain in the Upper Peninsula regardless of NMU.

\* Excluding NMU contributions, which are already included in the University spending category.

## **Part One: Introduction and Methodology**

This is a report on the economic impact of Northern Michigan University on the Upper Peninsula of Michigan, prepared for University President Dr. Leslie E. Wong at the request of Dr. Alfred N. Joyal, Provost and Vice President of Academic Affairs. While this report is for the 2003-04 fiscal year, some data is based on the 2004 calendar year. Part One provides an overview of the methodology used in the report. Part Two discusses University spending and the resulting economic activity it generates. Part Three discusses spending by NMU students and the impact it has on the U.P. economy. Part Four highlights the contribution by visitors to NMU and other NMU-related entities. Part Five provides a brief summary and conclusions.

Northern Michigan University and its students, visitors and related organizations spent over \$182 million in 2004, resulting in the employment of over 2,500 people. However, the impact NMU has on the U.P. economy is much more than this \$182 million. The jobs created by NMU provide income for U.P. residents that is then spent on other products, resulting in income for more residents, and the process continues. In economics, this is known as the “multiplier effect” and it implies that any increase in output has a larger eventual impact on output, earnings and jobs in the economy.

The Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce uses census data and business data to determine these multipliers for specific regions and industries. The BEA’s Regional Input-Output Modeling System (RIMS II) was employed for this report to generate multipliers for a region consisting of all ten counties in the U.P., providing detailed data for dozens of broad industry categories. RIMS multipliers are output-based, detailing the effect that a one-dollar increase in output in a given industry will have on output, household earnings and jobs in the specific region provided<sup>1</sup>.

The multiplier for a particular type of output depends on the industry and region specific variables. For example, the multiplier for output and earnings on the Retail Trade industry is much greater than the multiplier on the Telecommunications and Broadcasting industry because it is much more labor-intensive; thus, more of the output accrues to households as earnings, and more jobs are created. Similarly, the multiplier on jobs for “Management of Companies” is 11.6, while the multiplier on jobs for “Food Services” is 35.2, since jobs in the former industry pay

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<sup>1</sup> For future reference in this paper, the output and earnings multipliers are per dollar spent, while the employment multiplier is jobs per million dollars spent.

much more than jobs in the latter. And if you were to examine the county multiplier for a Michigan county in the border with Wisconsin and compare it to a Michigan county in the middle of the state, you would find a larger multiplier on the latter – since some of the economic activity generated in the first county would be in Wisconsin<sup>2</sup>. Thus, all regional and industry effects are taken into consideration in the formulation of the RIMS multipliers. As a result, one need only determine how much output is produced, and in what industry.

This report is a study using marginal analysis, examining the economic effects that can be directly attributed to Northern Michigan University, assuming that none of the activity would have taken place in the University's absence. A more comprehensive general equilibrium analysis would examine how labor markets and goods markets in the Upper Peninsula (U.P.) would evolve in the absence of NMU. However, this type of analysis is extremely difficult and can be speculative. For example, it may be the case that NMU's absence would lower land values, which would attract more businesses; or it may be the case that more firms and workers would leave the Upper Peninsula as a result of the vacuum created by NMU's absence and the resulting decrease in demand. Answers to these questions, and numerous others required by this type of general equilibrium analysis, are extremely difficult if not impossible to obtain. Thus, economic impact reports often take the same marginal approach used in this report. While marginal analysis is ultimately imperfect and must be taken with a full understanding of the limitations of the results, it represents the most attractive option for studies of this sort<sup>3</sup>.

Any report such as this is based on the best available data. However, in some cases data is not available and assumptions must therefore be made. Every calculation in this report is noted and every assumption is explained either in the body of the report, in a footnote or in the appendix. In cases where there is no clear theoretical or logical precedent for using one assumption over another, I explain the rationale behind my decision to use the particular assumption chosen. While some may argue about the appropriateness of these assumptions, it was my goal to make this report clear enough so that anyone can change any assumption and directly compute the effect it would have on the results. Hopefully one day more data will be available so that more accurate assumptions can be made or, ideally, no assumptions need be made at all.

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<sup>2</sup> For this report, all ten U.P. counties are grouped together, so direct comparisons across counties are not possible. However, the BEA's web site details this phenomenon.

<sup>3</sup> For a good example of this type of research, see the impact report done on Washington State University available at <http://www.wsu.edu/NIS/EconomicImpact.html>.

## Part Two: University Expenditures

For the 2003-04 fiscal year, Northern Michigan University spending totaled over \$132 million. Table One below provides a breakdown of spending into a variety of categories.

**Table One:**  
**Total University Expenditures, by Category,**  
**2003-04 Fiscal Year**

Category	Spending
Salary, Wages and Benefits	\$71,876,000
Supplies and Services	\$32,788,000
Construction	\$22,109,000
Bond Principal and Interest	\$4,586,000
Travel	\$1,213,000
Sales Tax	\$329,000
TOTAL	\$132,901,000

The RIMS multipliers are output-based, and the category for most of this spending is clearly the “Educational Services” industry. However, spending on construction is not part of normal University spending and fluctuates from year to year much more so than the other categories of spending. Thus, the multipliers for “Construction” were used for all construction spending by NMU. Table Two below shows the resulting amount of output, household earnings and employment resulting from NMU spending in 2003-04.

**Table Two:**  
**Effect of University Spending on Output,**  
**Household Earnings and Employment**

		MULTIPLIER FOR:			TOTAL EFFECT ON:		
		Output	Earnings	Jobs	Output	Earnings	Jobs
Education	\$110,792,000	1.6094	0.6447	30.6778	\$178,308,645	\$71,427,602	3,399
Construction	\$22,109,000	1.7119	0.57	16.2374	\$37,848,397	\$12,602,130	359
TOTAL	\$132,901,000				\$216,157,042	\$84,029,732	3,758

### Part Three: Student Expenditures

While the largest effect that NMU has on the Upper Peninsula is by its expenditures and subsequent spending by those that receive this money, consumption by students accounts for almost a quarter of NMU-related spending in the U.P. According to the Office of Financial Aid, student spending on room and board is estimated at \$5,724 per person, and spending for books and miscellaneous is estimated at \$2206 per student for the 2003-04 academic year. However, in determining the total effect on output caused by this spending, there are two adjustments that must be made. First, room and board for students living in University-owned housing must be subtracted, since these expenditures are already factored into University spending in the “Supplies and Services” category. Second, housing costs for students from the U.P. who live at home must be subtracted because there is no direct spending related to their housing. The Office of Housing and Residence Life provides information about the number of students living in dorms and apartments, distinguishing between residents of Michigan and other states. The appendix details how the number of students from three sources (U.P., L.P., out-of-state) are determined to live in three different types of housing (University, rental, family), and the table below shows the results.

**Table Three:  
Estimated Number of Students in  
Different Types of Housing, By Origin**

<b>Undergrads from the U.P.</b>	<b>Students</b>
University Housing	507
Rental Housing	2137
Family Housing	2102
<b>Undergrads from the L.P.</b>	
University Housing	1171
Rental Housing	1018
<b>Undergrads from Out-of-state</b>	
University Housing	892
Rental Housing	776
<b>Grad Students</b>	
Rental Housing	728

Students living with family are assumed to not pay rent, and students living in University housing have already paid for both housing and food. Thus, knowing how many students fall into each category determines how much spending on rental housing, food, and books/miscellaneous occurs. I assumed that all students spend the estimated \$2,210 on books and miscellaneous, students in rental or family housing spend an estimated \$2,724 on food, and students in rental housing spend approximately \$2,700 on housing<sup>4</sup>. Table Four below details the total amount of spending in these three areas by students.

**Table Four:  
Per-student and Total Spending,  
by Category and Choice of Housing**

<b>Student Residence</b>	<b>Number of Students</b>	<b>SPENDING PER STUDENT</b>			<b>TOTAL SPENDING</b>		
		Housing	Food	Other	Housing	Food	Other
University Housing	2600	-	-	\$2,210	\$0	\$0	\$5,746,000
Rental Housing	4629	\$2,700	\$2,724	\$2,210	\$12,498,300	\$12,609,396	\$10,230,090
Family Housing	2102	\$0	\$2,724	\$2,210	\$0	\$5,725,848	\$4,645,420
<b>TOTAL</b>	<b>9,331</b>				<b>\$12,498,300</b>	<b>\$18,335,244</b>	<b>\$20,621,510</b>

Adding the totals of housing, food and other expenses in the table above, one finds that NMU students spent a total of approximately \$51,455,054 in the 2003-04 academic year. However, not all of this can be attributed to the presence of NMU. In order to determine the impact that NMU has on the U.P. economy, one must ask what students would do if they were not at NMU. If all NMU students would find other schools or employment in the U.P. in the absence of NMU, then it cannot be truly said that expenditures by these students is due to NMU.

Previous research assumed that either 50% or 67% of students would leave the UP in the absence of NMU. However, with the help of faculty, I was able to survey almost 1800 current NMU students about what they would do in this situation to obtain more accurate numbers. Students were asked what they would have done if NMU had not accepted them, which means for all intents and purposes, NMU did not exist to them. Of the students that responded, 10.9% said they would be at another school in the U.P., 43.1% said they would be at a school in the

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<sup>4</sup> Based on anecdotal evidence, I assume that rental housing is slightly less expensive than University provided housing, which accounts for the \$300 difference between the Financial Aid Office's estimate of \$5,734 total for room and board and the total of \$5,434 implied in the Table Four.



Lower Peninsula of Michigan, 38.0% said they would be at a school in a different state, and 8.1% said they would not be in school at all. The most conservative approach for this analysis is to assume that all 8.1% of students that said they would not be in school would remain in the U.P. and still contribute to the U.P. economy<sup>5</sup>. Therefore, I will assume that 18% of students currently at NMU would still be in the U.P. if NMU were not an option, so I must subtract their spending to determine NMU's impact. I assume these 1,680 students would all be from the U.P., equally distributed between the three different housing groups. Table Five below shows the effect of removing these students from the analysis.

**Table Five:**  
**Spending by Students Who Would Remain in U.P.,**  
**and Resulting NMU-Attributed Spending**

<b>Student Residence</b>	<b>Students Remaining</b>	<b>SPENDING PER STUDENT</b>			<b>TOTAL SPENDING</b>		
		Housing	Food	Other	Housing	Food	Other
University Housing	180	-	-	\$2,210	\$0	\$0	\$397,800
Rental Housing	756	\$2,700	\$2,724	\$2,210	\$2,041,200	\$2,059,344	\$1,670,760
Family Housing	744	\$0	\$2,724	\$2,210	\$0	\$2,026,656	\$1,644,240
Remaining Students	1,680				\$2,041,200	\$4,086,000	\$3,712,800
All NMU Students	9,331				\$12,498,300	\$18,335,244	\$20,621,510
NMU-Attributed Spending					\$10,457,100	\$14,249,244	\$16,908,710

Based on these totals, one can determine the total effect on the U.P. economy using the RIMS multipliers for the appropriate industries. For housing, food, and other spending, the multipliers for the “Real Estate” industry, the “Food Services and Drinking Places” industry, and the “Retail Trade” industry, respectively, are used. The resulting increases in output, earnings and employment are shown in Table Six below.

<sup>5</sup> From this survey, it is unclear where students that said they would not be in school would be living. The survey could have been expanded to ask additional questions of those that would not be working. However, they constitute a relatively small group of students anyway, and asking additional questions in the survey would impinge on faculty time and likely would have decreased faculty participation in the survey. Thus, these additional questions were not included the survey. The actual amount of students remaining in the U.P. is between 10.9% and 18.0%.

**Table Six:**  
**Output, Earnings and Employment**  
**Resulting from NMU-Attributed Student Spending**

	Total Student Spending	MULTIPLIER			TOTAL EFFECT ON:		
		Output	Earnings	Jobs	Output	Earnings	Jobs
Housing	\$10,457,100	1.168	0.0693	3.3871	\$12,213,893	\$724,677	35
Food	\$14,249,244	1.5446	0.528	35.1613	\$22,009,382	\$7,523,601	501
Other	\$16,908,710	1.4708	0.4641	21.5593	\$24,869,331	\$7,847,332	365
<b>TOTAL</b>	<b>\$41,615,054</b>				<b>\$59,092,606</b>	<b>\$16,095,610</b>	<b>901</b>

Table Six above implies that output in the U.P. is \$59 million more than it would be without NMU. However, if NMU were not an option, 38% of students said they would leave the state of Michigan and attend school in a different state. I assume that all 19% of students currently at NMU from other states would be among those to leave. The remaining 19% consists of Michigan residents who would leave the state, resulting in not only a loss of spending on housing, food and books, but also a loss of tuition for the state of Michigan. Assuming that the students who would leave are most likely the ones from the Lower Peninsula, I maintain the assumption that 53.5% of these students are currently in University housing. Table Seven below details the loss of in-state tuition, as well as the lost output due to the decline in student spending<sup>6</sup>. Note that the spending on food, housing and other is multiplied by their corresponding RIMS multipliers as explained previously in this section, while the spending for tuition is multiplied by the “Educational Services” multiplier.

**Table Seven:**  
**Lost Tuition, Output, Earnings and Employment**  
**from Michigan Residents who would Leave**  
**the U.P. in NMU’s Absence**

Currently in:	Students Leaving	LOST SPENDING PER STUDENT ON:				TOTAL LOST SPENDING	TOTAL LOST OUTPUT
		Tuition	Housing	Food	Other		
University Housing	949	\$5,334	\$3,000	\$2,724	\$2,210	\$12,591,332	\$19,220,975
Rental Housing	824	\$5,334	\$2,700	\$2,724	\$2,210	\$10,685,632	\$15,817,585
<b>TOTAL</b>	<b>1773</b>					<b>\$23,276,964</b>	<b>\$35,038,560</b>

<sup>6</sup> I assume that \$3,000 of room and board for students in University housing is for housing, and the remaining amount is for food.

## **Part Four: Other University-related Expenditures**

Northern Michigan University and its students account for 95% of university-induced spending. The remaining 5% is split between visitors to the area because of NMU, and a variety of university-related entities. Table Eight below details total spending by each of these groups and its effect on output, earnings and jobs. Detailed explanations of these calculations are included in the Appendix to this report.

**Table Eight:  
Total Spending and the Resulting Increase in  
Output, Earnings and Jobs by Other University-Related Groups**

Group	Total Spending	Increase in Output	Increase in Earnings	Increase in Jobs
Visitors	\$4,047,000	\$6,057,063	\$2,025,184	122
Northern Initiatives	\$2,043,000	\$3,140,152	\$1,303,205	27
NMU-TV&FM	\$1,895,000	\$2,684,836	\$668,935	17
USOEC	\$432,000	\$653,184	\$240,192	10

### **Visitors**

Northern Michigan University brings a variety of visitors to the Upper Peninsula that would not otherwise visit the area. Campus visits, sporting events, conferences and the United States Olympic Education Center (USOEC) brought over \$4 million in spending to the U.P. in 2004. Most of this spending is in the form of hotel and motel rooms and food. Spending by visitors accounts for over \$6 million in output.

### **Northern Initiatives**

Northern Initiatives is a Community Development Financial Institution (CDFI) providing information and financial services to more than 200 businesses in the U.P. The economic contribution of these services is difficult to quantify (see Appendix F for more details), but a conservative estimate is that Northern Initiatives is directly responsible for over \$2.5 million in output.

**NMU-TV and NMU-FM**

The public television and public radio stations (Public TV 13 and Public Radio 90) sponsored by NMU generate over \$2.6 million in output annually.

**United States Olympic Education Center**

The USOEC is responsible for training and education Olympic hopefuls in a variety of sports.

The USOEC spends over \$1 million annually in the training and education of its athletes.

However, a sizeable portion of this is paid to NMU in the form of tuition and room and board.

Since this is already included in NMU spending, it is not included in the USOEC spending for this report. The remaining spending by the USOEC accounts for over \$650,000 in output in the U.P.

## Part Five: Summary and Conclusions

A summary of the economic impacts of Northern Michigan University is presented in Table Nine below.

**Table Nine:  
Output, Earnings and Employment  
Resulting from NMU-related Expenditures,  
by Spending Source**

	Total Increase in Output	Total Increase in Earnings	Total Increase in Employment
University	\$216,157,042	\$84,029,732	3,758
Students	\$59,288,874	\$16,265,550	937
Visitors	\$6,057,063	\$2,025,184	122
Northern Initiatives	\$3,140,152	\$1,303,205	27
NMU-TV&FM	\$2,684,836	\$668,935	17
USOEC	\$653,184	\$240,192	10
TOTAL:	\$287,981,151	\$104,532,798	4,872

Every effort was made to obtain the most accurate information possible, but since this report requires a counterfactual approach, and not every answer to every hypothetical question can be answered, the results are somewhat open to interpretation. The appendix to this report details the assumptions made in each part of this report, allowing the reader to change an assumption and calculate its effect on the results. I am confident in the assumptions that were made in this report and used whatever data was available to help inform assumptions and make more accurate calculations. However, whenever an assumption was not informed by existing data, the most conservative assumption possible was made. For copies of the source information referred to in this report, please feel free to contact the author at [dswitzer@nmu.edu](mailto:dswitzer@nmu.edu).

## APPENDIX

### Student Expenditures

Accurate measures of student spending, one must know how many students from the U.P., L.P. and out of state live in University housing, rental housing, or family housing. Unfortunately there was no data base made available for this report that contains all of this information. Thus, one must use other information available and make a few assumptions.

#### University Housing

The Office of Housing and Residence Life provides information about the number of students living in dorms and apartments, distinguishing between Michigan residents and residents of other states. They do not, however, distinguish among Michigan residents between those from the U.P. (who might have the option of living at home) and those from the L.P. (who presumably do not). For the 2003-04 academic year, there are 9,331 students enrolled at NMU, 7,608 of whom are Michigan residents (5,340 from the U.P. and 2,268 from the L.P.). Exactly 2,600 students live in the dorms, with 1,678 of these being Michigan residents and 922 being from other states. This means that 22% of students from Michigan live in University housing, while 54% of students from other states live in University housing. While previous research assumed that all Michigan students are equally likely to live in University housing, I believe a student from the L.P. is more like a student from Wisconsin or Illinois than a student from the U.P. Thus, I assumed that students from the L.P. are equally as likely to live in University housing as students from other states. For all of these students, housing and food are excluded from this analysis since they are already included in University spending. I assume that all graduate students live in rental housing. While no information on their housing decisions is known, since they are older than undergrads, I assume they are much more likely to have their own housing instead of living with family or living in dorms.

#### Family-provided Housing

Based on the numbers provided regarding student residences for in-state and out-of-state students, one can determine that there are 4,209 students from the U.P. that do not live in University housing. Previous research determined that approximately 51.5% of these students live on their own, while the remaining 48.5% of students live with their parents or other relatives. I maintain these same percentages, meaning that an estimated 2,137 U.P. students live on their own, while 2,102 students live with family. I assume that these 2,102 students do not pay for housing and therefore do not contribute to the U.P. housing market.

Relevant multipliers for this part of the report are included in the table below.

Multipliers for:	Output	Earnings	Employment
Real Estate	1.168	0.0693	3.3871
Food Services and Drinking Establishments	1.5446	0.528	35.1613
Retail Trade	1.4708	0.4641	21.5593
Educational Services	1.6094	0.6447	30.6778

Sources:

1. Dean of Students Office, Student Profiles 2003-04
2. Office of Housing and Residence Life

### Visitors

Unfortunately, there was not enough time to replicate the thoroughness of the 1998 Economic Impact Report's discussion of visitor expenses, which is highly detailed. Comparisons were made between the total expenditures on lodging and food/miscellaneous for 1998 and 2000 and annual growth rates of 2.5% (lodging) and 3.0% (food/miscellaneous) were estimated based on the two years of data available. This annual growth rate was then used to project estimated amounts of expenditures in both categories for 2004, since NMU enrollment and overall price levels have been increasing at approximately the same rate before and after 2000. The multipliers used in this portion of the report are included in the table below.

Multipliers for:	Output	Earnings	Employment
Accommodations	1.4577	0.4779	26.1568
Food Services and Drinking Establishments	1.5446	0.528	35.1613

Sources:

1. An Evaluation of the Economic Impact of Northern Michigan University on the Upper Peninsula of Michigan, October 1998, Dr. Harry P. Guenther
2. A Summary of the Economic and Community Impact of Northern Michigan University, March 2001, Dr. Jim Scheiner. (Note: only the summary pamphlet of the detailed report was available.)

### Northern Initiatives

Expenditure data for Northern Initiatives was obtained by examining the Statement of Activities (All Funds) report for the twelve months ending December 31, 2004. Salaries and fringes total \$997,169, which is directly contributing to the Upper Peninsula economy. Other expenditures include items like depreciation and conference/seminar fees paid to outside speakers, neither of which can be reasonably argued to be a contribution to the Upper Peninsula. Total expenditures in the Upper Peninsula total \$1,641,171.

One could reasonably argue that the contribution made by Northern Initiatives to the Upper Peninsula economy is more than simply their direct expenditures in the Upper Peninsula. By offering information and financial services to U.P. entrepreneurs, they provide a valuable service that might not otherwise be offered. The question, however, is: what would these entrepreneurs do if Northern Initiatives were not there? Perhaps some of these businesses would not exist. Perhaps they would obtain financing from other financial institutions, which may or may not be in the Upper Peninsula. How does one quantify the value of this service?

It would clearly be an overestimate to include the value of all loans to businesses in the Upper Peninsula. That would be assuming that none of these businesses would exist in the absence of Northern Initiatives, which is unrealistic. I assume that these businesses would exist but would probably obtain financing from a firm outside the Upper Peninsula. Thus, the interest paid on these loans to Northern Initiatives is a benefit to Upper Peninsula and is included in the

economic impact of Northern Initiatives. Northern Initiatives earned \$401,470 in interest and loan fees<sup>7</sup>. This is in all likelihood a lower bound on the economic contribution of Northern Initiatives to the Upper Peninsula. An accurate accounting would require knowledge about how many U.P. businesses would not exist in the absence of financing from Northern Initiatives, as well as the value of the economic output generated by these firms, which is not possible given the parameters of this report.

Northern Initiatives is engaged in a variety of information and managerial services, so the multiplier used for their spending was an average of that for “Information and data processing services” and “Management of companies and enterprises.” The resulting average values are shown below:

Multipliers for:	Output	Earnings	Employment
Information and data processing services	1.526	0.6243	15.2885
Management of companies and enterprises	1.5486	0.6517	11.6299
Average	1.5373	0.638	13.4592
Total Effects	\$2,522,972	\$1,047,067	22

Source:

Northern Initiatives Statement of Activities, 12 months ending December 31, 2004

### **WNMU-TV and WNMU-FM**

The most recent (Fiscal Year 2005) operating budgets for WNMU-TV and WNMU-FM were obtained from the Board of Trustees meeting on October 18, 2004. It details total expenditures by WNMU-TV as \$1,409,400, with \$202,000 coming from NMU. Thus, the net impact is \$1,207,400, as NMU’s portion is already reflected in NMU expenditures. For WNMU-FM, total operating expenses are \$735,400, with \$48,000 coming from NMU, for a net impact of \$687,400. Combining both stations together results in a net impact of \$1,894,800. The multipliers used are those for the “Broadcasting and telecommunications” industry.

Multipliers for:	Output	Earnings	Employment
Broadcasting and Telecommunications	1.4168	0.353	9.1349
Total Effects	\$2,684,553	\$668,864	17

Source: WNMU-TV and WNMU-FM, Operating Budget, FY 2005.

### **USOEC**

The expenditures made by the USOEC are arguably focused entirely on the Upper Peninsula. However, some expenditures should be removed to avoid double-counting. The 2005-06 budget reflects total expenditures of \$915,000, but \$80,000 of that is from NMU itself and is already

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<sup>7</sup> This assumes that Northern Initiatives would have the same other expenditures if there were no loans made. While this may not be slightly unrealistic, it should be noted that loan interest accounts for less than 20% of revenues, so employees and vendors would still be paid in the absence of these loans.



included in NMU expenditures. Also, \$403,000 is spent on room and board for USOE athletes living in NMU residence halls. This income to the University is already reflected in current NMU expenditures. This leaves a residual amount of \$432,000 that reflects USOE expenditures in the Upper Peninsula. The vast majority of this, over \$300,000, is wages for USOE staff, which directly affects to the Upper Peninsula economy. Since most of the expenditure by the USOE is due to staffing and support, the multipliers used were those for “Administrative and Support Services”.

Multipliers for:	Output	Earnings	Employment
Administrative and Support Services	1.512	0.556	22.9328
Total Effects	\$653,184	\$240,192	10

Source:  
USOE 2005-06 Budget