

The economic impact of Minnesota State Colleges and Universities

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Executive summary

With 31 institutions, including 24 two-year colleges and seven state universities, Minnesota State Colleges and Universities (MnSCU) is the largest single provider of higher education in the state of Minnesota. The MnSCU system operations and its students' spending generate an annual economic impact of \$8.3 billion in the state. This is equivalent to 2.8 percent of Minnesota's 2011 gross regional product. The direct impact of MnSCU in 2011 was \$5 billion, while the indirect impact in other industries was \$3.3 billion.

Similarly, during 2011 MnSCU generated an estimated 80,856 jobs in the state. These jobs included an estimated 56,876 direct jobs, and 23,979 additional indirect jobs, created by vendors, contractors, and businesses supplying inputs to all the colleges and universities and its students.

For the Twin Cities metro area, the economic impact of the 11 MnSCU institutions in the area reaches \$3.1 billion. This is equivalent to 1.6 percent of the Twin Cities metro area gross regional product. This generates 30,301 jobs, including 21,288 positions directly generated by MnSCU institutions.

Overview

With 31 institutions, including 24 two-year colleges and seven state universities, Minnesota State Colleges and Universities (MnSCU) is the largest single provider of higher education in the state of Minnesota. The colleges and universities operate 54 campuses in 47 Minnesota communities, serving 430,000 students in credit and noncredit courses, with about 38,000 awards each year.

This report estimates the economic impact of the Minnesota State Colleges and Universities for 2011. Through its daily activities, MnSCU generates economic value for the state of Minnesota in several ways. First, spending by MnSCU and its students directly impacts the personal income, employment, and tax revenues of the state. Secondly, these expenditures generate an indirect effect; all MnSCU activities induce other organizations and businesses to spend more, creating what is known as a “multiplier effect.” Finally, by educating its students, the system enhances the productivity of both public and private organizations in Minnesota.

The method used in the calculations of these impacts is the Input-Output model developed by IMPLAN. This method measures the direct impact of an organization’s spending in a particular region (a country, state or county) by estimating the inputs used by the organization and the multiplier effects in other industries in the region. For purposes of this study, MnSCU expenditures and its indirect effects come from the universities’ and colleges’ operational activities, their capital investments, and MnSCU students’ spending.

Data used in the analysis include:

- MnSCU operational expenditures, salaries and benefits from MnSCU 2011 financial statements
- Capital expenditures from the state’s bond projects that financed investments for MnSCU from 2010 to 2012 from the Minnesota Management & Budget office
- Estimates of MnSCU students’ spending; a survey of around 10,000 MnSCU students and their spending patterns was used in the IMPLAN model to estimate the direct and indirect effect of this spending for a given year

The objectives of this study are:

- To provide estimates of the statewide economic impact of the operations, capital expenditures and students' spending of the MnSCU system based on the most recent financial and IMPLAN data
- To provide estimates of the statewide impact on jobs of the operations, capital expenditures and students' spending of the MnSCU system based on the most recent financial and IMPLAN data
- To provide estimates of the regional impact of MnSCU in the different industries affected by its operations

Statewide impact

Regional profile

In 2011, Minnesota had 3.4 million of workers, roughly 2.4 percent of the total workers in the United States, and a gross regional product of \$288 billion (close to 2 percent of the United States' product). The main industries in the region by employment levels were food services and drinking places, education, and government.

1. Minnesota regional profile 2011

Population	5,344,861
Total employment	3,460,484
Gross regional product	\$288.2 billion
Average household income	\$110,886
Per capita gross regional product	\$53,896

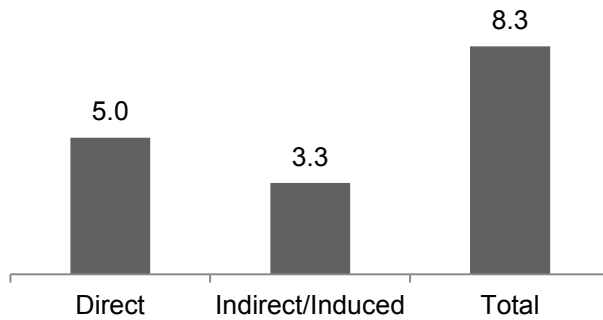
Economic impact

The MnSCU system is located across the state, generating an economic impact that can be perceived in many locations in Minnesota, from Ely to Worthington, and especially in the Twin Cities. The MnSCU system generates an annual economic impact of \$8.3 billion from its operations in the state. This is equivalent to 2.8 percent of Minnesota's 2011 gross regional product. This impact comes from three sources:

- Direct spending coming from MnSCU operational expenses, its faculty and staff salaries and benefits, and its students' spending.
- Indirect and induced spending generated by MnSCU operations, salaries and students' spending. As MnSCU spends money, the organizations and individuals receiving this money re-spend it, generating additional expenditures in the state.
- Direct and indirect spending coming from investment and construction performed by MnSCU.

The direct impact of MnSCU in 2011 was \$5 billion, while the indirect impact was \$3.3, as shown in Figure 2.

2. Economic impact of MnSCU in 2011 (\$ billions)



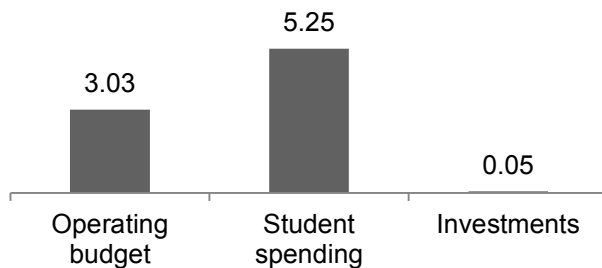
The State and Local educational sector (considering only salaries) is the main industry sector impacted by MnSCU, with \$1,609 million supported by the system. This is equivalent to 13.4 percent of the total state and local public education output of the state for 2011. Other industries impacted by MnSCU are real estate establishments, mainly through the expenditures of students in off-campus housing, and food services and drinking places, whether through spending in vendors to support MnSCU operations or students' spending in these businesses. Figure 3 below shows the top ten industries affected by MnSCU in 2011.

3. Top ten industries impacted by MnSCU in 2011 (millions)

State and local government education	\$1,609
Real estate establishments	\$1,457
Food services and drinking places	\$676
Child day care services	\$451
Imputed rental activity for owner-occupied dwellings	\$272
Telecommunications	\$263
Wholesale trade businesses	\$254
Petroleum refineries	\$214
Medical and diagnostic labs and outpatient and other ambulatory care services	\$195
Monetary authorities and depository credit intermediation activities	\$183
Personal and household goods repair and maintenance	\$142

The sources of these direct and indirect impacts are the operations of the universities and colleges (36%), MnSCU students' expenditures (63%), and MnSCU investments (1%). See Figure 4.¹

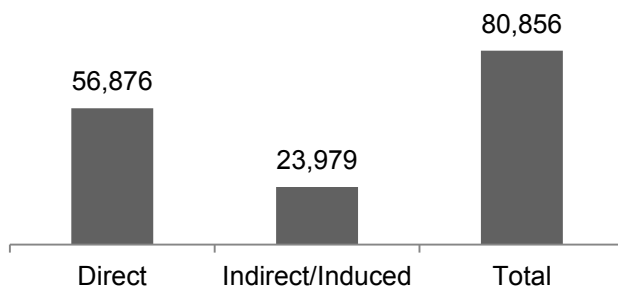
4. MnSCU direct and indirect economic impact in 2011 by source (\$ billions)



Impact on jobs

During 2011 MnSCU generated an estimated 80,856 jobs in the state. These jobs include 56,876 direct jobs, and 23,979 additional indirect jobs, created by vendors, contractors, and businesses supplying inputs to all the colleges and universities and its students (Figure 5).

5. MnSCU direct and indirect impact on employment in 2011 (jobs)



The two industries where MnSCU generates the most jobs are state and local government education (considering only salaries), and the food services and drinking places industry.

¹ Tripp Umbach study for the University of Minnesota (UMN) estimates an annual impact of \$8.6 billion. Both the UMN and this study use the IMPLAN method, but including different spending categories. Tripp Umbach includes the operational expenses, research, and medical centers expenditures. We include the operational expenses, students' expenditures, and capital investments. To compare both institutions directly we need to consider only the operational expenditures; the UMN study found an impact of \$4.6 billion only from this expenditure, while MnSCU generates an impact of \$3 billion from its operations.

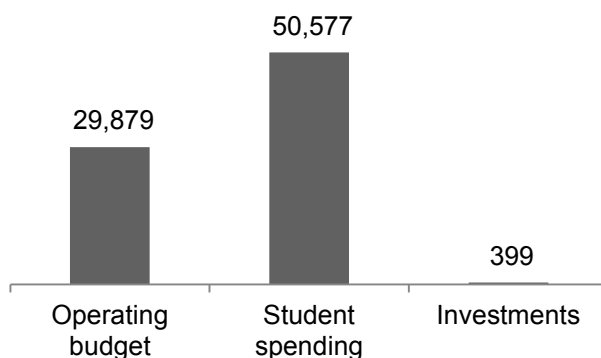
Other industries where MnSCU creates jobs are the child care services (coming from faculty and students' expenditures in this sector), real estate establishments, and retail stores. Figure 6 summarizes the top ten industries impacted by MnSCU system operations and expenditures in 2011.

6. Top ten industries impacted by employment in 2011 (jobs)

State and local government education	21,035
Food services and drinking places	12,234
Child day care services	10,943
Real estate establishments	8,604
Retail Stores - Food and beverage	2,465
Medical and diagnostic labs and outpatient and other ambulatory care services	1,389
Wholesale trade businesses	1,295
Personal and household goods repair and maintenance	1,249
Employment services	1,193
Retail Stores - Gasoline stations	838
Retail Stores - Clothing and clothing accessories	752

Most of these jobs are supported by MnSCU operational expenses and students' spending (direct and indirect). The operations represent 37 percent of the jobs created in the state, the students' expenditures equal to 62 percent, and the capital expenditures are equivalent to 0.5 percent (Figure 7).²

7. MnSCU direct and indirect employment impact in 2011 by source (jobs)



² Similarly to the previous note, we can compare MnSCU impact on jobs with the UMN impact including only the impact from operational activities for both institutions. For the UMN, the jobs created by its operations should be around 42,000 (it is not available in the study but it can be estimated). For MnSCU its operations create 29,879 jobs.

Considering only the approximately 21,000 direct jobs created by the MnSCU system as a whole (without considering the students' spending), MnSCU is the 8th largest employer of the state (Figure 8).³

8. MnSCU direct and indirect employment impact in 2011 by source (jobs)

	Direct	Indirect	Total
Operational expenditures	21,035	8,844	29,879
Students' spending	35,606	14,972	50,577
Investments	235	164	399
Total	56,876	23,979	80,856

Impact on tax revenues

Through its operational activities, its employees' and students' spending, MnSCU supports the activities of the state by paying sales, property, and income taxes, along with other state taxes. Similarly, MnSCU and its employees' social insurance contributions add to the state tax revenues. Since MnSCU's operational activities and spending creates demand for other businesses and industry sectors, additional tax revenues come from businesses serving the MnSCU system. These taxes include the sales, income and property taxes, and others such as corporate taxes.

The MnSCU system generates about \$490 million in tax revenues for the state and local government. The direct contribution from MnSCU to the state's tax revenues comes from its employees' compensations (social insurance), and the taxes paid by households, which amount to \$129 million. Indirect taxes, such as those paid by businesses working with MnSCU or serving its students, reach \$361 million.

³ Based on the Department of Employment and Economic Development estimations.
http://www.positivelyminnesota.com/Business/Locating_in_Minnesota/Major_Companies_Employers/Top_Employers_Statewide.aspx

Twin Cities impact

Regional profile

There are 11 MnSCU institutions in the seven-county Twin Cities metro area:

- Anoka Technical College
- Anoka-Ramsey Community College
- Century College
- Dakota County Technical College
- Hennepin Technical College
- Inver Hills Community College
- Metropolitan State University
- Minneapolis Community & Technical College
- Normandale Community College
- North Hennepin Community College
- Saint Paul College

In 2011 these institutions served more than 110,000 students and awarded more than 13,600 degrees.

During the same year, the seven-county metro area had 2.8 million residents (54 percent of the overall population of the state), with 2 million employees and a gross regional product of \$190.7 billion (66 percent of the state's total regional product). The main industries in the region by employment levels were the food services and drinking places, the education sector, and government.

9. Twin cities regional profile 2011

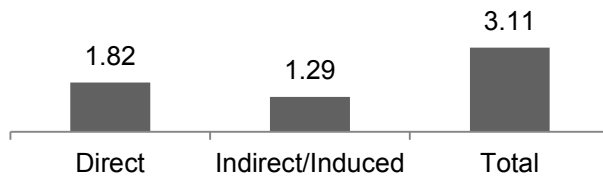
Population	\$2,884,747
Total employment	\$2,031,089
Gross regional product	\$190.7 billion
Average household income	\$127,779
Per capita gross regional product	\$66,103

Counties in the regions: Anoka, Ramsey, Hennepin, Washington, Dakota, Carver, Scott

Economic impact on the seven-county Twin Cities metro area

The annual economic impact of the 11 MnSCU institutions in the metro area reaches \$3.1 billion (Figure 10). This is equivalent to 1.6 percent of the Twin Cities metro area gross regional product.

10. Economic impact of MnSCU in the Twin Cities metro in 2011 (\$ billions)

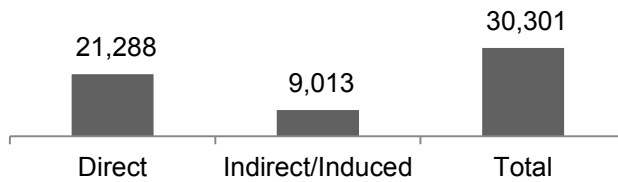


The top industries receiving these impacts are real estate with \$1,400 million, the telecommunications industry with \$230 million, and the wholesale industry with \$196 million of total impact.

Impact on jobs

MnSCU institutions operating in the Twin Cities metro area generate 30,301 jobs, including 21,288 positions directly generated by MnSCU institutions.

11. Impact on employment of MnSCU in the Twin Cities metro in 2011 (jobs)



Benefits to the state beyond operations

Enhanced productivity

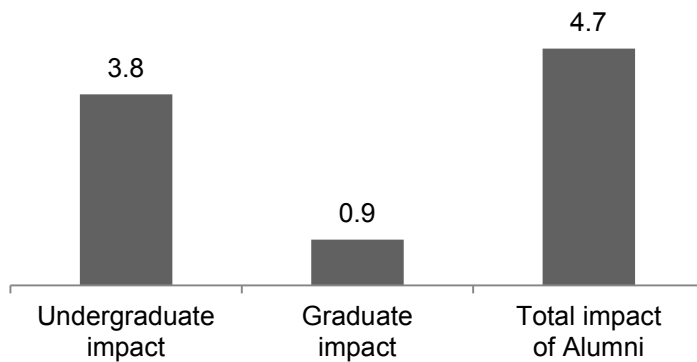
With more than 38,000 awards each year, the economic impact of MnSCU system is larger than its operational impacts. By training its students, the system enhances the productivity of both public and private organizations in Minnesota. Its alumni provide the skills and knowledge needed to improve the functioning of many organizations in the state. MnSCU educates 49 percent of the state's new teaching graduates, 83 percent of the state's new nursing graduates, 85 percent of the state's new law enforcement graduates, 84 percent of new graduates in the construction trades, 90 percent of new mechanics graduates, 38 percent of the state's new business graduates, and 9,000 firefighters and emergency first responders each year.

Since performing a direct measurement of the contribution of system graduates to Minnesota businesses and governments is not feasible, we estimate the additional earnings of graduates as a result of their training. This measure of additional earnings is equivalent to estimating the increase in productivity due to students' education; the students are able to earn more as they better fit the needs of businesses and government.

To estimate this improvement in productivity, we compare the expected salary of the 2011 graduates with the salary they would have received if they remained with a high school diploma. Based on median annual earnings data for Minnesota in 2011 from the Census Bureau, we know that a two-year community and technical college degree increases earnings \$5,313 a year, a bachelor's degree increases earnings \$19,576 a year, and a graduate or professional degree increases earnings \$36,130 a year.

Only considering the 27,780 associate, bachelor's, master's and doctoral degrees awarded by the MnSCU system in 2011, this is equivalent to \$4.7 billion of future value created each year. The impact of the undergraduate degrees reaches \$3.8 billion a year, coming from the 25,875 associate and bachelor's degree graduates in 2011. Similarly, the 1,905 master's, post-master and doctoral degrees generate an impact of \$0.9 billion a year. Taken together, the economic value of MnSCU 2011 graduating cohort is equivalent to 1.6 percent of Minnesota's gross domestic product for the same year.

12. Economic impact of earnings of MnSCU alumni 2011 cohort (\$ billions)



This estimation assumes 40 years of work life, a discount rate of 3 percent and two important parameters. The first one is that the total is adjusted by 30 percent (similar to Tripp Umbach's 2011 report for the University of Minnesota), to allow for the forgone income while attending the college or university, future periods of unemployment, time out of the labor force, and other events. The second parameter included in the estimation is that 80 percent of students stay in the state after graduation (MnSCU Amazing Facts, 2010). The economic value created by the enhanced productivity of students should consider only those students staying in the state; if they leave there is no economic impact for Minnesota in the years following their graduation.

It is important to notice two aspects about this estimation. First, it cannot be included as part of the economic impact. The economic impact estimates the additional spending generated by an organization in a geographical area (Minnesota) in a given year (2011), while the enhanced productivity estimates the additional income of a cohort (2011) for their lifetime (40 years). One is a measure of spending and its indirect impact, the other is a measure of additional productivity and income for the state. Secondly, the enhanced productivity assumes this additional income is generated by the MnSCU system. In other words, if MnSCU did not exist, what would have happened to all those students? It may be the case that some students would have received degrees in other universities or colleges in Minnesota or another state, coming back or staying in Minnesota after graduation, and hence having a similar impact. Therefore, we cannot assume the existence of MnSCU is the cause of this economic value, it could have happened in other ways.

Some studies present the enhanced productivity without discounting the future income received by students (for example, Tripp Umbach study for the University of Minnesota). If we calculate the additional future earnings in this way, the economic benefit from enhanced productivity reaches \$8.1 billion. This is similar to the University of Minnesota enhanced productivity (\$8.9 billion).

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