

MINNESOTA ECONOMIC

TRENDS

CAREERS IN SOCIAL MEDIA

JOSH LE OF THE
MINNESOTA ZOO



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POSITIVELY
Minnesota
Department of Employment and Economic Development



Why Education Matters

The cover headline in a recent issue of Newsweek magazine posed a question that people are increasingly asking these days: “Is College a Lousy Investment?” As with most things in life, the answer depends. Unemployed college graduates, saddled with tens of thousands of dollars in student debt and living in their parents’ basements, might not think college is worth the cost. But experts generally agree that education pays off in the long run.

Three stories in this issue of Trends look at the relationship between education and employment, using different approaches and sources of data.

Ellie Schriener, an Eagan High School senior who was an intern in DEED’s Labor Market Information Office this past fall, analyzed Bureau of Labor Statistics data to compare unemployment rates based on education levels. Not surprisingly, her research found that people with higher educations have lower unemployment rates. What’s notable, however, is the size of the employment gap. At the height of the recession in 2009, Minnesotans without a high school diploma had an unemployment rate that was nearly six times higher than those with bachelor’s degrees. It should be mentioned, however, that many of the college-educated ended up in jobs that they were overqualified to do, a condition known as “malememployment.”

Cameron Macht took another approach, looking at Quarterly Workforce Indicators data to analyze which industries in Minnesota have the most highly educated workforces and which have the least educated workers. It turns out that more than three-fourths of the jobs in the utilities sector are held by workers with some college experience, while only 14 percent of the workers in the mining, quarrying, and oil and gas industry meet that standard.

Finally, Amy Gehring analyzed the pay of construction trades and health care workers in Minnesota before and after they earned associate degrees or sub-baccalaureate awards. Her research showed a connection between more education and higher wages in those industries.

This issue also includes our cover story about careers in the growing social media industry and another article about where the long-term unemployed are finding work. Some people who have been out of work for long stretches, such as mining workers, are returning to their old occupations at similar pay. Many others, however, have been forced to switch to new fields that pay less money.

Officially, the Great Recession has been over for more than three years, but long-term unemployment and its aftermath offer stark evidence that many people are still feeling the effects.

A handwritten signature in black ink that reads "Monte Hanson". The signature is written in a cursive, flowing style.

Monte Hanson
Editor

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Let's Get Social

Organizations are increasingly looking to social media professionals to promote their brands and engage audiences.

Josh Le went to college to study zoology, knowing he wanted to work with animals in a conservation-related field. He soon realized his talents were in marketing, especially communicating via social media.

Today the 2011 University of Minnesota business management and marketing graduate manages Minnesota Zoo's Facebook page, Twitter account and photo-sharing social network Instagram.

and directing people to videos, such as one showing the zoo's tiger cubs playing with a jack-o-lantern for Halloween.

"Social media is becoming such a large part of organizations' marketing strategies," said Le, Minnesota Zoo's social media and marketing coordinator. "Many organizations will have to hire their own full-time social media professionals if they haven't already in order to stay in the game."

like community manager, social media strategist and social networking analyst.

The need for organizations to promote their brands and engage audiences online may be a silver lining for tech- and marketing-savvy recent graduates who have been hit hard by the recession and face high unemployment and underemployment.

Online job site CareerBuilder reported that in 2012 the occupation of social media manager grew 48 percent in year-over-year job listings. Its 2012 mid-year jobs survey found 16 percent of companies have created social media positions that didn't exist five years ago.

Bill Von Bank, Minnesota Zoo's director of sales and marketing, created in 2009 the position now held by Le after first researching and writing a position description because the hybrid social media and traditional marketing job didn't seem to exist in state government.

"[Social media] could be a full-time job," he said. "It's grown to be that important to us." The zoo has nearly 55,000



PHOTO BY JUDY PARKER

JOSH LE, Minnesota Zoo

He's answering questions via Twitter (how much does a bison weigh?), encouraging Facebook visitors to help name zoo animals

These positions often call for backgrounds in marketing, communications or public relations and have job titles

Facebook fans and 11,400 Twitter followers — a jump of 25,000 fans and 3,000 followers since April when Le was hired. Meanwhile, the zoo had record attendance in fiscal year 2012, and visits during the last quarter exceeded the zoo's goal by 50,000.

While you won't find specific Minnesota labor market statistics on social media jobs, many public relations positions require these skills. Minnesota firms employ nearly 5,000 public relations professionals and pay average wages ranging from \$28.61 per hour for specialists to \$52.81 per hour for managers.

The national Occupational Outlook Handbook predicts media and communications occupations will grow 13 percent from 2010 to 2020 largely because of the demand for public relations specialists and growth in social media. Employment of public relations professionals alone is expected to grow 23 percent. Job trends in Minnesota are comparable.

"There's no entity on the planet that doesn't need people who can communicate," said Kathleen Hansen, director of undergraduate studies at the University of Minnesota School of Journalism and Mass Communication. "It's never been a better time to study how to communicate with audiences. Students understand that."

The school — which offers a popular journalism major to prepare students for journalism, advertising and public relations careers — has significantly revised its curriculum to meet employer demand for graduates with social media skills. This spring it will offer "Digital Media for Strategic Communication," a new course teaching how to interpret web usage data and create content to increase website traffic.

It's an exciting time for students as they invent the future of communication, said Hansen, a professor of more than 30 years, who admits she has to remind concerned parents their children are attending a journalism and mass communication program rather than a school of newspapers. "It's the most exciting, fascinating era I can think of."

Recent graduates include a multimedia producer for the Star Tribune, a journalism program manager at Facebook, a technical producer for advertising at Google and an e-commerce copywriter for apparel brand GUESS?.

Robert Filipczak is someone who didn't plan for a social media career when he graduated with an English degree in 1984 and pursued work in journalism and marketing. After being laid off by a Fortune 500 company during the recession, Filipczak was



BILL VON BANK
Minnesota Zoo



KATHLEEN HANSEN
University of Minnesota



NICK GRZECHOWIAK
Real Avid

hired in 2009 to write for and maintain the Minnesota Department of Transportation's website. Then one day he was



PHOTO BY JUDY PARKER

ROBERT FILIPCZAK
MnDOT

asked to create a department Facebook page.

Today that page has nearly 4,000 fans, and he uses Facebook and Twitter to share road condition reports, construction updates and driving tips.

“Facebook and Twitter give us a whole new avenue to spread information in fast and in reliable ways,” said Filipczak, MnDOT’s social media coordinator. “We’re reaching the right people and they spread our word better than we do.”

Besides teaching himself to create and manage Facebook and Twitter accounts for his organization, Filipczak has

learned to shoot and edit online videos that attract thousands of viewers. The most popular ones have highlighted construction of the Hastings bridge and the benefits of zipper merging in construction zones.

Filipczak said people are interested in this information, not merely to monitor government but because traffic and roads affect their lives.

Nick Grzechowiak, marketing manager at Real Avid in Plymouth, knows the importance of connecting with an audience online. In January 2012, the maker of tools for hunters had 444 Facebook fans.

In less than a year, the company has nearly 43,000 fans and was among six Twin Cities firms competing nationally in Social Madness — a contest where organizations vie for the greatest social influence determined by LinkedIn connections, Facebook activity and Twitter followers. Real Avid won the regional championship for small companies.

“I built a multi-month social plan for Real Avid prior to the start of Social Madness,” said Grzechowiak, who has a business degree and believes successful social media is based on strategy and relationships. “It contained week-by-week content and campaigns that were designed to

spike traffic at key times in the competition. When the voting was wrapping up in each round, I had a campaign ready to launch that would affect our traffic, likes and engagement.”

Grzechowiak worked to engage hunters online after studying the culture, products and influencers in the market. “The key to any social campaign is creating content that the audience connects with.”

A recent campaign spotlighting the hunting tradition encouraged Real Avid’s Facebook visitors to post photos of their young hunters and shooters. A prize was offered for the best photo.

Creating valuable content, writing in an authentic voice and keeping up with technology are vital skills for social media professionals. But maturity is also important.

A number of corporations have faced embarrassing incidents after hiring recent graduates, said Jennifer Kane, principal of Kane Consulting, a Twin Cities firm that helps businesses use social media.

She referred to a Red Cross staffer who tweeted about beer using the organization’s Twitter account and a KitchenAid employee who slammed President Obama during a debate using the company’s Twitter account.



Creating Your Brand

By Rachel Vilsack

Many items you buy — and even stores — have a brand identity that makes them recognizable to consumers. Branding is how companies stand out from one another. A brand might include a logo or image, but it also must evoke a consistent message, like a quality or feeling.

The concept of branding relates to the job search process, too. Job seekers try to stand out from their competition by displaying certain qualities — like skills and experience — or personal achievements and successes. Just like a company, job seekers are trying to sell something to an employer.

Social networking sites like LinkedIn, Facebook or Twitter are one way job seekers can create a brand. In fact, 88 percent of job seekers have an online profile on at least one of these sites, according to the Jobvite 2012 Social Job Seeker Survey. A personal website or blog also may be part of a brand and can showcase writing and other skills essential for social media positions.

Job seekers aren't the only ones making a connection to possible employers on social networking sites. Nearly all recruiters (92 percent) that participated in Jobvite's 2012 Social Recruitment Survey use or plan to use social media for recruiting this year. Three out of four recruiters surveyed hired candidates through social networks and found the quality of candidates to be higher since implementing social recruiting.

Many employers perform an Internet search to screen job candidates, so an effective online persona that strengthens your brand could make you stand out, including references to volunteering and membership in professional organizations.

Of course, not all online behavior affects a candidate positively. Drug and alcohol references, profanity, and even spelling and grammar errors in posts or tweets create a bad impression about a potential job candidate.

While social networking doesn't take the place of face-to-face networking, job seekers might be missing out on some potential contacts and opportunities to connect with job openings if they are not making use of these tools.

"When a person who doesn't have the maturity sits on the front lines, it can cause big problems," she said. "It's not an entry-level position. You have to be really savvy about PR, how a company works and politics. That person is really in the spotlight and has to juggle a lot of time-sensitive information. It's a job that never stops."

Kane, who is developing curriculum for St. Paul-based Concordia University's social media certificate program, encourages job seekers to use social media tools to show they can manage their own Facebook and Twitter accounts. "It's pretty hard to get a community manager job without a blog."

She also sees a need for social media professionals to have more analytical skills and backgrounds in statistics and behavioral psychology to better understand all the data from online activity so digital marketing can be used more effectively and its return on investment better understood.

It's super fun to teach someone to tweet, but the heavy lifting means understanding causation, correlation, measurement, return on investment and traffic patterns. "I don't think those people exist yet, and I'm not sure the jobs are there for them, but they will be," said Kane, who was among the 2009 Twin Cities Top 10 Titans in Social Media.



CONTRIBUTED

JENNIFER KANE
Kane Consulting

In addition to staying active online, job seekers should be creative when searching for social media jobs. Recent Minnesota job openings requiring these skills included positions for communications specialists, media analysts, product marketing managers, digital marketing specialists and community engagement specialists.

“Anyone who wants a social media career definitely needs to research it,” Le said. “It’s not enough to have a Facebook page. You still need to know what information is best to share. You definitely still need to have a strong background in marketing and public relations to be successful in social media marketing. And you have to be really flexible. Social media is

constantly changing. Rolling with the changes and keeping up with all the trends is really big. It’s the only way your brand is going to stay relevant.” ■

Places to Learn More

Grow, www.businessesgrow.com/blog

Mashable, <http://mashable.com>

Social Media Jobs Salary Guide from Onward Search, www.onwardsearch.com/Social-Media-Salaries

Social Media Today, <http://socialmediatoday.com>

Some Minnesota Organizations for Social Media Professionals

Minnesota Chapter of Business Marketing Association, <http://bit.ly/Rz431r>

Minnesota Interactive Marketing Association, www.mima.org

Minnesota Public Relations Society of America, www.mnprsa.com

Social Media Breakfast Minneapolis/St. Paul, <http://smbmsp.org>



The Education Advantage

People with higher levels of education have more job opportunities and lower unemployment rates than people with less schooling.

The unemployment rate is an important measure of economic health. It doesn't tell the whole story, however. Unemployment rates for the entire workforce are produced monthly in each state and nationally, but these rates can be broken down further to better illustrate the rates for different groups. One factor that is closely tied to a group's unemployment rate is educational attainment. Some jobs require higher education levels, like a college degree, while others do not, leading to a variation in the unemployment rate by education level.

Understanding the Data

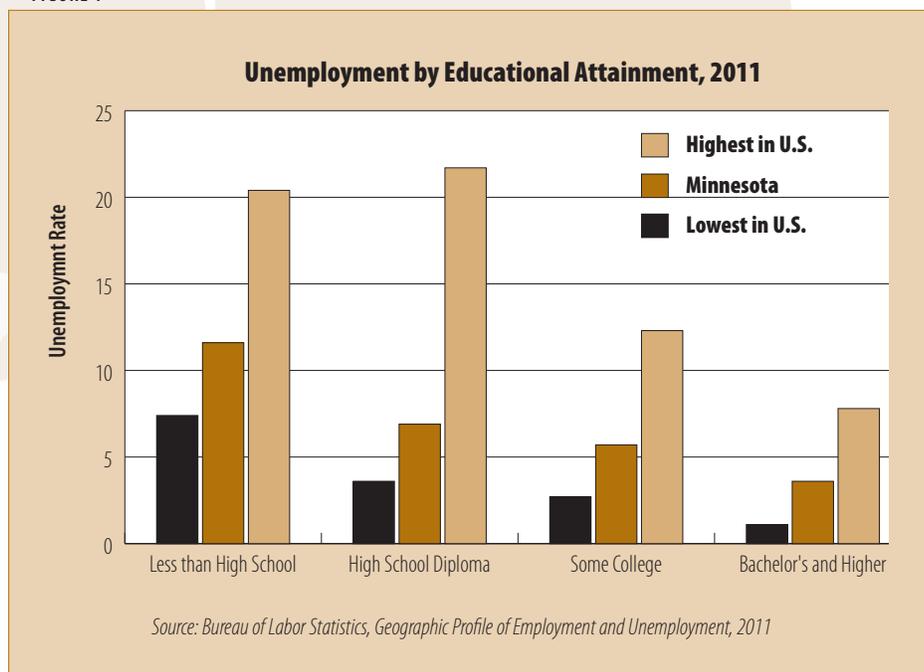
The Bureau of Labor Statistics collects unemployment data from every state in four education subcategories: 1) less than a high school diploma, 2) high school graduate with no college, 3) some college or an associate degree, and 4) bachelor's degree and higher. Unemployment rates tend to decrease with higher educational attainment. The unemployment rate for Minnesotans with a

bachelor's degree and higher in 2011 was 2.5 percent, compared with an unemployment rate of 7.3 percent for those with less than a high school diploma. Nationally, the range is even broader: People with less than a high school diploma had an unemployment rate of 20.4 percent, while the jobless rate for those with a bachelor's degree or higher was 2.8 percent.¹

Figure 1 shows the unemployment rates for the four different levels of education in 2011. It gives the lowest and highest rates in the United States and the rate in Minnesota. In nearly all categories, the unemployment rate decreases as educational attainment increases.

This same trend is also seen in times of recession. In 2009, when the unemployment rate peaked,

FIGURE 1



Minnesotans with a bachelor's degree had a jobless rate of 3.4 percent, much lower than the 19.2 percent unemployment rate for Minnesotans with less than a high school diploma. Similarly, the unemployment rate for those with a bachelor's degree in the state with the highest jobless rates was still 15.6 percentage points lower than the rate for

thirds of the increase in the number of unemployed people between the ages of 25 and 64 in Minnesota. By 2011, 58 percent of the unemployed, or 90,000 Minnesotans, had at least some college experience. Unemployment rates are still higher at the low education levels and lower at higher education levels, but the recession resulted

of jobs requiring high educations. Instead, in his book "Why Good People Can't Get Jobs," he states, "When applicants far outnumber job openings, the over-qualified bump out those only adequately qualified." This implies that some workers with college degrees are working in jobs that do not require a college-level education.⁴

In other words, having a college degree could help a job candidate beat out competitors who don't have a college degree. This may be increasingly common, with more workers now holding positions for which they are overqualified, a situation known as "malemployment." These jobs neither require nor use a worker's higher education.

Professors Andrew M. Sum and Paul E. Harrington of the Northeastern University Center for Labor Market Studies explain that, in these situations, workers with a college degree tend to have higher earnings than their high school-educated counterparts, but the difference is only about 5 to 8 percent. Additionally, college graduates working in non-college degree occupations are only slightly more productive than workers with only a high school diploma. In these cases, the college degree produces a rather low return on investment.



those who did not complete a high school education.²

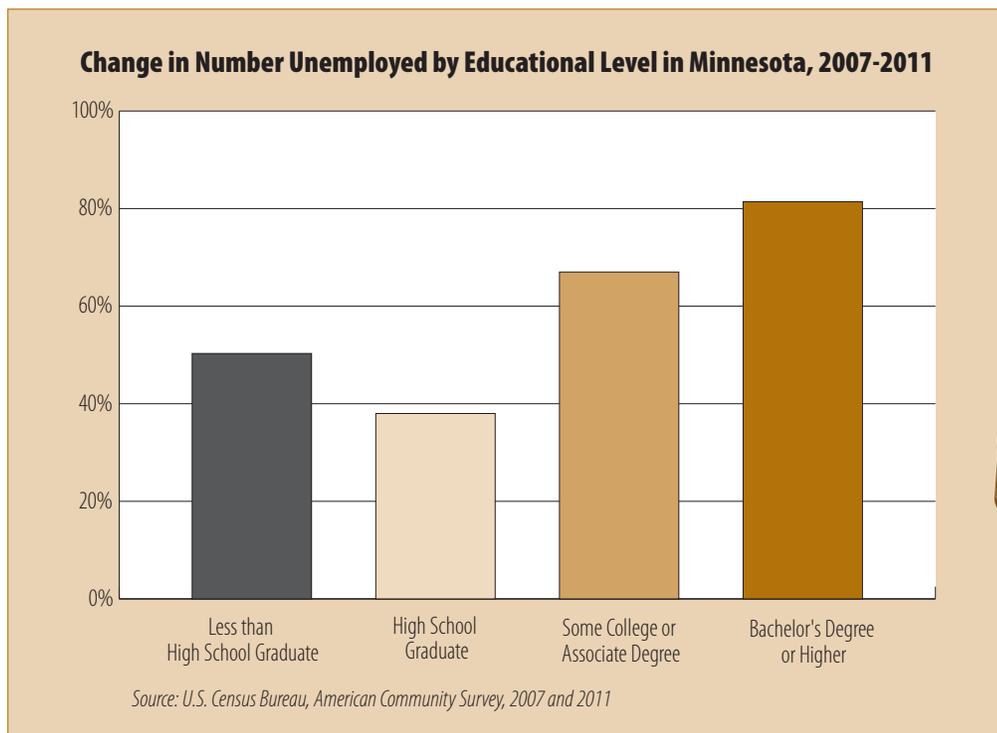
Those with more education, however, experienced a greater increase in unemployment in the aftermath of the recession than those with less education. Between 2007 and 2011, people with post-secondary educations accounted for two-

in a proportionally larger pool of educated job seekers than four years earlier (see Figure 2).³

Behind the Numbers

According to labor market expert Peter Cappelli, lower unemployment rates for highly educated people doesn't mean they have access to a larger pool

FIGURE 2



Looking to the Future

The recent recession was different from others in that a lot of people were unemployed for a long time. This will have a noticeable effect well into the future, but it can be mitigated. Cappelli reasons that higher education may indicate a generally more qualified candidate, leading to an increase in the chances of being hired for any type of job.⁵ Along with

a lower unemployment rate, holding a bachelor's degree or higher opens doors to more job opportunities. Whether they are in the graduate's field of choice or pay substantially better is another matter. **T**



¹Geographic Profile of Employment and Unemployment 2011, U.S. Bureau of Labor Statistics, U.S. Department of Labor.

²Geographic Profile of Employment and Unemployment 2009, U.S. Bureau of Labor Statistics, U.S. Department of Labor.

³American Community Survey 2007 and 2011, U.S. Census Bureau, U.S. Department of Commerce.

⁴"Why Good People Can't Get Jobs," Peter Cappelli, 2012.

⁵College Labor Shortages in 2018? Paul E. Harrington and Andrew M. Sum, New England Board of Higher Education, November 2010.

Education and Jobs

Education matters when it comes to pay and unemployment rates, although less in some sectors than others in Minnesota.

Quarterly Workforce Indicators (QWI) data provide valuable insights about the educational levels of adult workers in Minnesota, along with other information on age groups, gender, race

and ethnicity, new hires and separations.¹

The data have some limitations, though. Employment totals are not exactly comparable with other data sets because

QWI data do not include self-employed workers or independent contractors. Also, QWI data by educational attainment include only workers who are 25 or older.

TABLE 1

Minnesota Quarterly Workforce Indicators by Industry and Age of Workers, 2011

Industry Title	Total Jobs	14-24 Years Old	Percent	25 Years Old and Over	Percent
TOTAL, ALL INDUSTRIES	2,565,835	362,078	14.1%	2,203,757	85.9%
Agriculture, Forestry, Fishing and Hunting	17,810	3,714	20.9%	14,096	79.1%
Mining and Quarrying	5,716	340	5.9%	5,376	94.1%
Utilities	14,026	447	3.2%	13,579	96.8%
Construction	102,782	9,465	9.2%	93,317	90.8%
Manufacturing	302,686	20,346	6.7%	282,340	93.3%
Wholesale Trade	126,440	9,560	7.6%	116,880	92.4%
Retail Trade	276,649	79,176	28.6%	197,473	71.4%
Transportation and Warehousing	65,864	4,948	7.5%	60,916	92.5%
Information	54,000	5,201	9.6%	48,799	90.4%
Finance and Insurance	128,930	7,299	5.7%	121,631	94.3%
Real Estate, Rental and Leasing	42,632	3,746	8.8%	38,886	91.2%
Professional, Scientific and Technical Services	126,857	8,804	6.9%	118,053	93.1%
Management of Companies	86,754	8,706	10.0%	78,048	90.0%
Admin. Support and Waste Management	127,296	21,598	17.0%	105,698	83.0%
Educational Services	228,716	12,081	5.3%	216,635	94.7%
Health Care and Social Assistance	418,756	51,854	12.4%	366,902	87.6%
Arts, Entertainment and Recreation	47,057	11,777	25.0%	35,280	75.0%
Accommodation and Food Services	196,689	80,163	40.8%	116,526	59.2%
Other Services (except Public Administration)	86,152	15,625	18.1%	70,527	81.9%
Public Administration	109,995	7,208	6.6%	102,787	93.4%

Source: DEED Quarterly Workforce Indicators program

In Minnesota, just over 362,000 jobs — or 14 percent of all jobs — are held by workers ages 14 to 24 and are therefore not included in the educational attainment data from QWI used in this article (see Table 1). Omitting thousands of younger workers in the QWI data set means it cannot give a complete picture of each industry's workforce. Accommodation and food services and the retail sector, for example, have a heavy concentration of workers under the age of 25 who would not be counted in the data. But in 13

industries listed on the table, fewer than 10 percent of the jobs are filled by people under the age of 25, meaning the data provide a fairly clear picture of educational attainment in those cases.

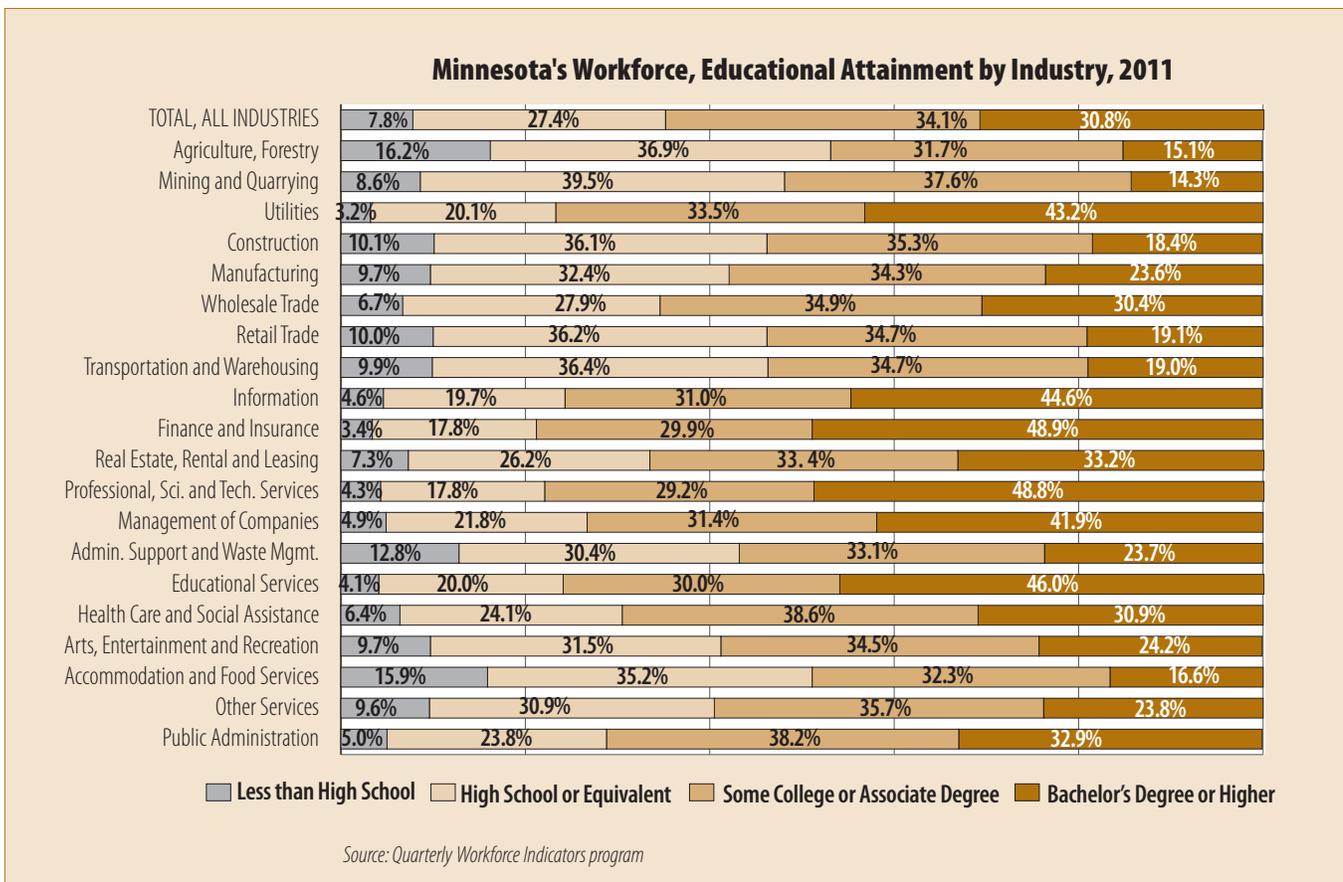
Educational Attainment by Industry

Overall, nearly two-thirds (64.8 percent) of workers 25 and over in the state have some college experience, while the other one-third (35.2 percent) have a high school diploma or less. This does not mean those jobs require that

level of educational attainment, just that workers have achieved that level of education. In many cases, workers are overqualified or underemployed for the jobs they hold (see Figure 1).

Utilities has one of the most educated workforces in the state, with more than three-fourths (76.7 percent) of the jobs held by workers with college experience, including 43.2 percent who had bachelor's degrees or higher and 33.5 percent who had some college experience or an associate degree.

FIGURE 1



Along with utilities, about three-fourths of the workers in each of five other industries had college experience: finance and insurance; professional, scientific and technical services; educational services;

information; and management of companies. The health care and social assistance sector and public administration had the highest concentrations of workers with some college experience or an associate degree.

workers 25 and over in the latter two industries had a high school diploma or less.

The construction sector and transportation and warehousing also had lower educational attainment in their workforces, with nearly one-half of the jobs held by workers with a high school diploma or less.

Education Pays

With the exception of mining, the highest-paying industries in the state tended to have workers with the highest educations. As shown in Figure 1, almost three-fourths of the jobs in each of four high-paying industries — management of companies; finance and insurance; utilities; and professional, scientific and technical services — were held by people 25 and over who earned degrees or at least experienced college.

The QWI data clearly show that investments in postsecondary education pay off in higher wages. Average monthly earnings for jobs held by adult workers with bachelor's degrees or higher were 43.4 percent higher than for the total of all jobs, and they were nearly double the average annual earnings for jobs held by workers with high school diplomas.

Likewise, average monthly earnings for workers with some college or an associate degree

In contrast, the mining, quarrying, and oil and gas extraction industry had the lowest percentage of workers (14.3 percent) with bachelor's degrees or higher, followed by agriculture, forestry, fishing and hunting (15.1 percent) and accommodation and food services (16.6 percent). More than one-half of the



were 42.5 percent higher than wages for workers with less than a high school diploma.

Average monthly earnings were higher for people with more education in all 20 main industry sectors, although the benefits of

postsecondary education varied widely by industry (see Table 2).

Average monthly earnings were highest for workers who manage companies, reaching nearly \$8,150 in 2011. But wages fell

to about \$4,400 for company managers with less than a high school diploma, although they made up less than 5 percent of the industry's workforce 25 and over. Company managers with a bachelor's degree or higher

TABLE 2

Average Monthly Earnings by Industry by Educational Attainment, 2011

Industry Title	Average Monthly Earnings, 2011					Difference between Bachelor's Degree or Higher and H.S. Diploma
	Average Monthly Wages	Less than H.S. Diploma	H.S. Diploma or Equivalent	Some College or Associate Degree	Bachelor's Degree or Higher	
TOTAL, ALL INDUSTRIES	\$4,435	\$2,778	\$3,291	\$3,959	\$6,361	93.3%
Management of Companies	\$8,143	\$4,336	\$5,270	\$6,576	\$11,268	113.8%
Mining and Quarrying	\$7,183	\$6,155	\$6,641	\$7,067	\$9,548	43.8%
Finance and Insurance	\$7,172	\$3,937	\$4,372	\$5,467	\$9,467	116.5%
Utilities	\$6,988	\$5,622	\$5,922	\$6,491	\$7,951	34.3%
Professional, Scientific and Technical Services	\$6,651	\$4,098	\$4,537	\$5,426	\$8,341	83.8%
Wholesale Trade	\$5,988	\$3,752	\$4,457	\$5,437	\$8,511	91.0%
Information	\$5,548	\$3,407	\$3,879	\$4,734	\$7,071	82.3%
Manufacturing	\$5,099	\$3,596	\$4,189	\$4,912	\$7,231	72.6%
Real Estate, Rental and Leasing	\$4,823	\$2,739	\$3,328	\$4,210	\$7,078	112.7%
Construction	\$4,713	\$3,880	\$4,325	\$4,725	\$5,845	35.2%
Public Administration	\$4,088	\$3,085	\$3,505	\$3,970	\$4,786	36.5%
Health Care and Social Assistance	\$3,977	\$2,342	\$2,701	\$3,427	\$5,931	119.6%
Educational Services	\$3,785	\$2,589	\$2,812	\$3,319	\$4,606	63.8%
Transportation and Warehousing	\$3,455	\$2,842	\$3,199	\$3,486	\$4,195	31.1%
Administrative Support and Waste Management	\$3,067	\$2,093	\$2,558	\$2,983	\$4,305	68.3%
Agriculture, Forestry, Fishing and Hunting	\$2,902	\$2,588	\$2,804	\$2,943	\$3,385	20.7%
Arts, Entertainment and Recreation	\$2,687	\$1,961	\$2,103	\$2,489	\$4,023	91.3%
Retail Trade	\$2,641	\$2,061	\$2,344	\$2,653	\$3,493	49.0%
Other Services (except Public Administration)	\$2,618	\$1,996	\$2,245	\$2,565	\$3,421	52.4%
Accommodation and Food Services	\$1,680	\$1,535	\$1,611	\$1,714	\$1,900	17.9%

Source: DEED Quarterly Workforce Indicators program



had average monthly wages that were nearly three times higher, reaching \$11,268. That figure was also more than twice as high as the average monthly earnings for managers with a high school diploma.

Workers in the high-paying finance and insurance, wholesale trade, information and the professional, scientific and technical services sectors share similar earnings gaps for their investments in postsecondary education. Workers with bachelor's degrees or higher in all four industries earn 80 percent or more than workers with high school diplomas or equivalent.

In contrast, wage gaps are much smaller for workers in the high-paying mining and utilities industries. Even though

it is the second-highest paying industry in the state, mining and quarrying has a very different workforce profile. As shown in Figure 1, nearly half of the workers over the age of 25 had a high school diploma or less, and fewer than 15 percent had a bachelor's degree or higher, yet average monthly earnings were high for workers throughout the industry. The wage advantage between a high school diploma and a bachelor's degree was much smaller than other industries — just 44 percent higher.

Utilities had much higher educational attainment among its workforce, but also a much smaller gap in average monthly earnings between workers with a high school diploma or less and workers with postsecondary education. Not to say that the investment in education isn't worthwhile, as workers with bachelor's degrees or higher still earned nearly \$8,000 per month on average in the utilities industry, compared with just under \$6,000 for utilities workers with a high school diploma.

More education also leads to significant earnings advantages in the two largest industries in the state: manufacturing and the health care and social assistance sector. Combined, these two industries account for more than one in every four jobs in Minnesota, totaling nearly

725,000 jobs, according to QWI data. Workers with a bachelor's degree or higher in health care and social assistance make nearly 120 percent more than workers with a high school diploma.

In comparison, just over 40 percent of the jobs in manufacturing are held by workers with a high school diploma or less, and they earn relatively high wages compared with other industries. Manufacturing workers with less than a high school diploma actually earned more than workers with bachelor's degrees in four other industries, averaging about \$43,155 annually. But manufacturing workers with some college or an associate degree tacked on almost \$16,000 more per year, and workers with a bachelor's degree or higher earned double the average annual earnings at \$86,775.

The lowest wage differential was found in the accommodation and food services industry, but so were the lowest wages. As shown in Figure 1, workers 25 and over in accommodation and food services represent about 16 percent of each end of the educational spectrum. The wage differential between workers with less than a high school diploma and those with bachelor's degrees or higher amounted to less than \$400 per month.

Likewise, the earnings advantage for higher educational attainment in many of the lowest-paying industries in the state tends to be lower. That is partly because these industries rely more on workers with lower

educational attainment. These data, however, might also reflect less on the value of educational attainment in these industries and demonstrate more the effects of underemployment for some workers in these industries.

Again, just because workers have college experience or an advanced degree does not mean that it is required for the job they hold.

TABLE 3

Turnover Rate by Industry by Educational Attainment, 2011

	Turnover Rate				
	Total	Less than H.S. Diploma	H.S. Diploma or Equivalent	Some College or Associate Degree	Bachelor's Degree or Higher
TOTAL, ALL INDUSTRIES	7.7%	10.2%	8.1%	7.5%	7.1%
Agriculture, Forestry, Fishing and Hunting	11.3%	13.2%	10.8%	10.7%	11.6%
Mining and Quarrying	5.2%	8.0%	5.5%	4.5%	5.2%
Utilities	3.0%	5.4%	3.7%	3.1%	2.4%
Construction	10.5%	13.9%	11.3%	9.8%	8.4%
Manufacturing	4.9%	6.2%	4.9%	4.8%	4.8%
Wholesale Trade	5.6%	7.1%	5.7%	5.4%	5.5%
Retail Trade	8.7%	9.7%	8.2%	8.6%	9.1%
Transportation and Warehousing	8.1%	9.7%	8.1%	8.0%	7.7%
Information	7.0%	9.2%	7.6%	6.9%	6.7%
Finance and Insurance	9.1%	11.6%	9.1%	9.0%	8.9%
Real Estate, Rental and Leasing	8.7%	10.6%	8.9%	8.6%	8.1%
Professional, Scientific and Technical Services	7.4%	10.7%	8.5%	7.5%	6.7%
Management of Companies	9.3%	11.5%	9.5%	9.3%	8.8%
Administrative Support and Waste Management	16.1%	19.0%	16.4%	15.7%	15.0%
Educational Services	7.3%	10.3%	8.0%	7.4%	6.6%
Health Care and Social Assistance	6.6%	9.1%	7.3%	6.3%	5.7%
Arts, Entertainment and Recreation	13.5%	15.6%	13.2%	13.0%	13.9%
Accommodation and Food Services	11.4%	11.8%	11.2%	11.4%	11.9%
Other Services (except Public Administration)	8.0%	9.5%	8.0%	7.9%	7.7%
Public Administration	4.1%	6.4%	4.7%	3.8%	3.6%

Source: DEED Quarterly Workforce Indicators program

Turnover Rates

Unemployment and turnover rates were lower for workers with higher educational attainment. For all industries, turnover rates were 10.2 percent for jobs held by workers with less than a high school diploma and 8.1 percent for workers with a high school diploma or equivalent. Workers with some college or an associate degree had a turnover rate of 7.5 percent, while those with a bachelor's degree or higher had a turnover rate of 7.1 percent (see Table 3).

In certain industries, the differences were even more pronounced. For example, the turnover rate for construction workers with a bachelor's degree or higher was 5.5 percent lower than for workers with less than a high school diploma. For workers in the professional, scientific and technical services industry, the turnover rate gap was 4 percent from one end of the educational spectrum to the other, and rates were also

much lower for higher educated workers in administrative support and waste management services, educational services, health care and social assistance, and utilities.

In contrast, turnover rates were slightly higher for workers with bachelor's degrees or higher than for workers with less than a high school diploma in the accommodation and food services industry. Turnover rates also were higher for workers with bachelor's degrees or higher than for workers with a high school diploma in the agriculture, retail trade, and arts, entertainment and recreation industries.

Investing in Education

As the data show, investing in a postsecondary education likely will pay off in higher wages and lower unemployment. The returns on investment, though, may vary widely depending on the industry and occupation. College experience is a necessity

in some jobs, especially in the higher-paying industries, while a bachelor's degree may lead to underemployment or higher turnover in other industries. In some industries, a high school diploma may be all that is needed to secure a steady, good-paying job.

By using QWI data to explore the concentration, earnings and turnover rates for workers in Minnesota's major industries, students and job seekers can make more informed career decisions. 

¹QWI data come from the U.S. Census Bureau's Local Employment-Household Dynamics (LEHD) program, which is a federal-state partnership that links employment data from state administrative records with demographic and social characteristics from Census Bureau surveys and censuses.

Back to the Classroom

More education often results in higher paychecks for workers in the construction and health care industries, according to a DEED analysis.

The connection between school and work is getting increased scrutiny in this era of rising educational costs. Students want to know if their schooling will pay off. State education planners and policymakers, meanwhile, want to know if more education will help people find jobs and make Minnesota businesses more competitive.

To help answer those questions, DEED and two other state agencies¹ partnered to design the Statewide Longitudinal Education Data System (SLEDS) and the Workforce Data Quality Initiative (WDQI). These two systems link data on people who completed a degree or certificate program in Minnesota with wage records from all employers subject to unemployment insurance taxes in the state. By examining these data, it is possible to compare salaries of people before and after they obtained degrees or certificates.²

This article analyzes data on people who completed one- or two-year programs for associate degrees or sub-baccalaureate awards during the 2009-2010 school year in Minnesota.

These programs were chosen for several reasons. First, there is less research available on the outcomes of people with associate degrees or certificates compared with those who earned bachelor's degrees. Second, these are relatively short-term programs and therefore more attainable for the average person in the workforce. Third, enrollment in Minnesota's postsecondary schools rose by 15.2 percent from 2007-2011,³ with community and technical colleges and private for-profit schools — the institutions that offer associate degrees and certificate programs — responsible for much of that increase. During the study period, 14,830 people earned sub-baccalaureate awards and 18,066 people earned associate degrees in Minnesota.

Certificate and Associate Degree Programs

People receiving sub-baccalaureate awards in 2009-2010 studied in 253 distinct programs. The top 10 programs of study are presented in Table 1. As can be seen, nursing programs occupy the top two spots.

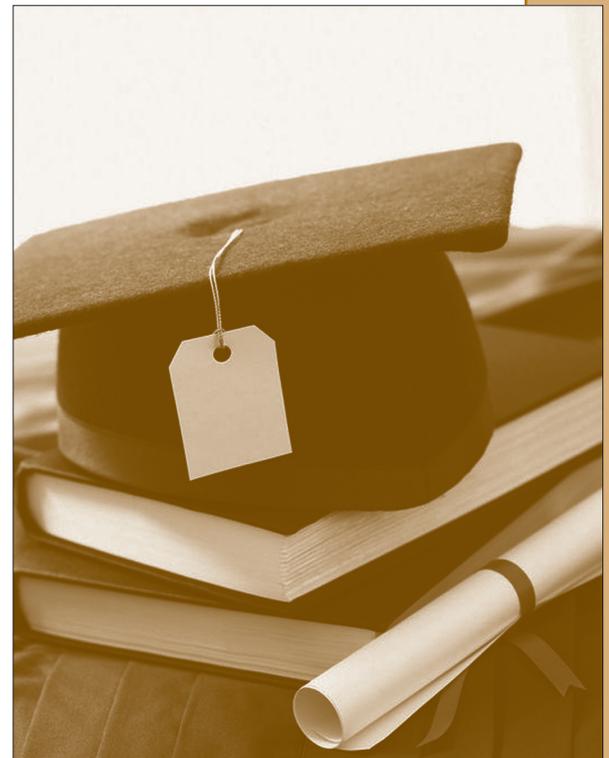


TABLE 1

Programs of Study for Sub-Baccalaureate Awards

Classification of Instructional Programs (CIP) Title	Number of Programs
Nursing Assistant/Aide and Patient Care Assistant/Aide	2,237
Licensed Practical/Vocational Nurse Training	1,365
Cosmetology/Cosmetologist, General	1,213
Criminal Justice/Police Science	616
Welding Technology/Welder	402
Massage Therapy/Therapeutic Massage	357
Business/Commerce, General	319
Electrician	295
Carpentry/Carpenter	291
Dental Assisting/Assistant	269

Source: Minnesota Office of Higher Education

Minnesota postsecondary institution, with three-quarters of that group seeking bachelor's degrees.

Both award levels have heavy concentrations of students in the health field. In fact, nearly three-fourths of the women who received sub-baccalaureate awards in 2009-2010 majored in health or beauty fields. Male students represent more than 90 percent of the students receiving sub-baccalaureate awards for welding, electrician and carpentry programs, or associate degrees in computer systems networking.

TABLE 2

Programs of Study for Associate Degrees

Classification of Instructional Programs (CIP) Title	Number of Programs
Liberal Arts and Sciences/Liberal Studies	5,038
Registered Nursing/Registered Nurse	1,800
Business Administration and Management, General	751
Licensed Practical/Vocational Nurse Training	606
Accounting	569
Criminal Justice/Police Science	472
Computer Systems Networking and Telecommunications	381
Veterinary/Animal Health Technology/Technician and Veterinary Assistant	318
Medical/Clinical Assistant	301
Health Information/Medical Records Technology/Technician	300

Source: Minnesota Office of Higher Education

The average age of someone completing a sub-baccalaureate award was 28, with ages ranging from 13 to 76 at the time of completion. Two-thirds of those receiving sub-baccalaureate awards of less than one year in 2009-2010 were nontraditional-age students. Given their ages, many students were employed prior to enrollment.

Industry Alignment

The industry where people find jobs is an important metric in evaluating the efficacy of college degrees. Are students able to turn certificates and diplomas awarded below the bachelor's degree into a job in their desired industry? Of the 32,896 total students who received a sub-baccalaureate or associate degree during the study period, 22,971 (70 percent) could be linked

Many of the top 10 courses of study for those receiving associate degrees were similar to the sub-baccalaureate award programs, with the exception of

“liberal arts and sciences/liberal studies” (see Table 2). Nearly half of the students enrolled in liberal arts and sciences/liberal studies subsequently enrolled at another

with employee wage records submitted quarterly by employers subject to unemployment insurance taxes in Minnesota.

Non-matches do not necessarily indicate unemployment. These people may be working in other states or as independent contractors, or their Social Security numbers may have been incorrectly entered. Where there are matches, the dataset allows for an analysis of hours worked, wages and industry of employment by quarter.

As noted above, nursing assistant/aide — one of the health professions programs — was the most common major for those receiving a sub-baccalaureate award during 2009–2010. Of the 2,237 graduates of this program, 1,672 had a match to wage records. Fifty nine percent of the people

in that group were working in a related industry one year after receiving their degrees.

Table 3 presents the industry sector of employment one year after graduating with a sub-baccalaureate award in the health profession and related programs. The analysis was limited to students who had a wage match two years prior to and one year after graduation. These were then split into two groups: those employed in the health care and social assistance industry and those employed in an industry other than health care two years previous to graduation.

Nearly four-fifths of those who received a health professions award were employed in health care two years prior to graduation and remained in health care and social assistance one year after graduation. More

importantly, this group saw a 33 percent increase in median wages. Students who did not work in the health care industry two years prior to graduation but moved into the industry after graduation saw a 28 percent increase in median wages. Health profession graduates who



TABLE 3

**Industry Sectors of Employment Before and After Graduation:
Sub-Baccalaureate Awards in Health Profession and Related Programs**

Two Years Before				One Year After			
Industry Title	Count	Percent Employed in Industry	Median	Industry Title	Count	Percent Employed in Industry	Median
Health Care and Social Assistance	1,127	34%	\$11.42	Health Care and Social Assistance	998	89%	\$15.18
				Other	129	11%	\$12.28
Other	2,228	66%	\$9.88	Health Care and Social Assistance	1,154	52%	\$12.61
				Other	1,074	48%	\$11.74

Source: Minnesota Office of Higher Education and Minnesota unemployment insurance wage records

TABLE 4

**Industry Sectors of Employment and Wages Before and After Graduation:
Sub-Baccalaureate Award in Construction Trades**

Two Years Before				One Year After			
Industry Title	Count	Percent Employed in Industry	Median	Industry Title	Count	Percent Employed in Industry	Median
Construction	90	18%	\$14.00	Construction	65	72%	\$18.04
				Other	25	28%	\$13.55
Other	405	82%	\$9.77	Construction	113	28%	\$14.41
				Other	292	72%	\$12.52

Source: Minnesota Office of Higher Education and Minnesota unemployment insurance wage records

were not working in the health care industry one year after graduation fared less well, even if they were employed in health care previously.

Students not employed in health care either two years before or one year after graduation saw a 19 percent increase in their median wages, which was above the cost of living increase during that period. Though these students were not employed in the health care industry one year after graduation, it could be assumed some were employed in health care occupations in another industry.

Table 4 presents information on the 994 sub-baccalaureate awards for construction trades programs in 2009-2010. Of those students, 495 had a matching wage record both two years prior to and one year after completion. Their industries of

employment are presented in Table 4. Like graduates in health professions and related programs, those employed in construction before and after graduation had the highest median wage one year after graduation. But unlike graduates of health professions and related programs, those who moved from a different industry into the construction industry after graduation did the best, with wages up 47 percent over the three-year period. The number of people who were able to move into the construction industry, however, was relatively small, likely due to the fact that construction has yet to fully recover from the recession.

Wages

Increased wages are a clear goal for investing in education. Figure 1 shows the quarterly median wages of those who received certificates or associate degrees

in 2009-2010, comparing wages two years prior to degree completion and one year after completion. Median hourly wages increased one year after completion for both certificates and associate degrees. It is important to note, however, that wages tend to increase with age and experience, as well as with increased education. It is impossible to know, given the current analysis, how much of the wage increases described here were due to education alone.

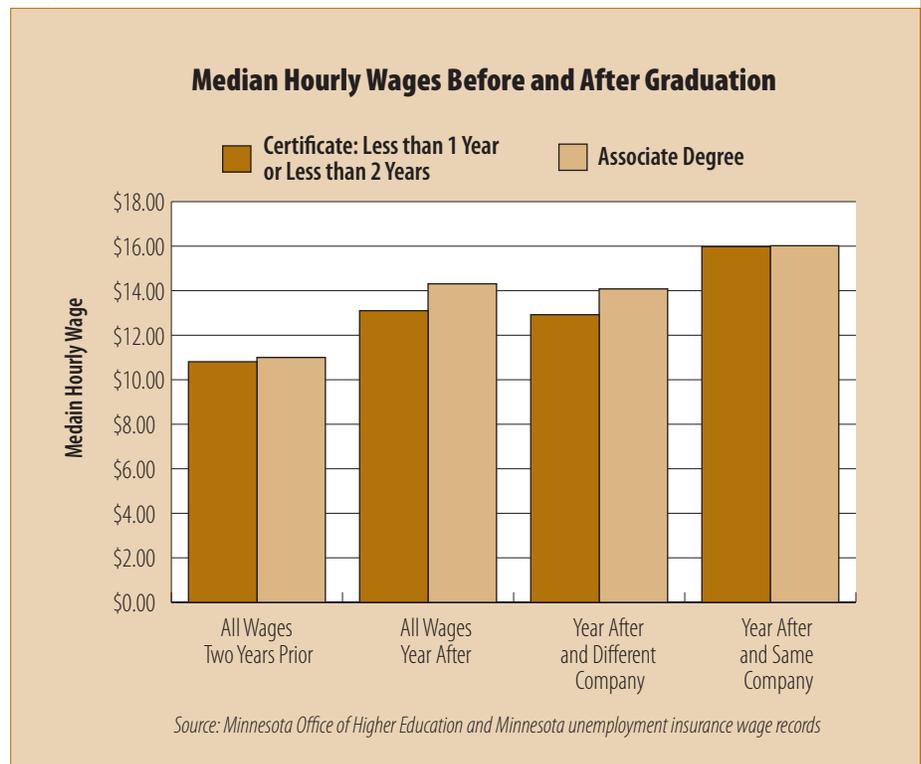
Looking at job experience adds another dimension to the wage growth picture. The last two columns in Figure 1 show the quarterly median wage difference between those who worked at the same company before and after completion and those with a different employer one year after completion. Clearly, those who remained with the same employer did better on average

than those who found work elsewhere one year afterward. The average increase in median hourly wages for those who switched employers is 24 percent versus a 47 percent increase for those who remained at the same company. Again, it is important to note that workers with long-term attachments to the same employer tend to see wages rise more quickly than those who have had steady employment but not with the same employer. It is impossible to know from this study how much of the respective wage increases were due to education versus other factors such as increased experience or long-term attachment to an employer.

While this article does not provide a definitive analysis of the benefits of various awards and degrees, it does introduce the types of analyses that can be done using the new longitudinal SLEDS database. As more data are added to this system, including participants of workforce development programs, and a longer time series of completers and wage records, more extensive analysis will become possible. Stay tuned for more articles in Trends and on the SLEDS website at www.tinyurl.com/SLEDSwebsite. 



FIGURE 1



¹The Minnesota Office of Higher Education and the Minnesota Department of Education.

²Eventually, SLEDS will link pre-K through postsecondary education data to wage records, while WDQI will link postsecondary and Adult Basic Education data to wage records and employment program administrative data maintained at DEED.

³Minnesota Office of Higher Education, Basic Data Series 2011.

Returning to Work

Many Minnesotans who experienced long-term unemployment during the recession are finding work again, but not always in the same industry or at the same pay level as their previous jobs.



Early in the recovery, many of the first people to find jobs were those who had been unemployed for a relatively short time. The long-term unemployed (those out of work for more than a year) continued to struggle, however, with their numbers peaking in the year leading up to August 2011. As of June 2012, Minnesota still had an average of 42,500 people who had been jobless for more than one year.

In a slack job market, employers have their pick of candidates and often favor those with the most

recent experience. That tendency contributed to the growth in the long-term unemployed even while the economy was recovering. While many of the long-term unemployed are finding work now, success has not been evenly distributed across industries and pay scales.

The findings in this article are based on an analysis of 120,344 people who found jobs in Minnesota after claiming extended unemployment insurance (UI) benefits beginning in 2008. The study

group represented about 62 percent of the long-term unemployed who received extended benefits in Minnesota during the period.¹ Not everyone in the group could be tracked because some moved out of state for jobs or became self-employed.

Industry Employment Trends

Industries and their workforces experienced the recession in different ways. Construction employment, for example, crashed early in the recession and has not fully recovered. Health care employment never declined but growth slowed. Government employment was pummeled, but not until later in the recession when years of funding cuts, lower tax revenue and higher demands for service began to take their toll.

In Figure 1, employment is represented as a ratio — essentially the rate of change since January 2006 — so that all industries fit on one scale. As the chart shows, health care has been growing since 2006, although it

slowed to a crawl in 2009 and 2010. Real estate and rental and leasing was also growing in 2006, holding up well during the early part of the recession. But it lost employment after the financial markets crashed in 2008. Construction had been struggling for a while — with news reports of a glut in the housing market preceding the official start of the recession — but the industry's most rapid declines occurred in tandem with employment drops in the real estate market. Mining, a small industry in Minnesota, saw some of the most spectacular changes over the past few years. Iron ore facilities in northern Minnesota were shut down mid-recession due to lack of demand, resulting in huge layoffs. The recent economic upswing spurred these companies to invest in new, high-tech facilities, and mining employment has since soared.

Working in the Same Industry

In theory, people are best qualified for the same type of job they held before being laid off. Certainly there is always some mismatch where a worker opts for a job that doesn't fully utilize his or her skills or an employer finds a worker is ill-suited for a position. Generally, though, workers' most current work experiences are likely to be good indicators of their skill sets.

Large numbers of workers failing to find work similar to what they did prior to being laid off can indicate a number of things. One possibility is the industry where they worked is not hiring, forcing job seekers to find work in another industry. Another possibility is that the occupation is in low demand due to changes in technology, outsourcing overseas or other factors. Data entry technicians, for example, may be replaced by software programs (and the appropriate technical staff to maintain them). An industry switch in this case could indicate the workers' skills are outdated and they had to shift careers, or that they found similar work in an industry that doesn't find technology or outsourcing solutions to be as profitable. A third possibility is that a job seeker's skills don't transfer well

across industries. While human resources representatives can work in most industries, metal workers are limited to a subset of construction and manufacturing jobs. In all probability, some combination of all three is usually a factor in people being unable to find work similar to their previous jobs.

The top industries for re-employment all require unique skills. Mining hires geologists, engineers and technicians who work with specialized equipment — talents that don't translate easily across industries. Construction often requires high levels of skill that are not required in other industries. Educators may have areas of expertise that are widely applicable, but the real skill they bring to the table — teaching — is valued mostly within the

FIGURE 1

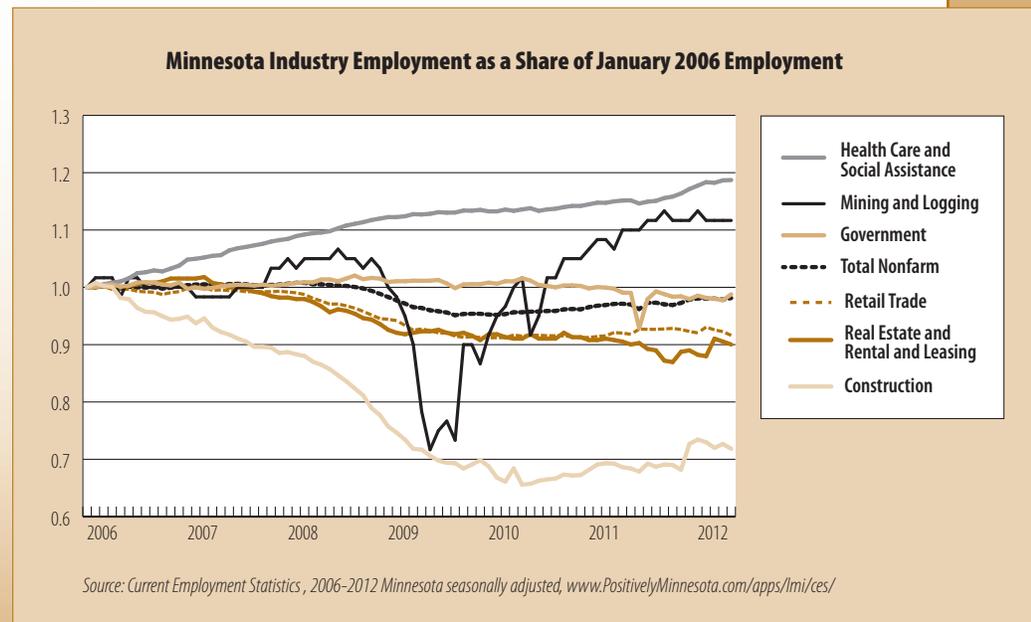


TABLE 1

Re-employment Rate in Same Industry After Long-Term Unemployment

Major industry	Employed	Employed in Same Industry	Percent Employed in Same Industry
Mining	661	570	86.2%
Construction	24,557	18,941	77.1%
Agriculture, Forestry, Fishing	1,390	911	65.5%
Educational Services	3,049	1,989	65.2%
Public Administration	1,813	1,174	64.8%
Accommodation and Food Services	6,671	4,277	64.1%
Health Care and Social Assistance	7,719	4,936	63.9%
Administrative, Support, and Waste Management and Remediation Services	15,539	9,873	63.5%
Arts, Entertainment and Recreation	2,151	1,297	60.3%
Transportation and Warehousing	3,378	1,932	57.2%
Retail Trade	9,663	5,063	52.4%
Manufacturing	20,597	10,237	49.7%
Utilities	496	236	47.6%
Other Services (except Public Administration)	3,261	1,545	47.4%
Professional, Scientific and Technical Services	5,995	2,676	44.6%
Real Estate, Rental and Leasing	1,605	592	36.9%
Finance and Insurance	2,637	842	31.9%
Wholesale Trade	5,218	1,651	31.6%
Information	1,698	448	26.4%
Management of Companies and Enterprises	1,970	426	21.6%
Total	120,344	69,667	57.9%

Source: Minnesota unemployment insurance and wage records, covering claimants who received extended benefits starting from third quarter 2008 to third quarter 2010 and were re-employed within 10 quarters

education industry. These three industries, among others in the top half by re-employment rate (Table 1), also offer wages that are higher than average, increasing the incentive to “hold out” for a better job after layoff.

The industries at the bottom — management of companies, information and wholesale trade — all have skills that are used in many industries, often as a support department within large companies. Other industries — finance and insurance, real estate,

and professional, scientific and technical services — are still below their 2006 employment levels, suggesting that these industries were not hiring during the period of study. Professional and scientific has come back strongly in the last several years.

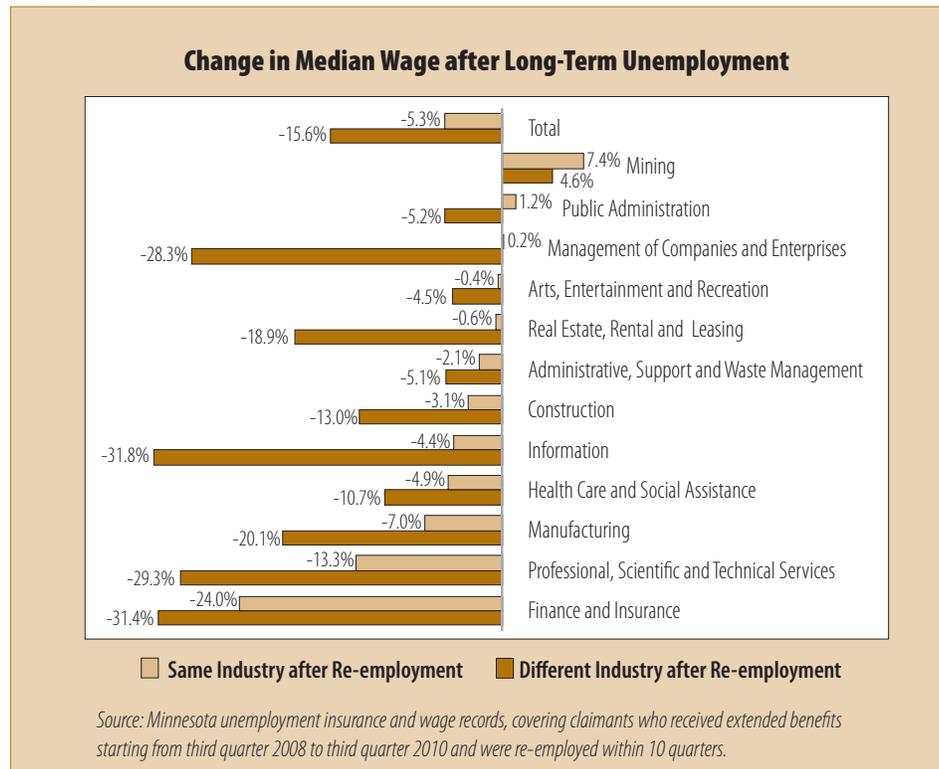
Rerunning these numbers now may provide a very different result. On the other hand, it may continue to show high rates of long-term unemployment in this industry, possibly indicating a skills mismatch.

Pay Scales

Substantial changes in pay for workers returning to their industry could tell us several different things as well. Declines may reflect a rebalancing to get wages more affordable for employers, or they may suggest supply still exceeds demand. Many of the industries with less wage change tend to be more highly unionized — mining, public administration, education and health care. Finally, a large difference in what workers earn if they return to their industry and if they leave it may indicate that those skills are less applicable across industries. Figure 2 shows how wages differ based on the pattern of re-employment, whether re-employed in the same or a different industry after a spell of long-term unemployment.

The only industry where skills commanded a premium after extended layoff was mining. Even workers initially employed in mining who shifted out of the industry earned more. Employees in public administration also landed on their feet when they didn't switch industries — and most

FIGURE 2



stayed in public administration. Information workers saw the biggest penalties for switching industries, while finance and insurance workers saw the biggest pay losses regardless of what industry they entered after returning to work. Since finance

and insurance workers had the fifth-highest median wage of all selected industries (\$19.80 per hour), it makes sense that they took a hit when moving to a different industry after a spell of unemployment.

Continued on page 28

The Market for Lemons

By Steve Hine

As the accompanying article clearly shows, the dramatic increase in the number and share of long-term unemployed is a distinctive feature of the recent recession, and it will have lingering effects far into the future. Long-term unemployment — typically defined as being out of work for six months or more — imposes costs on people that go well beyond lost wages. Future earnings are lower, health is negatively impacted, and even relationships and self-esteem are damaged.¹ These significant costs suggest the need to identify and ameliorate the causes of long-term unemployment and the factors that reduce the odds of re-employment the longer an individual is unemployed.

A number of reasons have been posited for this inverse relationship between unemployment duration and re-employment probability. These reasons might include the atrophying of skills that occurs with being out of a job for so long, or the likelihood that those with highly marketable skills will find employment more quickly than those with less marketable skills. Worker retraining programs are a ready response to this problem. Another reason might be that long spells of job hunting tend to affect people over time. Job seekers become discouraged, and this discouragement, in turn, can negatively impact candidates' presentations of themselves in job interviews. The popularity of support groups and job clubs is evidence that this is a real phenomenon.

Yet another reason the long-term unemployed face increasing difficulties in their job searches is that employers have increasingly discriminated against them by requiring current or very

recent employment as a precondition for being considered for a job.² The practice has been widespread enough that the District of Columbia and 17 states, including Minnesota, had bills introduced during their 2012 sessions to outlaw it, although only New Jersey, Oregon and the District of Columbia have enacted such legislation.

Some of this “discrimination” may well be a cost-effective (aka cheap) response to the previously identified reasons that a longer-term unemployed person may indeed be an unattractive candidate. But often the practice is seen as a response to the perception that some of the long-term unemployed are simply deadbeats who haven't tried hard enough to find work. But to engage in practices that exclude the millions of long-term unemployed who would be fully qualified and capable candidates from consideration is costly to those individuals affected and to the economy that now loses out on their productivity.

In 2001, George Akerlof won the Nobel Prize in economics in large part for an article titled “The Market for Lemons: Quality Uncertainty and the Market Mechanism.”³ In this article he argues that in the market for used cars, the inability of buyers to distinguish quality cars from defective “lemons” results in a lower price being offered for all used cars and that many transactions that would have occurred in the presence of better information do not occur. Akerlof's analysis and its impact on the used-car market might also be applied to the labor market and, in particular, to the pool of long-term unemployed.

If there is some chance, either real or simply perceived, that a hire from the pool of long-term unemployed could turn out to be a lemon (although perhaps couch potato would be a more apt vegetal metaphor in this context), then employers will be less willing to use the long-term unemployed as a source of candidates rather than the short-term unemployed or currently employed. The end result is that hires that would be mutually advantageous to the employer and job seeker do not occur and society as a whole suffers an efficiency loss.

One mechanism through which we ameliorate these inefficiencies in the used-car business is the used-car warranty. Although new hires may not come with a warranty, job interviews, reference checks, probationary periods and other practices common in human resource management are meant to serve as similar devices. Job seekers are also instructed to demonstrate initiative through volunteer work or other activities during their unemployment spells in order to demonstrate their “high quality.” Part of the solution should also be the recognition that “lemons” truly make up a small if not insignificant share of the nearly 5 million long-term unemployed. As I have found as a frequent used-car shopper, there are lots of “good buys” out there just waiting to prove themselves.



¹www.pewresearch.org/pubs/1674/poll-impact-long-termunemployment.

²www.nytimes.com/2011/07/26/business/help-wanted-ads-exclude-the-long-term-jobless.html?_r=2&partner=rss&emc=rss.

³Quarterly Journal of Economics, Vol. 84, No. 3, August 1970, Oxford University Press.

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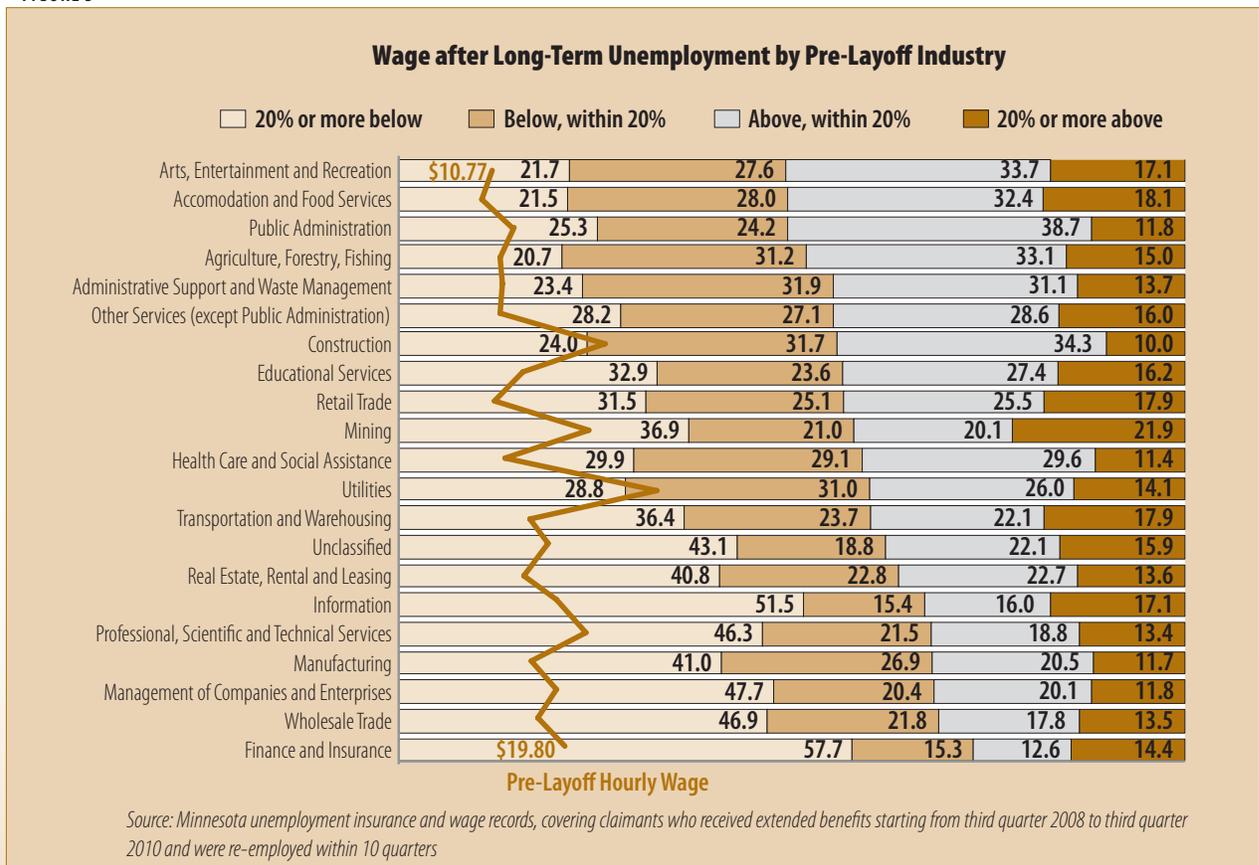
In Figure 3, the pre-layoff wage is compared with the returning wage regardless of the industry where workers finally found employment. The bars are arranged in order of the share of workers earning more at their post-layoff job than their pre-layoff job. Although there are exceptions, generally the higher the wage the more likely the worker was to take a pay cut.

Conclusion

Industries reacted differently to the recession, resulting in varying experiences for people who were laid off. The long-term unemployed provide an interesting case study in these differences. Where industries have shrunk, unemployed workers were forced to look for jobs in other industries. Returning to work is often a compromise — likely requiring a pay cut. But in industries that

require specialized skills and to a certain extent in industries that are unionized such as mining and construction, companies were more likely to hire back workers at the same or higher wages. As the business outlook improves, employers will have to dig deep for workers with the right, highly specific skills. ■

FIGURE 3



¹The analysis was based on a study of claimants who started receiving unemployment insurance extended benefits from third quarter 2008 to third quarter 2010 and were re-employed within 10 quarters. For a detailed discussion about the limitations and uses of these data, please see the first article in this series, "Left Behind by the Job Market," in the September 2011 issue of Minnesota Economic Trends. The second article in the series, "Working for Less," appeared in the March 2012 issue of Minnesota Economic Trends.

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