



Different Abilities in the Workplace

Almost 20,000 workers with a disability call Central Minnesota home. Although they may seem like a relatively small part of a regional labor force with nearly 400,000 workers, workers with disabilities, or rather different abilities, contribute to the economy in a big way. In the region 5.4 percent of prime working age workers identify as having at least one disability. This has important consequences for individuals and businesses, especially considering the growing number of people with disabilities in the region. However, workers with different abilities also have an unemployment rate that is twice that of the overall rate in Central Minnesota.



We Need You!

One of the best benefits of a growing, healthy economy is the way employment opportunities extend to those who might have barriers to entering or succeeding in the labor market. Business cycles constantly rebalance the scales of competitive

negotiating power. During a recession hiring power transfers to employers as a surplus labor force becomes eager to secure limited job opportunities. In an expanding economy with a tight labor market job seekers gain the upper hand as employers become challenged to hire from a limited number of available workers.

The latter situation is currently playing out for

workers in Central Minnesota and the rest of the country. The lower unemployment rates reflect increasing employment opportunities for several segments of the labor force, including people with disabilities. Figure 1 illustrates how unemployment rates for workers with disabilities in Central Minnesota has dropped from 13.4 percent in 2012 to 8.2 percent by 2017.

Features

- Gender Pay Gaps in the Twin Cities and in Greater Minnesota
- Industry Snapshots

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Make no mistake, the improvement in labor market outcomes for workers with disabilities is excellent. But it's important to note that the overall unemployment rate was also falling during this time as the economy recovered jobs lost during the recession. The overall unemployment rate dropped from 7.4 percent in 2012 to 4.1 percent in 2017, an even faster decline than for workers with disabilities.

During the same timeframe the labor force with any disability grew by more than 11 percent, amounting to an additional 1,976 workers, climbing to 19,838 workers in 2017. The labor force growth from this segment of the population stands in stark contrast to the modest overall growth of 1.8 percent from 2012 to 2017. For perspective, in the most recent five year period for which there are data, three in 10 new workers have some type of self-identified disability.

But who are these workers with *differing abilities*?

Defining Abilities

Data in this article are derived from the U.S. Census Bureau, which uses Americans with Disabilities Act (ADA) definitions to classify disabilities. In the context of the ADA, "disability" is a legal term rather than a medical one. Because it has a legal definition, the ADA's definition of disability is different than how it is defined under some other laws, such as for Social Security Disability-related benefits.

The ADA defines a person with a disability as a person who has a physical or mental impairment that substantially limits one or more major life activities. This includes people who have a record of such an impairment, even if they do not currently have a disability. It also includes individuals who do not have a disability but are regarded as having a disability.¹

The Census Bureau collects data on disabilities in six categories:

- **Vision difficulty:** Blindness or serious difficulty seeing, even when wearing glasses.

- **Hearing difficulty:** Deafness or serious difficulty hearing.

- **Cognitive (intellectual) difficulty:** A physical, mental, or emotional problem leading to difficulty remembering, concentrating, or making decisions. This is the most disadvantaged type of disability in the labor market.

- **Ambulatory difficulty:** Serious difficulty walking or climbing stairs.

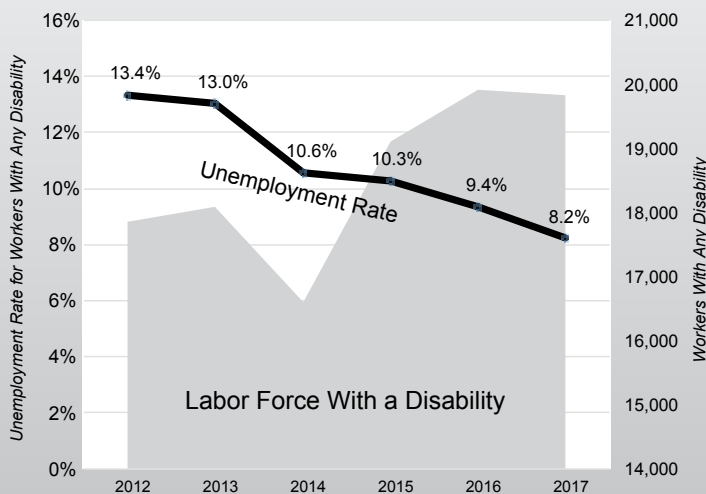
- **Self-care difficulty:** Difficulty bathing or dressing.

- **Independent living difficulty:** Difficulty doing errands alone, such as visiting a doctor's office or shopping.

A Helping Hand

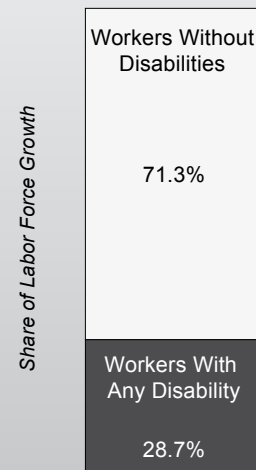
Luke Hartog, a rehabilitation counselor with DEED's Vocational Rehabilitation Services (VRS), offered some insight on how employers and individuals can team together, possibly with help from a VRS counselor, to ensure individuals skills and abilities can be utilized in the workplace. Accommodations can often help workers with different abilities succeed at work, while also

Figure 1. Central Minnesota Labor Force Trends For Workers With Any Disability



Source: U.S. Census Bureau, ACS

Figure 2. Share of Labor Force Growth from 2012-2017, Central Minnesota



Source: U.S. Census Bureau, ACS

¹Census did not provide any examples of this situation.

helping employers recruit and retain valuable employees. *“Individuals team up with vocational services to develop job goals matching their skills, abilities, and interests. Once their goals are established we implement supports ranging from training, job coaching, job search assistance, setting up job accommodations, and retention services. Individuals with different abilities are able to secure competitive jobs ranging from entry level to doctoral requirements,”* explained Hartog.

According to Census Bureau data, the most common type of disability for working age people (18 to 64 years) in Central Minnesota is cognitive. At 4.1 percent, the rate of incidences is the same as Minnesota’s overall rate, but lower than the national frequency (4.4%). Hartog identified a few accommodations for workers who might have a cognitive difficulty, including but not limited to: *using visual task lists, color coding, job coaching on-site and off-site, on-the-job training, and extended training time.*

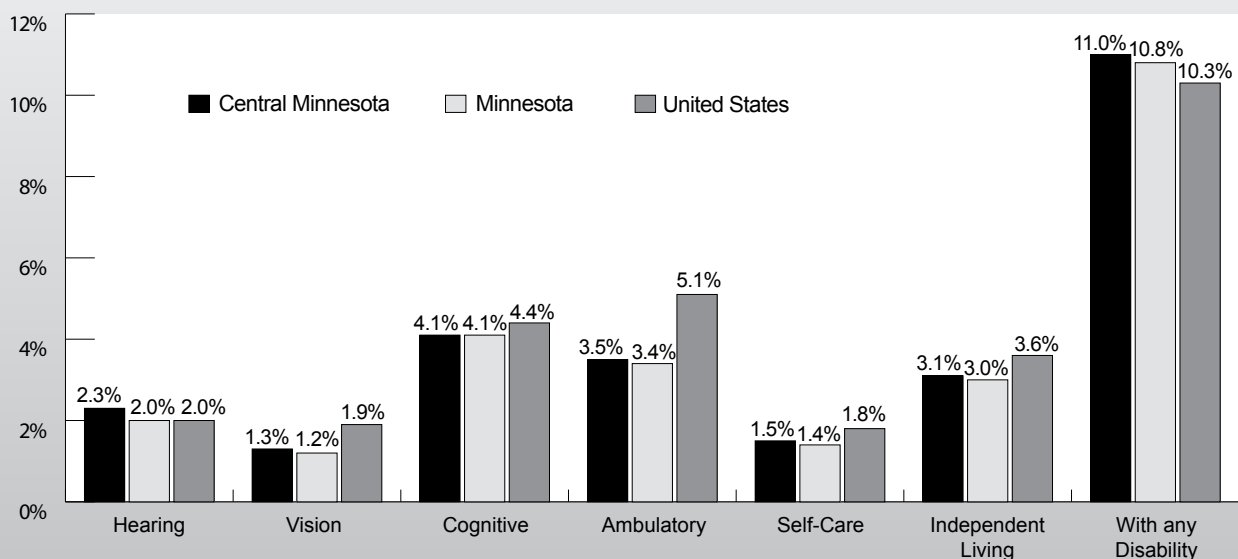
More than 14,500 people in the

region are living with an ambulatory difficulty, making it the second most common disability for working age residents of Central Minnesota. According to Hartog, accommodations to help ensure success of employees in this area could include: *providing desktops that are high enough to accommodate wheelchairs, installing hand-rails/grab rails in hallways, locating work space on the first floor, ensuring sidewalks and doorways are free of large lips/bumps, or removing raised floor mats that could lead to tripping.*

Hearing difficulties impact more than 9,500 working age people in the region. Possible accommodations to help ensure workplace success could include: *texting; easy email access; amplification devices such as FM systems;² CapTel (caption telephones); dry erase/boogie boards;³ ASL interpreters for onboarding and important meetings; printed out meeting agendas; smart phone applications such as Marco Polo, Glide, and Stratos; Video Relay Interpreting Service; and use of lights/signs for safety.*

This spring a CareerForce location (formerly known as Workforce Center) held a job fair with a focus on hiring people with disabilities as well as open for all job seekers. The job fair was a follow-up effort to a conference that focused on how to hire and employ workers with disabilities. The intent was to help match a talent pool that is twice as likely to be unemployed as the overall labor force. Unfortunately, the vast majority of businesses that were initially interested in registering for the job fair backed out after being informed of the emphasis on hiring workers with disabilities. It appears that despite low rates of unemployment and Now Hiring signs proliferating in storefronts, businesses are still cautious or reluctant to engage this population.

Figure 3. Prevalence of Disability by Type, Working Age Population 18-64 Years, 2017



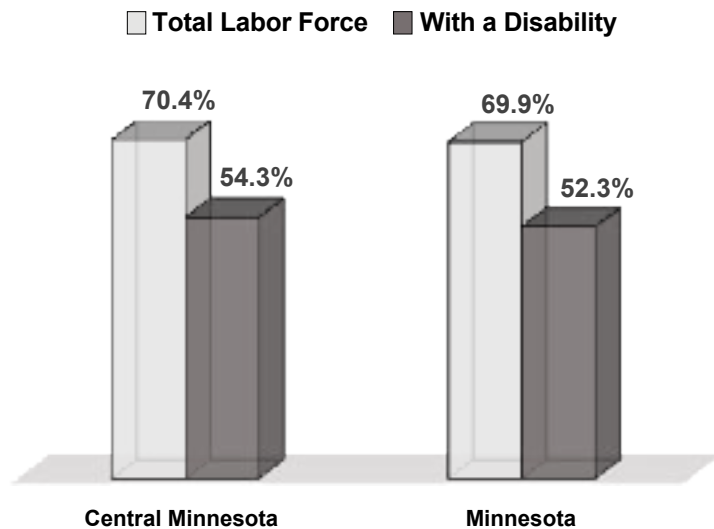
Source: U.S. Census Bureau, 2017 ACS

²www.healthyhearing.com/help/assistive-listening-devices/fm-systems

³www.amazon.com/Boogie-Board-Writing-Drawing-eWriter/dp/B010HWCEAO

Sometimes individuals face multiple employment barriers because of one or more disabilities. Clever, creative, and oftentimes simple solutions are one way to overcome barriers and maximize productivity and job satisfaction. Customizing job functions can allow for a wider range of employment opportunities to be accessed by people with different abilities, which is an approach that some companies are taking to maximize their talent pool and increase job satisfaction. Hartog mentioned that recently “a customer call center allowed an individual who uses a wheelchair to work from home. Working from home addressed transportation limits, self-care needs, and accessibility.”

Figure 4. Labor Force Participation Rate

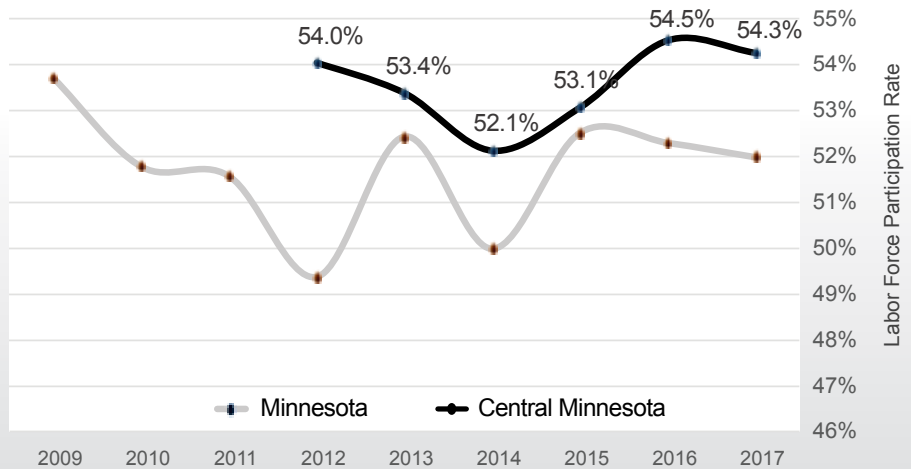


Source: U.S. Census Bureau, 2017 ACS

Unrealized Potential

We are making progress, but participation in the labor force is still significantly lower for people with different abilities. As of 2017 the labor force participation rate was 54 percent for people with disabilities in Central Minnesota compared to 70 percent for the overall population (see Figure 4). To be sure, the extent of abilities can be drastically different for people who identify as having one or more disabilities. Statewide and local data suggest that even though labor force growth attributed to this sub-population is substantial, it’s not necessarily that disabled workers see better or more job opportunities and increasingly join the labor force at higher rates.

Figure 5. Labor Force Participation Rate For People With Any Disability



Source: U.S. Census Bureau, ACS

Instead, the influx of workers with disabilities is at least partly a function of an increasing numbers of people with a disability, not increasing participation in the labor force. The labor force participation rates for people with any disability has remained basically constant since the end of the Great Recession (see Figure 5).

Workers with different abilities are playing an increasingly important role in the labor force. The number of people with some type of self-identified disability has risen three times faster than the overall population growth in Central Minnesota, yet their participation in the labor force remains constant.

This means a larger share of the population is not yet engaged in work, and with a tight labor market and slow labor force growth projected in the future, understanding the barriers and accommodating workers of all abilities is one strategy to tap underutilized workers.

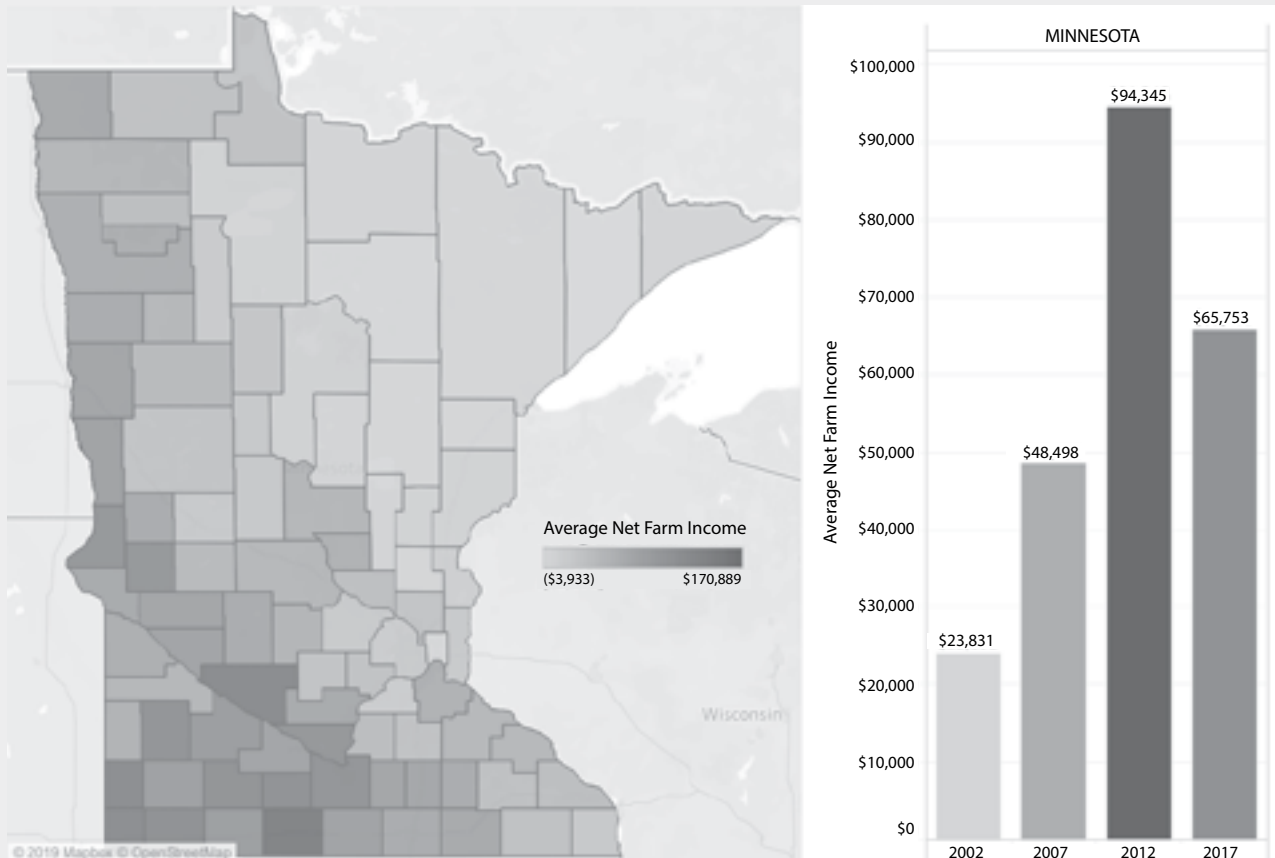
by Luke Greiner

Two Steps Forward, One Step Back

Farms are the economic foundation of many rural communities across Minnesota, spurring growth in related supporting business sectors. Yet this important groundwork of Minnesota's economy is highly susceptible to the changing dynamics of globalization. Although agriculture economics are far from simple, the impact of commodity prices are easy to understand – less farm income means less spending at local businesses. Minnesota farmers are at the mercy of myriad factors ranging from domestic policies on ethanol and monetary strategy to international trade tariffs and an outright ban by Russia on importing agriculture commodities from the United States.

While nearly all other industries struggled to maintain employment and solvency during the recession from 2007 to 2009, agricultural prices were booming, and farmers in Minnesota were largely immune to the economic downswing. Since the recession ended, however, and the rest of the economy has picked up steam, farmers have been less fortunate. Most industries are expanding both revenue and payrolls, but commodity prices for the main crops and animals produced in Minnesota have been dismal, dragging down farm income across the state. In 2012 the average net income for farms in Minnesota was \$94,345, a healthy reward for assuming large risks. However, average net farm income in Minnesota dropped 30 percent to \$65,753 in 2017. Some counties like Renville (\$152,510) and Martin County (\$170,889) still have high incomes, but consolidation also plays a role in how average farm income looks. From 2007 to 2017 Minnesota lost 12,170 farms, a 15 percent decrease. Meanwhile the average farm size grew from 332 acres to 371 acres. With the variations in size and specialty, farm incomes vary widely across the state.

2017 Average Annual Net Farm Income



Source: USDA Ag Census

by Luke Greiner

Labor Force Estimates

County/ Area

County/ Area	Labor Force			Employment			Unemployment			Rate of Unemployment		
	Apr 2019	Mar 2019	Apr 2018	Apr 2019	Mar 2019	Apr 2018	Apr 2019	Mar 2019	Apr 2018	Apr 2019	Mar 2019	Apr 2018
United States ('000s) (Seasonally adjusted) (Unadjusted)	162,470	162,960	161,527	156,645	156,748	155,181	5,824	6,211	6,346	3.6%	3.8%	3.9%
	162,097	162,823	161,280	156,710	156,441	155,348	5,387	6,382	5,932	3.3	3.9	3.7
Minnesota (Seasonally adjusted) (Unadjusted)	3,093,628	3,090,766	3,066,398	2,992,625	2,992,131	2,975,522	101,003	98,635	90,876	3.3	3.2	3.0
	3,088,291	3,089,665	3,060,343	2,986,948	2,962,208	2,967,569	101,343	127,457	92,774	3.3	4.1	3.0
Metropolitan Statistical Areas (MSA)*												
Mpls.-St. Paul MSA	2,004,440	2,011,727	2,011,274	1,946,455	1,939,476	1,956,091	57,985	72,251	55,183	2.9	3.6	2.7
Duluth-Superior MSA	143,741	144,208	146,258	137,788	137,088	140,258	5,953	7,120	6,000	4.1	4.9	4.1
Rochester MSA	125,248	125,236	121,045	121,754	120,668	117,697	3,494	4,568	3,348	2.8	3.6	2.8
St. Cloud MSA	114,675	114,053	114,805	110,763	108,939	110,994	3,912	5,114	3,811	3.4	4.5	3.3
Mankato-N Mankato MSA	62,099	61,854	62,672	60,441	59,773	61,132	1,658	2,081	1,540	2.7	3.4	2.5
Fargo-Moorhead MSA	137,187	137,323	137,065	133,761	133,143	133,340	3,426	4,180	3,725	2.5	3.0	2.7
Grand Forks MSA	54,774	54,916	55,235	53,217	53,116	53,642	1,557	1,800	1,593	2.8	3.3	2.9
Region One	47,453	47,232	47,216	45,044	44,276	45,063	2,409	2,956	2,153	5.1	6.3	4.6
Kittson	2,380	2,320	2,344	2,290	2,210	2,269	90	110	75	3.8	4.7	3.2
Marshall	5,560	5,480	5,446	5,143	4,963	5,075	417	517	371	7.5	9.4	6.8
Norman	3,419	3,326	3,408	3,238	3,097	3,256	181	229	152	5.3	6.9	4.5
Pennington	9,018	9,017	8,785	8,444	8,381	8,369	574	636	416	6.4	7.1	4.7
Polk	16,915	16,836	16,957	16,187	15,967	16,281	728	869	676	4.3	5.2	4.0
Red Lake	2,251	2,247	2,232	2,109	2,062	2,100	142	185	132	6.3	8.2	5.9
Roseau	7,910	8,006	8,044	7,633	7,596	7,713	277	410	331	3.5	5.1	4.1
Region Two	43,585	43,740	42,635	41,214	40,802	40,308	2,371	2,938	2,327	5.4	6.7	5.5
Beltrami	24,526	24,558	23,884	23,424	23,197	22,782	1,102	1,361	1,102	4.5	5.5	4.6
Clearwater	4,551	4,578	4,502	4,082	4,016	4,041	469	562	461	10.3	12.3	10.2
Hubbard	9,794	9,761	9,584	9,229	8,992	9,056	565	769	528	5.8	7.9	5.5
Lake of the Woods	2,355	2,490	2,319	2,236	2,393	2,207	119	97	112	5.1	3.9	4.8
Mahnomen	2,359	2,353	2,346	2,243	2,204	2,222	116	149	124	4.9	6.3	5.3
Region Three	164,061	164,527	163,055	156,106	155,306	155,737	7,955	9,221	7,318	4.8	5.6	4.5
Aitkin	7,227	7,290	7,117	6,692	6,627	6,636	535	663	481	7.4	9.1	6.8
Carlton	17,839	17,926	17,876	16,983	16,863	17,013	856	1,063	863	4.8	5.9	4.8
Cook	2,867	2,839	2,830	2,705	2,653	2,698	162	186	132	5.7	6.6	4.7
Itasca	22,026	22,164	21,391	20,573	20,538	20,102	1,453	1,626	1,289	6.6	7.3	6.0
Koochiching	5,947	5,878	5,861	5,460	5,498	5,418	487	380	443	8.2	6.5	7.6
Lake	5,303	5,351	5,263	5,094	5,087	5,096	209	264	167	3.9	4.9	3.2
St. Louis	102,852	103,079	102,717	98,599	98,040	98,774	4,253	5,039	3,943	4.1	4.9	3.8
City of Duluth	46,017	46,088	46,017	44,642	44,389	44,721	1,375	1,699	1,296	3.0	3.7	2.8
Balance of St. Louis County	56,835	56,991	56,700	53,957	53,651	54,053	2,878	3,340	2,647	5.1	5.9	4.7
Region Four	127,910	126,718	126,145	123,022	120,347	121,742	4,888	6,371	4,403	3.8	5.0	3.5
Becker	18,647	18,527	18,426	17,801	17,387	17,678	846	1,140	748	4.5	6.2	4.1
Clay	36,077	36,118	35,868	34,881	34,594	34,741	1,196	1,524	1,127	3.3	4.2	3.1
Douglas	20,716	20,549	20,397	19,979	19,631	19,765	737	918	632	3.6	4.5	3.1
Grant	3,334	3,237	3,309	3,171	3,030	3,151	163	207	158	4.9	6.4	4.8
Otter Tail	31,666	31,257	31,089	30,282	29,407	29,844	1,384	1,850	1,245	4.4	5.9	4.0
Pope	6,603	6,432	6,370	6,389	6,153	6,185	214	279	185	3.2	4.3	2.9
Stevens	5,478	5,362	5,367	5,330	5,166	5,241	148	196	126	2.7	3.7	2.3
Traverse	1,797	1,716	1,782	1,720	1,619	1,711	77	97	71	4.3	5.7	4.0
Wilkin	3,592	3,520	3,537	3,469	3,360	3,426	123	160	111	3.4	4.5	3.1
Region Five	84,325	83,936	82,570	80,078	77,988	78,519	4,247	5,948	4,051	5.0	7.1	4.9
Cass	14,179	13,980	13,841	13,317	12,839	13,038	862	1,141	803	6.1	8.2	5.8
Crow Wing	32,216	32,034	31,517	30,805	30,056	30,165	1,411	1,978	1,352	4.4	6.2	4.3
Morrison	17,870	17,846	17,625	16,940	16,459	16,679	930	1,387	946	5.2	7.8	5.4
Todd	14,000	13,963	13,617	13,352	13,065	13,036	648	898	581	4.6	6.4	4.3
Wadena	6,060	6,113	5,970	5,664	5,569	5,601	396	544	369	6.5	8.9	6.2
Region Six East	67,177	66,632	66,057	64,367	63,094	63,589	2,810	3,538	2,468	4.2	5.3	3.7
Kandiyohi	25,319	25,032	24,689	24,342	23,805	23,881	977	1,227	808	3.9	4.9	3.3
McLeod	19,468	19,488	19,516	18,708	18,504	18,830	760	984	686	3.9	5.0	3.5
Meeker	13,305	13,211	13,181	12,730	12,439	12,612	575	772	569	4.3	5.8	4.3
Renville	9,085	8,901	8,671	8,587	8,346	8,266	498	555	405	5.5	6.2	4.7

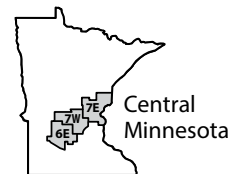
*Minneapolis-St. Paul Metropolitan Statistical Area (MSA) now includes Sherburne County in Minnesota and Pierce County in Wisconsin. St. Cloud MSA is now comprised of Benton and Stearns counties.

Numbers are unadjusted unless otherwise labeled.
 Source: Department of Employment and Economic Development,
 Local Area Unemployment Statistics, and North Dakota Job Service, 2019.

Labor Force Estimates

County/ Area

County/ Area	Labor Force			Employment			Unemployment			Rate of Unemployment		
	Apr 2019	Mar 2019	Apr 2018	Apr 2019	Mar 2019	Apr 2018	Apr 2019	Mar 2019	Apr 2018	Apr 2019	Mar 2019	Apr 2018
Region Six West	23,714	23,272	23,256	22,642	21,970	22,385	1,072	1,302	871	4.5%	5.6%	3.7%
Big Stone	2,484	2,425	2,523	2,364	2,253	2,415	120	172	108	4.8	7.1	4.3
Chippewa	7,071	7,015	6,856	6,747	6,639	6,605	324	376	251	4.6	5.4	3.7
Lac Qui Parle	3,576	3,480	3,534	3,414	3,278	3,398	162	202	136	4.5	5.8	3.8
Swift	5,081	4,951	5,010	4,859	4,690	4,790	222	261	220	4.4	5.3	4.4
Yellow Medicine	5,502	5,401	5,333	5,258	5,110	5,177	244	291	156	4.4	5.4	2.9
Region Seven East	88,198	89,090	87,531	83,636	82,951	83,277	4,562	6,139	4,254	5.2	6.9	4.9
Chisago	29,822	30,136	29,659	28,633	28,483	28,534	1,189	1,653	1,125	4.0	5.5	3.8
Isanti	21,290	21,504	21,148	20,350	20,246	20,269	940	1,258	879	4.4	5.9	4.2
Kanabec	9,092	9,204	9,021	8,450	8,337	8,396	642	867	625	7.1	9.4	6.9
Mille Lacs	12,975	13,190	12,871	12,164	12,080	12,118	811	1,110	753	6.3	8.4	5.9
Pine	15,019	15,056	14,832	14,039	13,805	13,960	980	1,251	872	6.5	8.3	5.9
Region Seven West	241,756	241,927	238,034	233,282	230,837	230,185	8,474	11,090	7,849	3.5	4.6	3.3
Benton	22,309	22,300	21,750	21,400	21,076	20,898	909	1,224	852	4.1	5.5	3.9
Sherburne	52,052	52,449	51,645	50,101	49,873	49,898	1,951	2,576	1,747	3.7	4.9	3.4
Stearns	92,366	91,753	90,034	89,363	87,863	87,239	3,003	3,890	2,795	3.3	4.2	3.1
Wright	75,029	75,425	74,605	72,418	72,025	72,150	2,611	3,400	2,455	3.5	4.5	3.3
Region Eight	65,089	63,730	64,055	62,849	60,837	61,980	2,240	2,893	2,075	3.4	4.5	3.2
Cottonwood	6,039	5,929	5,849	5,833	5,665	5,658	206	264	191	3.4	4.5	3.3
Jackson	5,725	5,634	5,707	5,538	5,404	5,548	187	230	159	3.3	4.1	2.8
Lincoln	3,334	3,199	3,234	3,191	3,022	3,118	143	177	116	4.3	5.5	3.6
Lyon	15,077	14,750	14,918	14,555	14,126	14,452	522	624	466	3.5	4.2	3.1
Murray	4,991	4,856	4,898	4,765	4,521	4,683	226	335	215	4.5	6.9	4.4
Nobles	11,440	11,256	11,288	11,121	10,837	10,992	319	419	296	2.8	3.7	2.6
Pipestone	5,103	4,965	4,876	4,891	4,686	4,694	212	279	182	4.2	5.6	3.7
Redwood	7,606	7,471	7,586	7,306	7,075	7,279	300	396	307	3.9	5.3	4.0
Rock	5,774	5,670	5,699	5,649	5,501	5,556	125	169	143	2.2	3.0	2.5
Region Nine	134,389	133,400	133,096	129,594	127,322	128,704	4,795	6,078	4,392	3.6	4.6	3.3
Blue Earth	40,998	40,860	40,534	39,863	39,452	39,519	1,135	1,408	1,015	2.8	3.4	2.5
Brown	14,690	14,560	14,494	14,131	13,799	13,941	559	761	553	3.8	5.2	3.8
Faribault	6,966	6,829	6,912	6,639	6,466	6,635	327	363	277	4.7	5.3	4.0
Le Sueur	16,200	16,275	16,066	15,299	15,131	15,234	901	1,144	832	5.6	7.0	5.2
Martin	10,356	10,160	10,259	9,993	9,717	9,941	363	443	318	3.5	4.4	3.1
Nicollet	21,101	20,994	20,871	20,578	20,321	20,407	523	673	464	2.5	3.2	2.2
Sibley	8,588	8,461	8,469	8,233	8,000	8,180	355	461	289	4.1	5.4	3.4
Waseca	8,781	8,714	8,940	8,436	8,251	8,531	345	463	409	3.9	5.3	4.6
Watonwan	6,709	6,547	6,551	6,422	6,185	6,316	287	362	235	4.3	5.5	3.6
Region Ten	286,624	286,044	282,915	278,146	274,986	275,183	8,478	11,058	7,732	3.0	3.9	2.7
Dodge	12,052	12,047	11,795	11,624	11,452	11,415	428	595	380	3.6	4.9	3.2
Fillmore	11,700	11,631	11,503	11,309	11,038	11,110	391	593	393	3.3	5.1	3.4
Freeborn	16,159	16,081	16,008	15,585	15,340	15,495	574	741	513	3.6	4.6	3.2
Goodhue	27,078	27,020	26,571	26,221	25,925	25,815	857	1,095	756	3.2	4.1	2.8
Houston	10,722	10,697	10,571	10,379	10,197	10,244	343	500	327	3.2	4.7	3.1
Mower	20,648	20,525	20,563	20,032	19,736	20,033	616	789	530	3.0	3.8	2.6
Olmsted	89,025	89,225	87,266	86,754	86,369	85,212	2,271	2,856	2,054	2.6	3.2	2.4
City of Rochester	65,856	65,951	63,246	64,184	63,900	61,756	1,672	2,051	1,490	2.5	3.1	2.4
Rice	37,336	37,322	36,877	36,190	35,817	35,840	1,146	1,505	1,037	3.1	4.0	2.8
Steele	20,216	20,241	20,370	19,552	19,392	19,718	664	849	652	3.3	4.2	3.2
Wabasha	12,471	12,333	12,245	12,067	11,809	11,857	404	524	388	3.2	4.2	3.2
Winona	29,217	28,922	29,146	28,433	27,911	28,444	784	1,011	702	2.7	3.5	2.4
Region Eleven	1,714,012	1,719,419	1,703,776	1,666,966	1,661,494	1,660,894	47,046	57,925	42,882	2.7	3.4	2.5
Anoka	197,225	198,209	195,956	191,204	190,545	190,470	6,021	7,664	5,486	3.1	3.9	2.8
Carver	58,012	58,013	57,672	56,440	56,097	56,217	1,572	1,916	1,455	2.7	3.3	2.5
Dakota	240,603	241,462	238,984	233,842	233,057	232,931	6,761	8,405	6,053	2.8	3.5	2.5
Hennepin	703,571	705,475	699,683	685,242	683,285	682,914	18,329	22,190	16,769	2.6	3.1	2.4
City of Bloomington	46,585	46,767	46,338	45,313	45,183	45,159	1,272	1,584	1,179	2.7	3.4	2.5
City of Minneapolis	241,434	242,019	240,526	235,063	234,392	234,536	6,371	7,627	5,990	2.6	3.2	2.5
Ramsey	289,177	290,026	287,384	280,953	280,060	279,946	8,224	9,966	7,438	2.8	3.4	2.6
City of St. Paul	158,722	159,084	159,078	154,057	153,567	154,745	4,665	5,517	4,333	2.9	3.5	2.7
Scott	82,976	83,307	82,568	80,772	80,483	80,461	2,204	2,824	2,107	2.7	3.4	2.6
Washington	142,448	142,927	141,529	138,513	137,967	137,955	3,935	4,960	3,574	2.8	3.5	2.5



Industrial Analysis

Overview

Employment in Minnesota was up by 3,600 (0.1 percent) in April. Following February's sharp drop of 7,800 jobs, the next two months' growth has erased nearly two-thirds of that deficit. April's growth came from numerous industry groups. Goods producers added 1,500 jobs (0.3 percent), and service providers added 2,100 (0.1 percent). The private sector added 2,900 jobs (0.1 percent), and the public sector added 700 (0.2 percent). Annually the state added 14,434 jobs (0.5 percent), and we are now two months removed from the first month of negative over-the-year growth since 2010. Annual growth was concentrated among goods producers (up 11,885 or 2.7 percent) as the much larger service providing industry group added just 2,549 jobs (0.1 percent).

Mining and Logging

Mining and Logging employment was flat in April, holding at 6,800 jobs. On the year the supersector added 303 jobs (4.9 percent). This was the largest proportional over-the-year growth in Mining and Logging since December of 2017.

Construction

Employment in the Construction supersector was mostly flat in April as employers lost 100 jobs (0.1 percent) from March's estimate. On an annual basis the supersector added 11,511 jobs (10.5 percent). April marked 12 consecutive months of over-the-year job growth in Construction and the first instance in that

time where growth moved above 10 percent. The last time over-the-year Construction growth hit double digits was in April of 2015 when it reached 13.3 percent. All component sectors contributed to April's growth, with notable performances in Heavy and Civil Engineering (up 1,996 or 16.6 percent) and Specialty Trade Contractors (up 8,688, 12.1 percent).

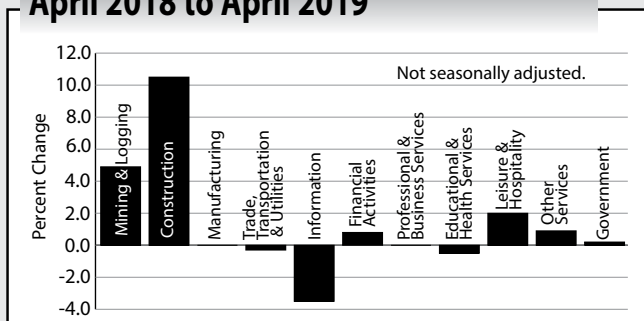
Manufacturing

Employment in Minnesota's Manufacturing supersector was up by 1,600 (0.5 percent) in April. Durable Goods Manufacturing added 1,500 jobs (0.7 percent) while Non-Durable Goods Manufacturing added just 100 (0.1 percent). On the year the supersector's employment was mostly flat, adding just 71 jobs (0 percent). This is, however, an improvement over the prior two months when Manufacturing lost jobs. April's modest over-the-year growth came entirely from Non-Durable Goods Manufacturing, which added 229 jobs (0.2 percent), in contrast to their counterparts in Durable Goods Manufacturing, which shed 158 jobs (0.1 percent).

Trade, Transportation, and Utilities

Employment in Trade, Transportation, and Utilities was up by 1,500 (0.3 percent) in April. Wholesale Trade added 1,100 jobs (0.8 percent), Retail Trade added 600 (0.2 percent), and Transportation, Warehousing, and Utilities lost 200 (0.2 percent). Over the year the supersector lost 1,520 jobs (0.3 percent). They have shown over-the-year declines in every month since December. The annual job losses, much like the monthly losses, were driven by Transportation, Warehousing, and Utilities, where employment was off by 4,241 (3.9 percent), while Retail and Wholesale Trade employers both added jobs on the year.

MN Employment Growth April 2018 to April 2019



Source: Department of Employment and Economic Development, Current Employment Statistics, 2019.

Information

The Information supersector lost 100 jobs (0.2 percent) in April. Information employers have lost jobs in every month since December 2018. On an over-the-year basis the Information supersector lost 1,702 jobs (3.5 percent). Telecommunications employers lost 897 jobs (7.1 percent), and non-internet Publishing Industries lost 488 (2.6 percent).

*Over-the-year data are not seasonally adjusted because of small changes in seasonal adjustment factors from year to year. Also, there is no seasonality in over-the-year changes.

Financial Activities

The Financial Activities supersector lost 300 jobs (0.2 percent) in April thanks to a loss of 400 (0.3 percent) in Finance and Insurance. Real Estate and Rental and Leasing, the other component sector, added 100 jobs (0.3 percent). Annually the supersector added 1,441 jobs (0.8 percent). Finance and Insurance added 1,584 jobs (1.1 percent), largely on the back of 1,277 new jobs in Insurance Carriers and Related Activities (up 2 percent), although other components Finance and Insurance also showed growth. Real Estate and Rental and Leasing was off by 143 jobs (0.4 percent).

Professional and Business Services

Professional and Business Services employment was up by 500 (0.1 percent) in April. The growth came entirely via the Administrative and Support and Waste Management and Remediation Services component sector, which added 500 jobs (0.4 percent). Growth in the other two component sectors was flat on the month. Annually the supersector added 145 jobs (0 percent). Professional, Scientific, and Technical Services added 1,561 jobs (1 percent), and Management of Companies and Enterprises added 1,570 (2 percent). But Administrative and Support and Waste Management and Remediation Services lost almost all of that, down 2,986 (2.3 percent). The component's decline was caused by the loss of 7,937 jobs (13.6 percent) in the bellwether Employment Services sector.

Educational and Health Services

The Educational and Health Services supersector added 1,100 jobs (0.2 percent) in April. Health Care and Social Assistance added 800 jobs (0.2 percent) while Educational Services added 300 (0.5 percent). Over the year Educational and Health Services employment was off by 2,651 (0.5 percent), with declines in both of its component sectors. Educational Services lost 1,380 jobs (1.9 percent), primarily in Colleges, Universities, and Professional Schools, while Health Care and Social Assistance lost 1,271 jobs (0.3 percent).

Leisure and Hospitality

Leisure and Hospitality employment was off by 1,700 (0.6 percent) in April with the loss of 2,000 jobs (4 percent) in Arts, Entertainment, and Recreation. The larger Accommodation and Food Services sector added

300 jobs (0.1 percent). Annually the supersector added 5,157 jobs (2 percent). Arts, Entertainment, and Recreation added 2,745 jobs (6.6 percent) and has had over-the-year job growth of greater than 5 percent in every month since October. Accommodation and Food Services added 2,412 (1.1 percent) jobs, with growth in both primary components.

Other Services

Employment in Other Services was up by 400 (0.4 percent) in April. The supersector has added jobs in every month of 2019. Annually Other Services employers added 970 jobs (0.9 percent). Repair and Maintenance employers added 451 jobs (2.1 percent), and Religious, Grantmaking, Civic, Professional, and Similar Organizations added 792 (1.3 percent), while Personal and Laundry Services lost 273 jobs (1 percent).

Government

Government employers in Minnesota added 700 jobs (0.2 percent) in April. All three levels of government added jobs on the month. Over the year Government employers added 709 jobs (0.2 percent). Federal employers added 172 jobs (0.5 percent), State added 148 (0.1 percent), and Local added 389 (0.1 percent). Both State and Local Government Educational Services lost jobs on the year.

by Nick Dobbins

Seasonally Adjusted Nonfarm Employment

In 1,000's

Industry	April 2019	March 2019	February 2019
Total Nonagricultural	2,961.8	2,958.2	2,956.7
Goods-Producing	456.4	454.9	452.5
Mining and Logging	6.8	6.8	6.7
Construction	128.2	128.3	125.2
Manufacturing	321.4	319.8	320.6
Service-Providing	2,505.4	2,503.3	2,504.2
Trade, Transportation, and Utilities	536.8	535.3	535.2
Information	47.5	47.6	47.9
Financial Activities	185.0	185.3	186.0
Professional and Business Services	377.6	377.1	377.8
Educational and Health Services	539.8	538.7	539.0
Leisure and Hospitality	278.7	280.4	280.2
Other Services	113.9	113.5	112.8
Government	426.1	425.4	425.3

Source: Department of Employment and Economic Development, Current Employment Statistics, 2019.

Regional Analysis

Minneapolis-St. Paul-Bloomington Metropolitan Statistical Area (MSA)

Employment in the Minneapolis-St. Paul-Bloomington MSA was up by 22,645 jobs (1.1 percent) in April, matching the state's monthly growth pace. Mining, Logging, and Construction added 5,647 jobs (7.6 percent) Professional and Business Services also grew, adding 7,592 jobs or 2.4 percent, and Other Services added 1,947 jobs (2.5 percent). The sharpest over-the-month declines came in Information (down 612 or 1.6 percent) and Educational and Health Services (down 4,902 or 1.4 percent). Annually employment in the region has grown by 6,814 (0.3 percent). Mining, Logging, and Construction added 5,647 jobs or 7.6 percent, with 4,512 of those jobs coming via Specialty Trade Contractors. Professional and Business Services also saw substantial growth, adding 7,592 jobs (2.4 percent) thanks to 5,798 new jobs in Administrative and Support and Waste Management and Remediation Services (up by 5.9 percent). Only the long-struggling Information industry lost (41 jobs or 0.1 percent) on the year.

Duluth-Superior MSA

The Duluth-Superior MSA added 2,251 jobs (1.7 percent) in April. This was the largest proportional over-the-month growth of any MSA we report on in Minnesota. Mining, Logging, and Construction set the pace, adding 721 jobs or 8.3 percent. Educational and Health Services added 770 jobs, (2.4 percent), Leisure and Hospitality added 490 (3.6 percent), and Professional and Business Services added 208 (2.6 percent). The only two supersectors to lose jobs were Information (down 55 or 1 percent) and Government (down 72 or 0.3 percent). Over the year the Duluth area added 140 jobs (0.1 percent). Mining, Logging, and Construction

added 532 jobs (6 percent), and Professional and Business Services added 275 (3.5 percent). Trade, Transportation, and Utilities lost 683 jobs (2.8 percent) with losses in every component sector. Financial Activities employers lost 232 jobs (4.1 percent).

Rochester MSA

The Rochester MSA added 1,018 jobs (0.8 percent) in April. As was the case across the state, growth was concentrated in supersectors helped by the warming weather. Mining, Logging, and Construction added 368 jobs (8.6 percent), and Leisure and Hospitality added 541 (5 percent). Manufacturers lost 136 jobs (1.3 percent), and Government employers shed 116 jobs (0.9 percent). Over the year the area added 1,967 jobs (1.6 percent). Educational and Health Services added 758 jobs (1.5 percent), Leisure and Hospitality added 626 (5.8 percent), and Mining, Logging, and Construction added 292 (6.7 percent). The largest annual decline, both in real and proportional terms, came in the Information supersector, which lost 148 jobs or 8.4 percent. Financial Activities and Other Services also lost jobs, off by 70 jobs (2.5 percent) and 35 jobs (0.9 percent), respectively.

St. Cloud MSA

The Saint Cloud MSA added 1,667 jobs (1.5 percent) in April. As was the case across the state, Mining, Logging, and Construction led the growth, adding 656 jobs or 10.1 percent. Leisure and Hospitality added 167 jobs (2.1 percent). The only supersector with negative job growth was Financial Activities, off by 36 or 0.7 percent. Annually the area added 2,339 jobs (2.1 percent). This was the largest over-the-year job growth of any reported MSA in Minnesota. Mining, Logging, and Construction added 1,431 jobs

(24.9 percent), by far the largest real and proportional growth of any supersector in the area. Professional and Business Services lost 295 jobs (3.3 percent), and Information employment was down by 100 (7.2 percent).

Mankato-North Mankato MSA

The Mankato-North Mankato MSA added 759 jobs (1.3 percent) in April. The private sector added 775 jobs (1.6 percent), more than erasing the loss of 16 (0.3 percent) among public sector employers. Most of the growth was in goods production, where 452 jobs (4.6 percent) were added. Annually employment in the area was up by 501 (0.9 percent), with growth in every published series. As with the over-the-month growth, goods producers led the way both in real jobs added and proportional growth, up by 339 (3.3 percent) to service providers' 162 jobs or 0.3 percents.

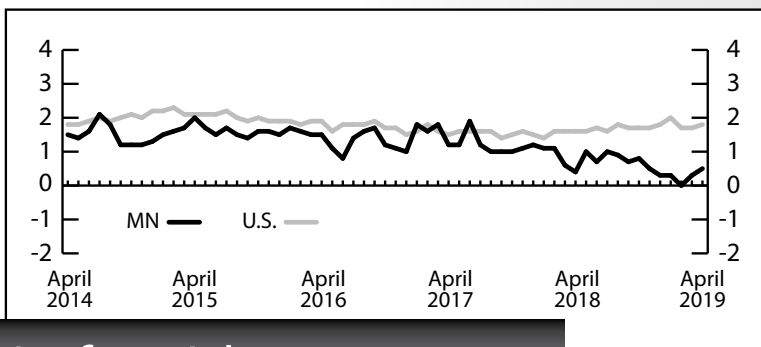
Fargo-Moorhead MSA

The Fargo-Moorhead MSA added 1,458 jobs (1 percent) in April. Mining, Logging, and Construction employers added 579 jobs (8 percent), leading the growth. Leisure and Hospitality added 435 (3.2 percent). Although three supersectors (Manufacturing, Government, and Information) shrank on the month, total job losses from the three supersectors combined were just 65 jobs. Annually the Fargo-Moorhead MSA added 492 jobs (0.4 percent) in spite of the fact that the two biggest movers in terms of total jobs were Trade, Transportation, and Utilities, which lost 395 jobs (1.3 percent) and Leisure and Hospitality, which lost 378 (2.7 percent). The largest numerical growth came in Manufacturing (up 184 or 1.8 percent), and the largest proportional growth was in Information (up 114, 3.9 percent).

Grand Forks-East Grand Forks MSA

The Grand Forks-East Grand Forks MSA lost 67 jobs (0.1 percent) in April. It was the only published MSA in the state to lose jobs. The decline was driven by the loss of 220 jobs (3.6 percent) in Leisure and Hospitality. Four other supersectors also experienced negative growth. Annually the MSA lost 756 jobs (1.4 percent). As with monthly growth, it was the only MSA in the state to lose jobs on the year. Government employers lost 492 jobs (3.4 percent), Trade, Transportation, and Utilities lost 402 (3.6 percent), and Other Services lost 137 (6.9 percent).

Source: Department of Employment and Economic Development, Current Employment Statistics, 2019; Bureau of Labor Statistics, U.S. Department of Labor, Current Employment Statistics, 2019.



Total Nonfarm Jobs U.S. and MN over-the-year percent change

by Nick Dobbins

Employer Survey of Minnesota Nonfarm Payroll Jobs, Hours and Earnings

Numbers are unadjusted.

Note: State, regional and local estimates from past months (for all tables pages 11-13) may be revised from figures previously published.

Industry	Jobs* (Thousands)			Percent Change From**		Production Workers Hours and Earnings					
	Apr 2019	Mar 2019	Apr 2018	Mar 2019	Apr 2018	Average Weekly Earnings		Average Weekly Hours		Average Hourly Earnings	
						Apr 2019	Apr 2018	Apr 2019	Apr 2018	Apr 2019	Apr 2018
TOTAL NONFARM WAGE AND SALARY	2,939.2	2,908.1	2,924.7	1.1%	0.5%	-	-	-	-	-	-
GOODS-PRODUCING	445.5	434.5	433.6	2.5	2.7	-	-	-	-	-	-
Mining, Logging, and Construction	127.2	118.9	115.4	7.0	10.2	-	-	-	-	-	-
Mining and Logging	6.5	6.5	6.2	0.4	4.9	-	-	-	-	-	-
Construction	120.6	112.4	109.1	7.4	10.5	-	-	-	-	-	-
Specialty Trade Contractors	80.3	75.7	71.6	6.0	12.1	\$1,101.03	\$1,168.27	34.7	36.6	\$31.73	\$31.92
Manufacturing	318.3	315.6	318.2	0.9	0.0	913.85	871.08	40.4	40.8	22.62	21.35
Durable Goods	202.4	200.1	202.5	1.1	-0.1	947.24	922.13	39.8	41.5	23.80	22.22
Wood Product Manufacturing	11.6	11.5	11.4	1.2	2.0	-	-	-	-	-	-
Fabricated Metal Production	43.7	43.6	43.1	0.3	1.2	-	-	-	-	-	-
Machinery Manufacturing	34.7	34.6	33.7	0.2	2.9	-	-	-	-	-	-
Computer and Electronic Product	46.0	45.9	45.3	0.3	1.6	-	-	-	-	-	-
Navigational, Measuring, Electromedical and Control	27.1	27.0	26.4	0.3	2.4	-	-	-	-	-	-
Transportation Equipment	11.0	11.0	10.8	0.0	1.4	-	-	-	-	-	-
Medical Equipment and Supplies Manufacturing	16.3	16.3	15.8	0.0	3.3	-	-	-	-	-	-
Nondurable Goods	115.9	115.5	115.7	0.4	0.2	863.20	786.46	41.5	39.6	20.80	19.86
Food Manufacturing	45.7	45.4	46.3	0.7	-1.4	-	-	-	-	-	-
SERVICE-PROVIDING	2,493.7	2,473.6	2,491.1	0.8	0.1	-	-	-	-	-	-
Trade, Transportation, and Utilities	529.4	525.4	530.9	0.8	-0.3	-	-	-	-	-	-
Wholesale Trade	131.9	130.3	130.0	1.2	1.4	1,113.61	958.08	39.9	38.4	27.91	24.95
Retail Trade	293.8	291.5	293.0	0.8	0.3	428.11	445.39	26.2	28.1	16.34	15.85
Motor Vehicle and Parts	36.6	36.1	36.0	1.3	1.6	-	-	-	-	-	-
Building Material and Garden Equipment	26.9	25.2	26.6	6.6	0.9	-	-	-	-	-	-
Food and Beverage Stores	55.9	55.9	55.0	0.0	1.7	-	-	-	-	-	-
Gasoline Stations	25.6	25.5	25.5	0.5	0.7	-	-	-	-	-	-
General Merchandise Stores	58.4	59.0	58.8	-1.0	-0.7	371.66	389.13	26.7	28.3	13.92	13.75
Transportation, Warehouse, Utilities	103.7	103.6	107.9	0.1	-3.9	-	-	-	-	-	-
Transportation and Warehousing	91.5	91.4	95.6	0.1	-4.2	749.87	740.93	31.6	33.3	23.73	22.25
Information	47.4	47.5	49.1	-0.1	-3.5	-	-	-	-	-	-
Publishing Industries	18.6	18.6	19.1	-0.1	-2.6	-	-	-	-	-	-
Telecommunications	11.7	11.7	12.6	-0.6	-7.1	-	-	-	-	-	-
Financial Activities	184.5	184.3	183.1	0.1	0.8	-	-	-	-	-	-
Finance and Insurance	150.2	150.5	148.6	-0.2	1.1	1,148.06	1,253.07	36.4	37.8	31.54	33.15
Credit Intermediation	64.7	64.9	64.6	-0.3	0.2	803.71	823.58	35.8	36.8	22.45	22.38
Securities, Commodity Contracts, and Other	20.4	20.4	20.2	0.2	0.9	-	-	-	-	-	-
Insurance Carriers and Related	65.1	65.2	63.8	-0.2	2.0	-	-	-	-	-	-
Real Estate and Rental and Leasing	34.3	33.8	34.5	1.7	-0.4	-	-	-	-	-	-
Professional and Business Services	374.8	368.2	374.7	1.8	0.0	-	-	-	-	-	-
Professional, Scientific, and Technical Services	164.6	162.8	163.1	1.2	1.0	-	-	-	-	-	-
Legal Services	18.1	18.1	18.1	0.4	0.4	-	-	-	-	-	-
Accounting, Tax Preparation	16.8	16.7	17.4	0.3	-3.8	-	-	-	-	-	-
Computer Systems Design	35.8	35.7	37.2	0.3	-3.6	-	-	-	-	-	-
Management of Companies and Enterprises	81.7	81.2	80.2	0.6	2.0	-	-	-	-	-	-
Administrative and Support Services	128.4	124.2	131.4	3.4	-2.3	-	-	-	-	-	-
Educational and Health Services	543.3	539.7	546.0	0.7	-0.5	-	-	-	-	-	-
Educational Services	70.8	69.1	72.1	2.4	-1.9	-	-	-	-	-	-
Health Care and Social Assistance	472.6	470.6	473.8	0.4	-0.3	-	-	-	-	-	-
Ambulatory Health Care	155.2	155.4	156.5	-0.2	-0.9	1,148.96	1,361.89	34.4	37.2	33.40	36.61
Offices of Physicians	75.4	75.3	74.7	0.2	1.0	-	-	-	-	-	-
Hospitals	115.6	115.6	113.7	0.0	1.6	-	-	-	-	-	-
Nursing and Residential Care Facilities	106.4	104.8	107.5	1.5	-1.0	483.93	495.50	26.9	29.6	17.99	16.74
Social Assistance	95.4	94.7	96.0	0.8	-0.6	-	-	-	-	-	-
Leisure and Hospitality	268.6	264.5	263.5	1.6	2.0	-	-	-	-	-	-
Arts, Entertainment, and Recreation	44.2	44.1	41.5	0.2	6.6	-	-	-	-	-	-
Accommodation and Food Services	224.4	220.3	222.0	1.8	1.1	-	-	-	-	-	-
Food Services and Drinking Places	197.4	194.0	195.5	1.7	1.0	284.37	271.36	19.9	19.3	14.29	14.06
Other Services	113.9	113.2	112.9	0.6	0.9	-	-	-	-	-	-
Religious, Grantmaking, Civic, Professional Organizations	63.8	63.6	63.0	0.3	1.3	-	-	-	-	-	-
Government	431.7	430.8	431.0	0.2	0.2	-	-	-	-	-	-
Federal Government	32.2	31.8	32.1	1.4	0.5	-	-	-	-	-	-
State Government	104.8	103.6	104.6	1.2	0.1	-	-	-	-	-	-
State Government Education	63.1	62.4	64.4	1.1	-2.0	-	-	-	-	-	-
Local Government	294.6	295.4	294.2	-0.3	0.1	-	-	-	-	-	-
Local Government Education	149.8	151.7	150.0	-1.3	-0.1	-	-	-	-	-	-

Note: Not all industry subgroups are shown for every major industry category.

* Totals may not add because of rounding.

** Percent change based on unrounded numbers.

Source: Department of Employment and Economic Development, Current Employment Statistics, 2019.

Employer Survey of Twin Cities Nonfarm Payroll Jobs, Hours and Earnings

Numbers are unadjusted.

Note: State, regional and local estimates from past months (for all tables pages 11-13) may be revised from figures previously published.

Industry	Jobs*			Percent Change		Production Workers Hours and Earnings					
	(Thousands)			From**		Average Weekly Earnings		Average Weekly Hours		Average Hourly Earnings	
	Apr 2019	Mar 2019	Apr 2018	Mar 2019	Apr 2018	Apr 2019	Apr 2018	Apr 2019	Apr 2018	Apr 2019	Apr 2018
TOTAL NONFARM WAGE AND SALARY	2,000.0	1,977.3	1,993.2	1.1%	0.3%	-	-	-	-	-	-
GOODS-PRODUCING	278.0	271.2	271.9	2.5	2.2	-	-	-	-	-	-
Mining, Logging, and Construction	79.7	74.0	75.2	7.6	5.9	-	-	-	-	-	-
Construction of Buildings	18.0	17.7	17.5	1.6	3.2	-	-	-	-	-	-
Specialty Trade Contractors	52.2	47.7	50.7	9.5	3.0	\$1,070.61	\$1,187.49	31.6	35.3	\$33.88	\$33.64
Manufacturing	198.4	197.2	196.7	0.6	0.9	946.89	921.38	40.5	41.9	23.38	21.99
Durable Goods	136.3	135.5	134.3	0.6	1.5	986.91	967.57	40.2	42.4	24.55	22.82
Fabricated Metal Production	30.2	30.1	29.9	0.3	1.0	-	-	-	-	-	-
Machinery Manufacturing	20.8	20.8	20.4	0.0	1.9	-	-	-	-	-	-
Computer and Electronic Product	37.6	37.4	36.8	0.5	2.3	-	-	-	-	-	-
Navigational, Measuring, Electromedical and Control	25.4	25.3	24.7	0.4	2.6	-	-	-	-	-	-
Medical Equipment and Supplies Manufacturing	15.5	15.5	14.9	-0.1	3.5	-	-	-	-	-	-
Nondurable Goods	62.0	61.7	62.4	0.5	-0.6	867.62	831.48	41.1	41.0	21.11	20.28
Food Manufacturing	14.0	13.9	14.3	0.5	-2.3	-	-	-	-	-	-
Printing and Related	13.5	13.5	14.0	-0.1	-3.4	-	-	-	-	-	-
SERVICE-PROVIDING	1,721.9	1,706.1	1,721.2	0.9	0.0	-	-	-	-	-	-
Trade, Transportation, and Utilities	359.4	356.1	356.5	0.9	0.8	-	-	-	-	-	-
Wholesale Trade	95.6	94.8	94.3	0.9	1.4	1,182.06	955.04	39.8	37.6	29.70	25.40
Merchant Wholesalers - Durable Goods	56.3	55.6	54.2	1.3	3.9	-	-	-	-	-	-
Merchant Wholesalers - Nondurable Goods	32.1	32.0	32.5	0.4	-1.0	-	-	-	-	-	-
Retail Trade	188.6	186.8	186.8	1.0	1.0	457.03	471.28	27.8	29.4	16.44	16.03
Food and Beverage Stores	35.0	34.9	34.7	0.3	0.9	-	-	-	-	-	-
General Merchandise Stores	37.9	38.1	36.5	-0.6	3.8	359.23	378.65	25.9	28.3	13.87	13.38
Transportation, Warehouse, Utilities	75.2	74.5	75.5	0.9	-0.3	-	-	-	-	-	-
Utilities	7.4	7.4	7.6	0.0	-1.7	-	-	-	-	-	-
Transportation and Warehousing	67.8	67.1	67.9	1.0	-0.2	885.21	758.90	37.1	34.2	23.86	22.19
Information	37.0	37.0	37.6	-0.1	-1.6	-	-	-	-	-	-
Publishing Industries	15.2	15.3	15.5	-0.3	-1.5	-	-	-	-	-	-
Telecommunications	7.6	7.6	8.1	-0.5	-6.6	-	-	-	-	-	-
Financial Activities	149.9	149.7	149.0	0.1	0.6	-	-	-	-	-	-
Finance and Insurance	122.0	122.2	121.2	-0.2	0.6	1,222.85	1,263.21	37.0	37.9	33.05	33.33
Credit Intermediation	48.4	48.5	48.7	-0.2	-0.7	-	-	-	-	-	-
Securities, Commodity Contracts, and Other	18.2	18.2	18.2	0.2	0.3	-	-	-	-	-	-
Insurance Carriers and Related	55.4	55.6	54.3	-0.4	1.9	-	-	-	-	-	-
Real Estate and Rental and Leasing	27.9	27.5	27.8	1.6	0.5	-	-	-	-	-	-
Professional and Business Services	324.5	316.9	322.9	2.4	0.5	-	-	-	-	-	-
Professional, Scientific, and Technical Services	144.9	143.6	142.7	0.9	1.5	-	-	-	-	-	-
Legal Services	15.6	15.5	15.5	0.5	0.7	-	-	-	-	-	-
Architectural, Engineering, and Related	19.7	19.5	18.9	1.2	4.2	-	-	-	-	-	-
Computer Systems Design	33.7	33.5	34.2	0.9	-1.2	-	-	-	-	-	-
Management of Companies and Enterprises	75.4	74.9	73.5	0.7	2.6	-	-	-	-	-	-
Administrative and Support Services	104.2	98.4	106.7	5.9	-2.3	-	-	-	-	-	-
Employment Services	45.5	44.8	50.3	1.6	-9.6	-	-	-	-	-	-
Educational and Health Services	334.1	332.3	339.0	0.6	-1.4	-	-	-	-	-	-
Educational Services	47.0	45.6	49.2	3.1	-4.5	-	-	-	-	-	-
Health Care and Social Assistance	287.1	286.7	289.8	0.2	-0.9	-	-	-	-	-	-
Ambulatory Health Care	91.9	92.0	92.8	-0.2	-1.0	-	-	-	-	-	-
Hospitals	68.7	68.7	67.2	0.1	2.2	-	-	-	-	-	-
Nursing and Residential Care Facilities	58.0	57.8	58.8	0.2	-1.5	-	-	-	-	-	-
Social Assistance	68.5	68.1	70.9	0.6	-3.4	-	-	-	-	-	-
Leisure and Hospitality	184.7	183.8	185.1	0.5	-0.2	-	-	-	-	-	-
Arts, Entertainment, and Recreation	33.8	34.4	33.8	-1.7	0.0	-	-	-	-	-	-
Accommodation and Food Services	150.9	149.4	151.3	1.0	-0.3	331.32	296.63	22.0	20.7	15.06	14.33
Food Services and Drinking Places	136.4	135.4	136.5	0.7	-0.1	325.04	289.64	21.8	20.1	14.91	14.41
Other Services	80.1	79.3	78.1	1.0	2.5	-	-	-	-	-	-
Repair and Maintenance	15.1	14.9	14.5	0.8	4.0	-	-	-	-	-	-
Religious, Grantmaking, Civic, Professional Organizations	42.4	42.2	41.7	0.5	1.8	-	-	-	-	-	-
Government	252.3	251.1	253.0	0.5	-0.3	-	-	-	-	-	-
Federal Government	21.4	21.2	21.4	0.9	-0.3	-	-	-	-	-	-
State Government	68.4	67.6	68.2	1.1	0.3	-	-	-	-	-	-
State Government Education	40.3	39.9	41.3	1.0	-2.5	-	-	-	-	-	-
Local Government	162.6	162.3	163.4	0.2	-0.5	-	-	-	-	-	-
Local Government Education	91.8	92.3	92.9	-0.5	-1.2	-	-	-	-	-	-

Note: Not all industry subgroups are shown for every major industry category.

* Totals may not add because of rounding.

** Percent change based on unrounded numbers.

Source: Department of Employment and Economic Development, Current Employment Statistics, 2019.

Employer Survey

Industry

TOTAL NONFARM WAGE AND SALARY

GOODS-PRODUCING

Mining, Logging, and Construction
Manufacturing

SERVICE-PROVIDING

Trade, Transportation, and Utilities
Wholesale Trade
Retail Trade
Transportation, Warehouse, Utilities
Information
Financial Activities
Professional and Business Services
Educational and Health Services
Leisure and Hospitality
Other Services
Government

Duluth-Superior MSA

Jobs % Chg. From

	Apr 2019	Mar 2019	Apr 2018	Mar 2019	Apr 2018
TOTAL NONFARM WAGE AND SALARY	137,240	134,989	137,100	1.7%	0.1%
GOODS-PRODUCING	17,196	16,426	16,612	4.7	3.5
Mining, Logging, and Construction	9,397	8,676	8,865	8.3	6.0
Manufacturing	7,799	7,750	7,747	0.6	0.7
SERVICE-PROVIDING	120,044	118,563	120,488	1.2	-0.4
Trade, Transportation, and Utilities	24,054	23,965	24,737	0.4	-2.8
Wholesale Trade	3,212	3,188	3,238	0.8	-0.8
Retail Trade	14,651	14,618	15,185	0.2	-3.5
Transportation, Warehouse, Utilities	6,191	6,159	6,314	0.5	-1.9
Information	1,249	1,246	1,339	0.2	-6.7
Financial Activities	5,396	5,451	5,628	-1.0	-4.1
Professional and Business Services	8,104	7,896	7,829	2.6	3.5
Educational and Health Services	33,255	32,485	33,058	2.4	0.6
Leisure and Hospitality	14,122	13,632	14,158	3.6	-0.3
Other Services	6,693	6,645	6,616	0.7	1.2
Government	27,171	27,243	27,123	-0.3	0.2

Rochester MSA

Jobs % Chg. From

	Apr 2019	Mar 2019	Apr 2018	Mar 2019	Apr 2018
TOTAL NONFARM WAGE AND SALARY	123,107	122,089	121,140	0.8%	1.6%
GOODS-PRODUCING	15,344	15,112	14,788	1.5	3.8
Mining, Logging, and Construction	4,640	4,272	4,348	8.6	6.7
Manufacturing	10,704	10,840	10,440	-1.3	2.5
SERVICE-PROVIDING	107,763	106,977	106,352	0.7	1.3
Trade, Transportation, and Utilities	17,756	17,584	17,732	1.0	0.1
Wholesale Trade	2,858	2,780	2,865	2.8	-0.2
Retail Trade	12,339	12,188	12,092	1.2	2.0
Transportation, Warehouse, Utilities	2,559	2,616	2,775	-2.2	-7.8
Information	1,619	1,603	1,767	1.0	-8.4
Financial Activities	2,724	2,725	2,794	0.0	-2.5
Professional and Business Services	6,211	6,067	6,131	2.4	1.3
Educational and Health Services	51,195	51,190	50,437	0.0	1.5
Leisure and Hospitality	11,448	10,907	10,822	5.0	5.8
Other Services	3,791	3,766	3,826	0.7	-0.9
Government	13,019	13,135	12,843	-0.9	1.4

Employer Survey

Industry

TOTAL NONFARM WAGE AND SALARY

GOODS-PRODUCING

Mining, Logging, and Construction
Manufacturing

SERVICE-PROVIDING

Trade, Transportation, and Utilities
Wholesale Trade
Retail Trade
Transportation, Warehouse, Utilities
Information
Financial Activities
Professional and Business Services
Educational and Health Services
Leisure and Hospitality
Other Services
Government

St. Cloud MSA

Jobs % Chg. From

	Apr 2019	Mar 2019	Apr 2018	Mar 2019	Apr 2018
TOTAL NONFARM WAGE AND SALARY	111,307	109,640	108,968	1.5%	2.1%
GOODS-PRODUCING	22,653	21,973	20,861	3.1	8.6
Mining, Logging, and Construction	7,176	6,520	5,745	10.1	24.9
Manufacturing	15,477	15,453	15,116	0.2	2.4
SERVICE-PROVIDING	88,654	87,667	88,107	1.1	0.6
Trade, Transportation, and Utilities	22,434	22,113	22,700	1.5	-1.2
Wholesale Trade	5,165	5,068	5,125	1.9	0.8
Retail Trade	13,112	12,915	13,497	1.5	-2.9
Transportation, Warehouse, Utilities	4,157	4,130	4,078	0.7	1.9
Information	1,286	1,283	1,386	0.2	-7.2
Financial Activities	5,219	5,255	5,073	-0.7	2.9
Professional and Business Services	8,658	8,506	8,953	1.8	-3.3
Educational and Health Services	22,987	22,904	22,249	0.4	3.3
Leisure and Hospitality	8,200	8,033	8,280	2.1	-1.0
Other Services	3,894	3,828	3,744	1.7	4.0
Government	15,976	15,745	15,722	1.5	1.6

Mankato MSA

Jobs % Chg. From

	Apr 2019	Mar 2019	Apr 2018	Mar 2019	Apr 2018
TOTAL NONFARM WAGE AND SALARY	58,719	57,960	58,218	1.3%	0.9%
GOODS-PRODUCING	10,469	10,007	10,130	4.6	3.3
Mining, Logging, and Construction	--	--	--	--	--
Manufacturing	--	--	--	--	--
SERVICE-PROVIDING	48,250	47,953	48,088	0.6	0.3
Trade, Transportation, and Utilities	--	--	--	--	--
Wholesale Trade	--	--	--	--	--
Retail Trade	--	--	--	--	--
Transportation, Warehouse, Utilities	--	--	--	--	--
Information	--	--	--	--	--
Financial Activities	--	--	--	--	--
Professional and Business Services	--	--	--	--	--
Educational and Health Services	--	--	--	--	--
Leisure and Hospitality	--	--	--	--	--
Other Services	--	--	--	--	--
Government	10,085	10,101	9,982	-0.2	1.0

Employer Survey

Industry

TOTAL NONFARM WAGE AND SALARY

GOODS-PRODUCING

Mining, Logging, and Construction
Manufacturing

SERVICE-PROVIDING

Trade, Transportation, and Utilities
Wholesale Trade
Retail Trade
Transportation, Warehouse, Utilities
Information
Financial Activities
Professional and Business Services
Educational and Health Services
Leisure and Hospitality
Other Services
Government

Fargo-Moorhead MSA

Jobs % Chg. From

	Apr 2019	Mar 2019	Apr 2018	Mar 2019	Apr 2018
TOTAL NONFARM WAGE AND SALARY	141,630	140,172	141,138	1.0%	0.4%
GOODS-PRODUCING	18,056	17,485	17,765	3.3	1.6
Mining, Logging, and Construction	7,827	7,248	7,720	8.0	1.4
Manufacturing	10,229	10,237	10,045	-0.1	1.8
SERVICE-PROVIDING	123,574	122,687	123,373	0.7	0.2
Trade, Transportation, and Utilities	29,769	29,611	30,164	0.5	-1.3
Wholesale Trade	8,949	8,847	8,843	1.2	1.2
Retail Trade	14,918	14,884	15,640	0.2	-4.6
Transportation, Warehouse, Utilities	5,902	5,880	5,681	0.4	3.9
Information	3,061	3,064	2,947	-0.1	3.9
Financial Activities	10,981	11,039	11,044	-0.5	-0.6
Professional and Business Services	15,511	15,365	15,534	1.0	-0.2
Educational and Health Services	25,546	25,297	24,908	1.0	2.6
Leisure and Hospitality	13,910	13,475	14,288	3.2	-2.7
Other Services	5,033	5,019	4,900	0.3	2.7
Government	19,763	19,817	19,588	-0.3	0.9

Grand Forks-East Grand Forks MSA

Jobs % Chg. From

	Apr 2019	Mar 2019	Apr 2018	Mar 2019	Apr 2018
TOTAL NONFARM WAGE AND SALARY	55,255	55,322	56,011	-0.1%	-1.4%
GOODS-PRODUCING	7,073	6,869	6,907	3.0	2.4
Mining, Logging, and Construction	2,613	2,418	2,569	8.1	1.7
Manufacturing	4,460	4,451	4,338	0.2	2.8
SERVICE-PROVIDING	48,182	48,453	49,104	-0.6	-1.9
Trade, Transportation, and Utilities	10,919	10,863	11,321	0.5	-3.6
Wholesale Trade	1,927	1,860	1,847	3.6	4.3
Retail Trade	6,873	6,803	7,289	1.0	-5.7
Transportation, Warehouse, Utilities	2,119	2,200	2,185	-3.7	-3.0
Information	540	545	558	-0.9	-3.2
Financial Activities	2,031	2,033	1,995	-0.1	1.8
Professional and Business Services	3,423	3,428	3,212	-0.2	6.6
Educational and Health Services	9,776	9,728	9,740	0.5	0.4
Leisure and Hospitality	5,816	6,036	5,972	-3.6	-2.6
Other Services	1,837	1,935	1,974	-5.1	-6.9
Government	13,840	13,885	14,332	-0.3	-3.4

Source: Department of Employment and Economic Development, Current Employment Statistics, and North Dakota Job Service, 2019.

Minnesota Economic Indicators

Highlights

The **Minnesota Index** dipped for the fourth straight month in April, slipping to 137.9. The index peaked last December at 138.4. Despite wage and salary employment's recording its largest monthly gain of the year and average weekly manufacturing hours jumping, the index still retreated as the unemployment rate rose by 0.1 percentage points for the fourth straight month. The Minnesota index declined by 0.1 percent while the U.S. index increased 0.3 percent in April.

April's reading was up over the year by 1.6 percent for Minnesota and 3.1 percent for the U.S. The over-the-year gap between the two indices implies that over the last 12 months the U.S. economy has been expanding twice as fast as Minnesota's economy. Minnesota's index is down 0.4 percent since last December. Kansas, Hawaii, and Michigan are the only other states to show a drop in their indices since last December. Minnesota's economy has slowed noticeably over the last six months. Whether the slowdown is related to labor shortages or other forces remains open to debate.

Minnesota's adjusted **Wage and Salary Employment** jumped by 3,600 in April, topping January's 3,400 job gain as the highest monthly job expansion so far in 2019. February's loss of 7,800 jobs, however, means that Minnesota has added only 700 jobs since last December. February's record snowfall probably played havoc with that month's seasonally adjusted employment total. Most of the employment increases in

April were private sector jobs as that sector added 2,900 positions while public sector positions climbed by 700. Manufacturing, along with Trade, Transportation, and Utilities, and Educational and Health Services had the strongest hiring in April. Job loss was highest in Leisure and Hospitality.

Unadjusted over-the-year job growth ticked up to 0.5 percent which is the highest over-the-year percent gain since last December. The gain is lower than the 0.7 percent average in 2018 and below the 1.8 percent rate for the U.S. in April. Minnesota's seasonally adjusted wage and salary employment estimated increase so far in 2019 (change between December 2018 and April 2019) is only 0.02 percent. Only six other states have experienced lower job growth in 2019 than Minnesota. Five states – Montana, Iowa, Wisconsin, Connecticut, and North Dakota – are estimated to have lost seasonally adjusted wage and salary employment in 2019 through April.

Online Help-Wanted Ads tailed-off for second month in a row in April falling to 138,900. That was the lowest total since last November, but job posting levels remain elevated by historic standards. Online postings fell 2.1 percent in Minnesota and 1.6 percent nationally. Minnesota's share of online help-wanted ads slipped to 2.6 percent.

Minnesota's **Purchasing Managers' Index (PMI)** advanced for only the second time over the last eight months, inching up to 54.5. Both the comparable indices, the Mid-America Business Index and the national PMI, fell in April, retreating to 55.9 and 52.8 respectively. Minnesota's reading has been basically flat since October 2018.

Adjusted average weekly **Manufacturing Hours** bounced back in April only part way from March's decline, climbing to 40.5. On an unadjusted basis Manufacturing hours are down from 40.8 last April to 40.4 this year. The

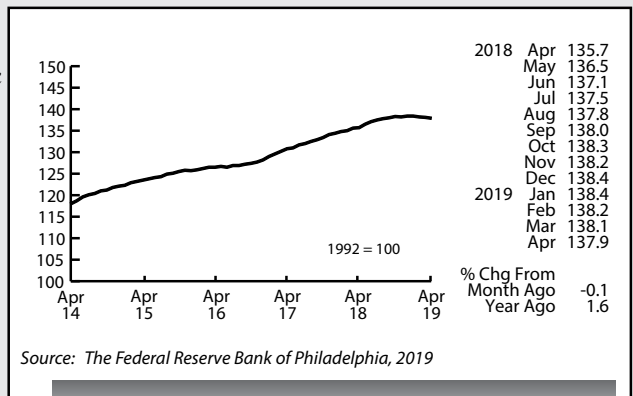
factory workweek has been getting shorter since last September which is consistent with the flatness of the PMI index. Despite the shorter workweek average weekly **Manufacturing Earnings** adjusted for inflation and seasonality rose to \$918.94 in April, setting a record high in the 49-year series for the third straight month. Record high Manufacturing pay is consistent with manufacturers' having a challenging time finding workers to hire. Real Manufacturing paychecks, before seasonal adjustment, have on average been 2.9 percent higher compared to the previous year during the last 12 months. In April real Manufacturing paychecks were up 3.3 percent from a year ago.

The **Minnesota Leading Index** inched up in April but remained below zero for the third straight month. The negative readings suggest that Minnesota's economy will be contracting over the next six months. The U.S. leading index came in at 1.4, making April the ninth month in a row in which Minnesota's leading index has trailed the U.S. index.

Once again adjusted **Residential Building Permits** were a bright spot among Minnesota monthly indicators. Home-building permits rose slightly to 2,504. On an unadjusted basis, home-building permits are up 18.3 percent from a year ago through the first four months.

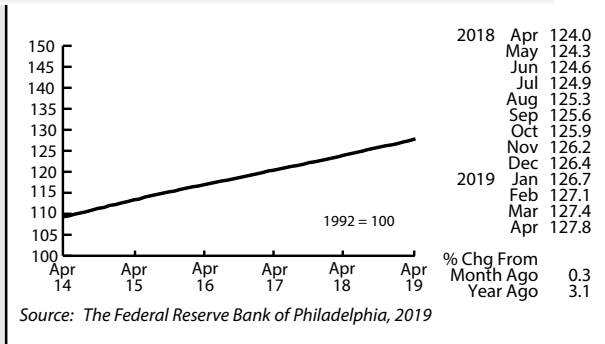
Adjusted **Initial Claims for Unemployment Benefits (UB)** ticked up in April to 16,181, continuing to run well below the 49-year monthly average of 21,630. Slow job growth can't be traced to accelerating layoff rates given the low level of initial claims.

by Dave Senf



Minnesota Index

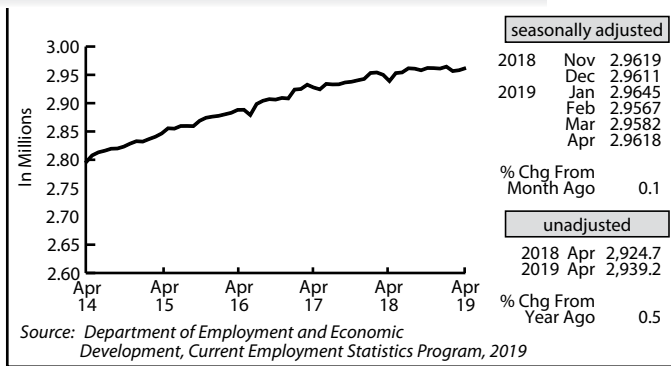
United States Index



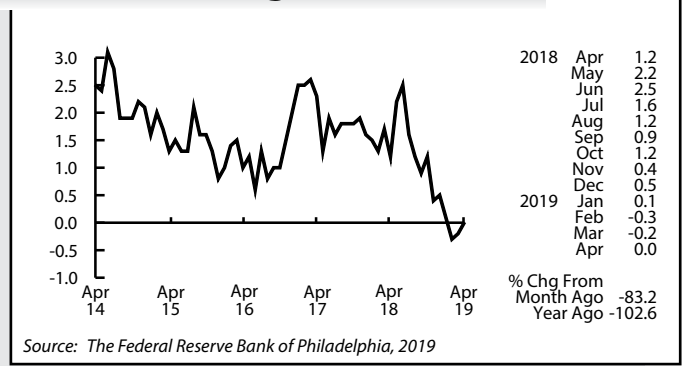
Note: All data except for Minnesota's PMI have been seasonally adjusted. See the feature article in the Minnesota Employment Review, May 2010, for more information on the Minnesota Index.

Minnesota Economic Indicators

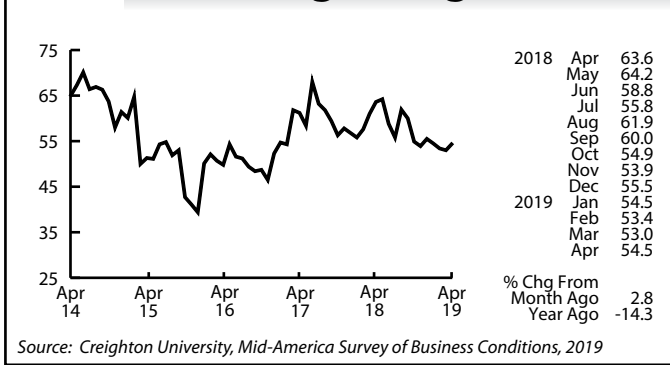
Wage and Salary Employment



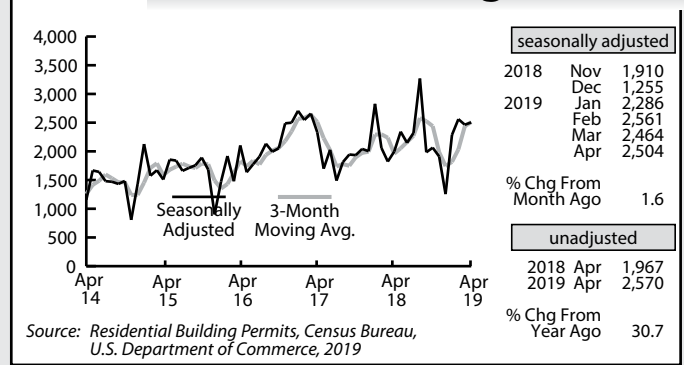
Minnesota Leading Index



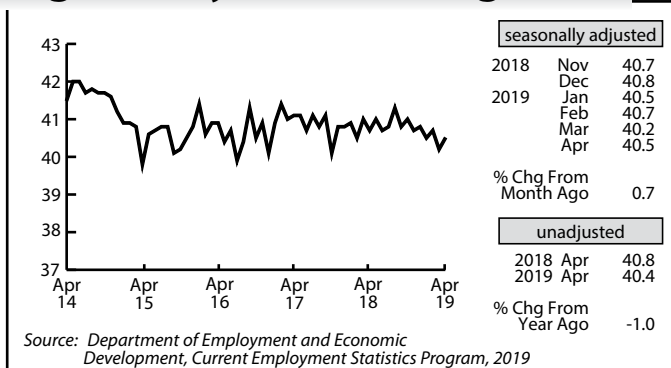
Purchasing Managers' Index



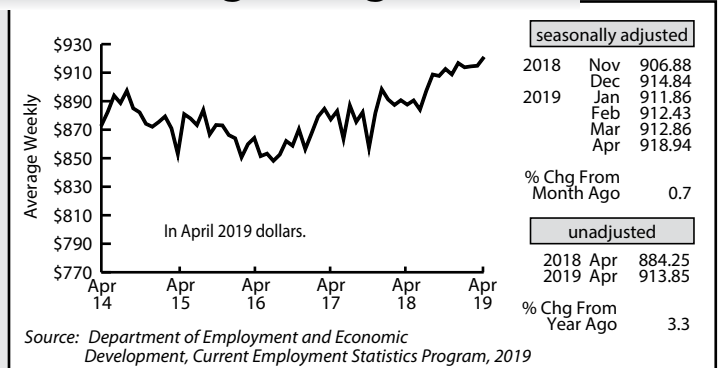
Residential Building Permits



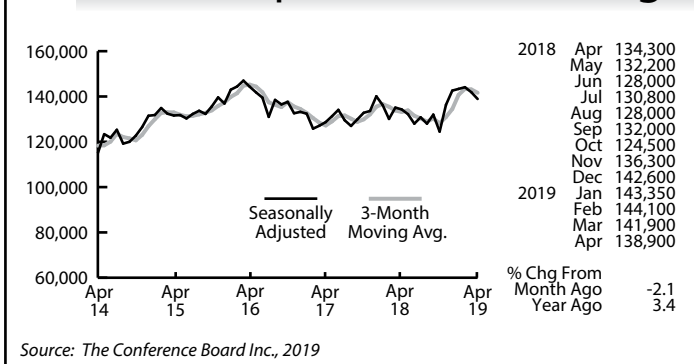
Average Weekly Manufacturing Hours



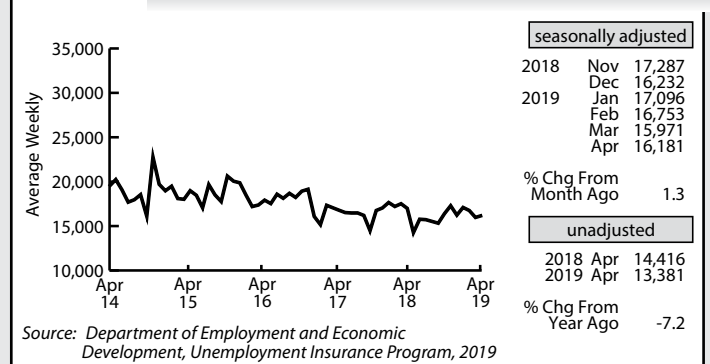
Manufacturing Earnings



Online Help-Wanted Advertising



Initial UB Claimants



Review

Minnesota Employment



DEED

Labor Market Information Office

1st National Bank Building
332 Minnesota Street, Suite E200
St. Paul, MN 55101-1351
651.259.7400 (voice)
1.888.234.1114 (toll free)
651.296.3900 (TTY)
1.800.657.3973 (TTY toll free)
e-mail :
DEED.Imi@state.mn.us
Internet :
mn.gov/deed/Imi

Labor Market Information

Help Line:

651.259.7384

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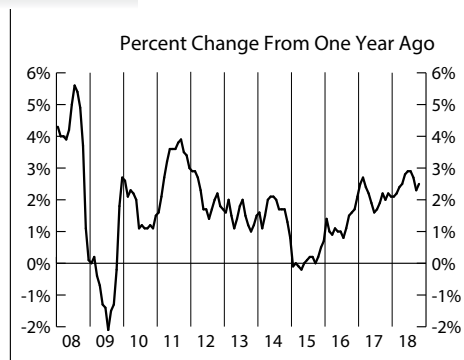
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U.S. Consumer Price Index for All Urban Consumers (CPI-U)

The Consumer Price Index for All Urban Consumers (CPI-U) increased 0.3 percent in April on a seasonally adjusted basis after rising 0.4 percent in March the U.S. Bureau of Labor Statistics reported today. The gasoline index continued to increase, rising 5.7 percent and accounting for over two-thirds of the increase.

The all items index increased 2.0 percent for the 12 months ending April, the largest 12-month increase since the period ending November 2018.

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What's Going On?

Gender Pay Gap

Alessia Leibert's feature on the gender pay gap in this issue of Minnesota Employment Review is an in depth study of the topic. A sample of her conclusions:

- Bring more women into the skilled trades, STEM majors, and quantitative business fields across the state.
- Encourage Greater Minnesota employers to recruit and retain qualified, diverse women. Elevate training to support promotions in the workplace.
- Remove barriers to workforce participation. Provide access to child care, elder care, and sick and parental leave.

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Gender Pay Gaps in the Twin Cities and in Greater Minnesota

Minnesota ranks third in the nation for its female labor force participation rate and 12th for the percent of women with a Bachelor's Degree or higher. Despite these accomplishments, female workers in Minnesota experience lower earnings compared to their male peers. This study analyzes the extent and sources of gender pay gaps in Minnesota using the following research questions: 1) Can we observe gender wage gaps even when taking into account productivity-related factors? 2) Is there a difference between the Twin Cities and Greater Minnesota in the size of the gender wage gap and in the mix of factors that drive it? Understanding the mechanisms through which gaps develop and which components account for most of the gap can help craft policy responses that address the underlying sources of the disparities.

The dataset consists of 255,519 individuals who enrolled in a Minnesota post-secondary institution, exited between July 2009 and June 2014, and were employed in Minnesota five years after school exit. This cohort-based approach ensures that all individuals had approximately the same amount of job search time since exiting school. The analysis is restricted to students who reported being of white race and were 40 years or younger at the time of exit in order to control for the role that race and age play in wage gaps and thus to simplify the analysis.¹

About the data

This research relies on two data sources, both found in the Statewide Longitudinal Education Data System (SLEDS): (1) post-secondary enrollment and graduation records, which cover all for-credit public and private programs in Minnesota; merged with (2) wage record data from the Unemployment Insurance program. The panel nature of wage data allows us to follow students longitudinally through education into the workforce. All numbers and graphic displays of numbers are the work of the author.

The dataset has 255,519 enrollees who exited post-secondary school between July 2009 and June 2014, reported being of white race, were between 19 and 40 years of age at the time of exit, and were employed in Minnesota five years after school exit. Graduates who earned more than one degree in the same academic year were classified according to the highest degree obtained. Excluded from the dataset are individuals who went to work for the federal government, were self-employed, or left the state. These workers are not covered by Minnesota's Unemployment Insurance program.

¹See article by A. Leibert, Racial Disparities in Wage and Employment After Graduation mn.gov/deed/newscenter/publications/trends/december-2015/disparities-wage-employment.jsp

GENDER PAY GAPS WIDEN WITH AGE

To set the stage for our analysis Figure 1 plots the earnings of the youngest cohorts of male and female students from two years before to six years after exiting post-secondary school, distinguishing between credential completers and non-completers. The left panel shows earnings in the Twin Cities, while the right panel represents Greater Minnesota.

Two results stand out. First, among individuals age 21 to 26, wage gaps are non-existent at the time of school exit but emerge right after, increasing gradually with age. By the sixth year after exit women in the Twin Cities with a credential earned 12.2 percent less than men, while the corresponding gap in Greater Minnesota was 8.7 percent less. Second, in Greater Minnesota the earnings trajectory differs significantly between completers and non-completers. Women who did not complete a credential earned wages 17.6 percent lower than their male peers, while women who completed a credential faced a discrepancy half that size (8.7 percent). This result suggests that in the low-skilled labor market in Greater Minnesota men have more opportunities for career advancement than women.

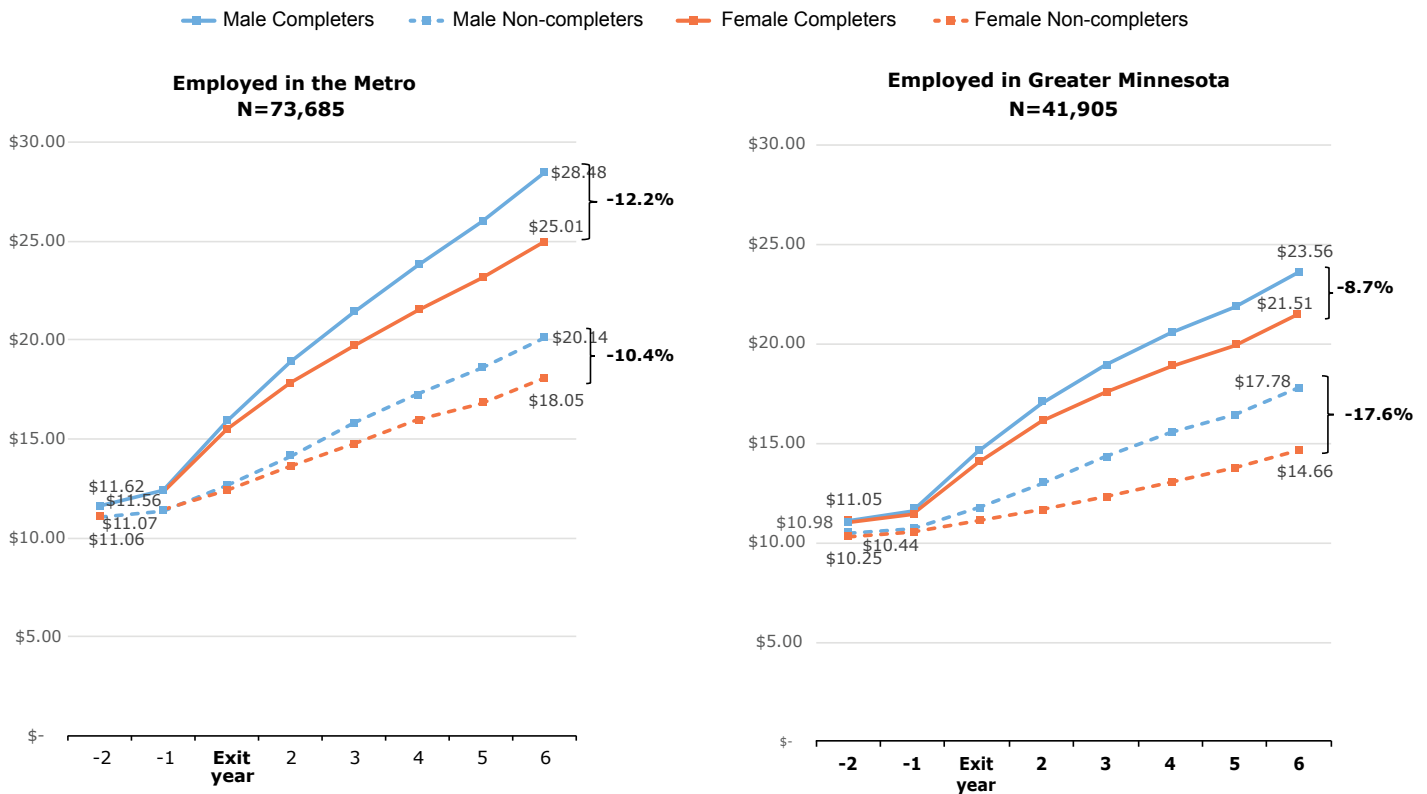
Among older students, those who left school after age 30, gender wage gaps exist even before school exit. In Greater Minnesota we see the same pattern of larger gender wage gaps among non-completers regardless of age.²

DO MEN AND WOMEN HAVE THE SAME PRODUCTIVITY CHARACTERISTICS?

Could the gaps illustrated in Figure 1 and 2 stem from differences in what men and women study in college? Or might they stem from differences in how men and women participate in the labor market? To answer these questions this analysis uses individual-level data on some of the most important factors known to influence job productivity and, therefore, earnings. The analysis distinguishes between factors that are fixed such as age or that emerge before entering the labor market (Table 1) and factors that develop through participation in the labor market (Tables 2 and 3).

While certain characteristics are fairly equally distributed among employed men and women in the dataset, others are not. For instance, women have more

Figure 1. Wage Trends from 2 Years Before to 5 Years After School Exit by Gender



Note: All wages reported in constant 2017 dollars. Wage outliers are being excluded from the median calculation. To allow for six years of wage data we excluded the 2014 cohort from this particular chart. Ph.D. graduates, who represent a small minority, were also excluded.

²One potential explanation for the more rapid widening of the gender gap among young women who are non-completers is the fact that they tend to have children earlier than college-educated women so the wage penalty would start earlier. If, however, this effect were predominant, we would have found wider gaps among non-completer young women in the Twin Cities.

formal schooling than men: only 26.4 percent of women did not complete a credential versus 36.1 percent of men, and 16 percent of women completed a credential above Bachelor’s compared to 11.5 percent of men.

Stark gender disparities are also evident in fields of study,³ which reflect differences in occupational goals. Men are over-represented in high-paying fields, including STEM (16.5 percent versus 5.2 percent among women), skilled trades (15.7 percent versus 0.6 percent among women), and business majors such as Finance and Business Administration (13.5 percent versus 7.7 percent among women). Women are over-represented in Healthcare (26.5 percent) and in some of the lowest-paid majors (Cosmetology and Culinary Services, Psychology, Early Childhood Education). Registered Nursing is an exception, with high wages and high female representation.

Another factor associated with earnings is college readiness, which can be indirectly measured through enrollment in post-secondary programs such as Remedial Education, Adult Basic Education, or GED preparatory courses. As shown in Table 1, men and women are equally distributed across these indicators. Another proxy for college readiness is the type of post-secondary institution of first enrollment. High performing students are more likely to enroll in four-year institutions, especially those with selective admissions criteria, while less academically prepared students are more likely to enroll in two-year, open enrollment institutions. These characteristics are likely to affect earnings among individuals but are fairly equally distributed by gender.

Table 2 presents firm characteristics, starting with an indicator for employment in the private sector, broken down into for-profit and non-profit, or in the public

Table 1: Demographics and Educational Characteristics by Gender

Characteristics	Men	Women
Total	118,445	137,074
Percent	46.4%	53.6%
Average Age At School Exit	25.3	26.0
Highest Education Level Completed		
Left School Without a Credential	36.1%	26.4%
Sub-baccalaureate Certificate or AAS Degree	22.4%	25.3%
Bachelor’s Degree	29.9%	31.8%
Graduate Certificate of Master’s Degree	9.0%	13.7%
Above Master’s	2.5%	2.8%
College Readiness Indicators		
High School Dropout or GED Completer	4.8%	4.1%
Enrolled In Adult Basic Education During Post-secondary	2.8%	2.7%
Enrolled in Remedial Education During Post-secondary	21.4%	21.4%
Post-secondary Institution of Initial Enrollment		
Two-year Minnesota State	46.1%	38.4%
Four-year Minnesota State	15.0%	16.2%
Private For-profit Career School	8.5%	12.7%
Four-year Public, Private, and Professional School	29.5%	32.7%
Fields of Study of Highest Degree Completed (Excluding Non-completers)		
IT	5.3%	0.6%
Engineering	4.9%	0.5%
Other STEM (Math, Biology, Physical Science, Architecture)	6.4%	4.1%
Skilled Trades	15.7%	0.6%
Finance, Business Administration, Management Information Systems, Taxation, Project Management	13.5%	7.7%
Health Care	5.1%	26.5%
Education, Family Science, and Early Childhood-related	6.0%	13.1%
Cosmetology and Culinary Services	0.8%	4.0%
Psychology and Social Work	1.9%	6.9%

³Non-completers were assigned field of study based on number of credits taken.

sector. These characteristics are important to include in an analysis of wages because public sector wages are typically determined through centralized bargaining and do not offer bonuses. Women are over-represented in the non-profit and public sectors (21.3 percent and 15.5 percent respectively), probably reflecting their preference for part-time/flexible work arrangements or for careers in Education and Healthcare that have a higher share of jobs with part-time schedules.

By far the biggest gender differences in workplace characteristics are in industry of employment, also shown in Table 2. The starkest differences are in Healthcare (26 percent women versus 6.2 percent men), Education (12.7 percent women, more than twice the share of men), Construction/Mining/Utilities (1.4 percent women versus 10.3 percent men), and Manufacturing (4.7 percent women versus 13.2 percent men). Industry distribution partially mirrors choice of major, but one of the main sources of gender pay disparities is that industry can differ by gender even within the same major, as we shall see later.

Finally, we take advantage of the panel nature of wage data to create measures of work experience accumulated from approximately 10 years before to five years after school exit. Each work experience variable displayed in Table 3 captures a different dimension known to influence the rate of skills accumulation in the labor market. We expect wages to rise with each quarter of work experience, industry tenure, and firm tenure because these represent the main mechanisms through

which workers acquire general skills, industry-specific skills, and firm-specific skills, respectively. Since accumulated work experience is partially a function of age, each metric is displayed by age group.

The number of years of employment in Minnesota, a measure of workforce attachment, is actually slightly higher for women (8.4) but their experience is more in part-time work than men's. The likelihood of working full-time in a dominant job is slightly higher for men than for women (3.4 years versus 3.2 years in the young age group and 8.2 years versus 7.1 years in the older age group). The average 35 year old woman in the dataset has accumulated 12 years of general work experience, of which 6.1 years were full-time work, versus 11.4 years among men of the same age, of which 6.7 years were full-time work. Although young women accumulated nearly the same average work hours as their male peers (8,693 versus 8,798) their hours were more likely to be distributed across multiple jobs rather than being concentrated in one dominant job. Among workers who exited between age 20 and 29, women worked on average 1.19 jobs each quarter versus 1.13 for men. Finally, women have a slightly higher average firm and industry tenure than men.

Overall, women and men in our dataset have very similar labor force participation patterns. Much more significant gender differences exist in major and industries of employment. We expect these forms of segregation by gender to explain a large share of the gender wage gap.

Table 2: Gender Distribution by Characteristic of Firm of Employment

Characteristics	Men	Women
Sector of employment		
Private For Profit	82.6%	63.2%
Non-profit	6.4%	21.3%
Public (Including State and Local Government)	11.0%	15.5%
Location		
Twin Cities Metro	63.0%	60.4%
Greater Minnesota	35.1%	38.2%
No Fixed Location in Minnesota	1.9%	1.4%
Industry		
Healthcare	6.2%	26.0%
Social Assistance	1.0%	4.7%
Education	6.3%	12.7%
Government	5.0%	5.7%
Retail	9.9%	8.0%
Construction, Mining, Utilities	10.3%	1.4%
Manufacturing	13.2%	4.7%
Professional and Technical Services	8.0%	6.7%
Job Was Obtained Through a Temporary Staffing Agency	2.3%	1.6%

ESTIMATION RESULTS

This section quantifies the association between earnings outcomes and each of the factors introduced in Tables 1 through 3 in order to answer the first research question: How much of the pay gap still remains net of productivity-related factors? The analysis uses a linear regression technique of the form suggested by Mincer⁴ to measure the combined effect of all characteristics. Table 4 summarizes the results from seven regression models, each adding a new group of explanatory variables, in order to observe how the starting gender wage gap varies with the addition of more factors. Before interpreting these results we need to mention that regression is a correlational analysis method and thus does not prove causal effects. In other words,

finding that one characteristic is related to an “outcome” variable (e.g., that education level is related to earnings) does not mean that the characteristic is the cause of the outcome.

In Model 1, which serves as our baseline, the coefficient for gender (-0.066 log points or -6.4 percent) represents the overall male-female wage gap in the dataset.

Model 2 adjusts the baseline estimate of the wage gap by taking into account the variation in wages associated with differences in age,⁵ permanent residence,⁶ year of school exit,⁷ education level, type of post-secondary institution of first enrollment⁸ and proxies for college readiness. Using Bachelor’s Degree completers as the reference category, the coefficients reveal that

Table 3: Gender Differences in Prior Work Experience and Work Participation Patterns*

Characteristics	Men	Women
Average Accumulated Years of Work Experience in Minnesota	7.6	8.4
Average Years Out of Work Since First Employed in Minnesota	1.6	1.5
Average Accumulated Years of Part-time Work		
-by age 25 to 34 (20-29 at exit)	3.1	3.8
-by age 35 to 45 (30-40 at exit)	4.5	5.9
Average Accumulated Years of Full-time Work in Dominant Job		
-by age 25 to 34 (20-29 at exit)	3.4	3.2
-by age 35 to 45 (30-40 at exit)	8.2	7.1
Average Years Current Job Seniority (Tenure) With the Same Firm		
-by age 25 to 34 (20-29 at exit)	3.0	3.1
-by age 35 to 45 (30-40 at exit)	4.7	4.8
Average Years of Industry Tenure From Two Years Before to Five Years After Exit		
-by age 25 to 34 (20-29 at exit)	3.5	3.9
-by age 35 to 45 (30-40 at exit)	4.5	4.8
Average Jobs Held Per Quarter From Two Years Before to Five Years After Exit		
-by age 25 to 34 (20-29 at exit)	1.11	1.19
-by age 35 to 45 (30-40 at exit)	1.10	1.13
Average Number of Hours Worked From Two Years Before to Five Years After Exit		
-by age 25 to 34 (20-29 at exit)	8,798	8,693
-by age 35 to 45 (30-40 at exit)	10,741	9,921

*These work experience metrics are based on quarterly reports of employment in Minnesota and do not represent work experience accumulated out of state. They span from 10 years before school exit (or an individual’s 20th birthday) to five years after school exit..

⁴See Jacob Mincer, *Schooling, Experience, and Earnings*, Columbia University Press, 1974.

⁵Since this effect fades away after a certain age, we included a quadratic term in the model. Controlling for age in the model is also needed to correct for the fact that we don’t have full work histories for individuals who were older or worked partially out of state.

⁶Residence is measured at the time of first enrollment and is categorized into four groups: students with permanent residence outside Minnesota except those resident abroad, who were excluded; residents in the Twin Cities; resident in metropolitan areas excluding the Twin Cities; and resident in micropolitan or rural areas. Out of state residents, educated and working in Minnesota, had higher earnings on average than Minnesota residents, probably because students who cross state lines for higher education typically have higher ability or more financial resources to relocate than others.

⁷Year of exit controls for differences in the business cycle. For example, students who left school in academic year 2009 at the peak of the Great Recession had significantly lower earnings five years out than students who left in 2014 because they faced a much more challenging labor market at the onset of their careers.

⁸These variables partially capture unmeasured characteristics such as institutional selectiveness, quality, and price.

completing a sub-baccalaureate credential of more than one year in length leads to higher earnings than dropping out, but lower earnings than a baccalaureate award. Furthermore, completing education beyond a Bachelor's Degree increases earnings by 0.248 log points (28.2 percent) for a Master's Degree and by 0.505 log points (65.7 percent) for above the Master's Degree level. Adding educational attainment widens the gender disparity, increasing the female coefficient from 0.066 (unadjusted) to 0.111 log points. That is, if men had the same educational attainment as females the gender pay gap would actually be higher. The R squared of the model is .366, meaning that these variables combined explain 36 percent of the variation in wages.

Model 3 expands the analysis by adding 73 fields of study, not fully listed for reasons of space. The R squared of the model increases to .470, representing an 11 percentage point increase in explanatory power. The coefficient for female falls by 3 log points, from -0.11 to -0.08. This important result implies that a key source of the pay gap is represented by women's choice of major. Although in this study we cannot directly control for occupation, major is a good proxy for career goals and occupation-related skills, especially among credential completers. Table 4 also displays a few examples of fields of study with large size effects. The coefficients represent the distance (i.e., percent difference) in expected wage for each major relative to the reference category, which in our case is Accounting. For example, a coefficient of 0.221 log points for individuals who pursue a program in Plumbers and Electrical/Power Installers means that these students earned 24.7 percent more to each dollar earned by individuals who pursued a program in Accounting, holding other characteristics constant.

By far the major that gives the highest boost in earnings is Medical Residency Programs, with a stellar return of more than 189 percent to the dollar compared to Accounting. Another highly marketable program is Registered Nursing at 0.313 log points or 36.7 percent. At the other end of the spectrum, majors with low returns are Cosmetology and Culinary Arts, Early Childhood Education, and Social Work. In general, college majors and jobs that emphasize service to others are undervalued in labor markets, and they tend to be female-dominated.⁹

Model 4 adds industry of employment, raising the R squared from 0.470 to 0.537. Table 3 shows regression coefficients for selected industries, using Banking as the reference category. Management of Companies (i.e., working at firm headquarters) boosts earnings by 8.8 percent because job types in this industry are predominantly managerial or white collar. In contrast,

working in Child Day Care Centers starkly reduces earnings (-0.409 log points) relative to working in Banks. Interestingly, the addition of industry controls significantly reduces the female coefficient from -0.078 to -0.061 percent, making industry of employment the largest explanatory component of the gender pay gap together with major.

It should be pointed out that industry has two effects on the gender wage gap. The first is that women work in lower paid industries than men (see Table 2). If we had controlled for industry before controlling for major we would have seen a 15 percent point decrease in the gender wage gap.

The second is that the gender gap decreases further when industry controls are added *after controlling for degree level, school selectivity, and 73 detailed majors*, suggesting that there is a difference between the education-to-industry matches that prevail among men and those that prevail among women, and the job sorting mechanisms that produce those differential matches favor men over women. Working in an industry related to one's major represents a good match, while working in an unrelated industry represents a mismatch. If women are less successful than men at finding work in industries where their field of study is most rewarded, this alone would cause a gender gap. This finding supports the hypothesis that women suffer wage penalties associated with education-to-industry mismatch.

The distinction between major selection and industry selection is an important one. While major is typically a voluntary choice, industry of employment is the result of job sorting mechanisms in the labor market that individual job seekers have much less control over. Finding an association between industry distribution and gender pay gaps *while simultaneously holding major constant* signals a problem of equal opportunities.

Model 5 adds sector of employment, firm size, and employment in selected large firms. Working in the non-profit sector and state government is associated with lower pay relative to for-profit firms. Despite the fact that women are more likely to work in the for-profit sector (see Table 2), this characteristic is offset by the fact that women are more likely to work in large non-profit firms in the Healthcare industry where wages are higher. So, the combined effect on gender gaps is neutral.

Model 6 adds work experience characteristics. Since one of the main arguments made for lower pay is that women have less professional experience than men, controlling for various dimensions of work experience is essential to validate the hypothesis that women are paid lower wages even at the same levels of experience.

⁹Effects measured five years after school exit may not hold 10 or 15 years out. Some majors have a more immediate return on investment while others take longer to yield a return.

Table 4: OLS Regressions Controlling for Different Sets of Explanatory Variables
Dependent Variable: Log of Real Hourly Wages Five Years After School Exit

*** indicates statistical significance at the 1% level or better. Standard errors given in parentheses.

N= 215,248		Model 1	Model 2 Educ.	Model 3 Major	Model 4 Industry	Model 5 Firm Size	Model 6 Work Exp.	Model 7 Interaction
Gender	Female	-0.066***	-0.111***	-0.078***	-0.061***	-0.061***	-0.055***	-0.0207***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.025)
Education (Reference: Bachelor's)	Did Not Complete a Credential		-.274***	-0.233	-0.18***	-0.173***	-0.184***	-0.18***
			(0.003)	(0.010)	(0.010)	(0.010)	(0.009)	(0.009)
	Sub-baccalaureate Credential		-.127***	-0.148	-0.124***	-0.118***	-0.124***	-0.124***
			(0.003)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
	Master's		.248***	.247***	0.240***	0.234***	0.194***	0.196***
		(0.003)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	
	Above Master's		.505***	.370***	0.373***	0.377***	0.366	0.367***
			(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Field of study (Reference: Accounting)	Registered Nursing			0.313***	0.285***	0.287***	0.311***	0.306***
				(0.005)	(0.006)	(0.006)	(0.005)	(0.005)
	Plumbers and Electrical Installers			0.221***	0.121***	0.122***	0.122***	0.127***
				(0.008)	(0.008)	(0.008)	(0.007)	(0.008)
	Social Work			-0.209***	-0.122***	-0.115***	-0.083***	-0.081***
				(0.008)	(0.007)	(0.007)	(0.007)	(0.007)
	Cosmetology			-0.193***	-0.100***	-0.098***	-0.047***	-0.042***
				(0.008)	(0.007)	(0.007)	(0.007)	(0.007)
Industry (Reference: Banking)	Staffing Agencies				-0.269***	-0.260***	-0.166***	-0.162***
					(0.006)	(0.008)	(0.006)	(0.006)
	Child Care Centers				-0.409***	-0.376***	-0.382***	-0.383***
					(0.009)	(0.009)	(0.008)	(0.008)
	Nursing and Residential Care Facilities				-0.205***	-0.175***	-0.182***	-0.185***
				(0.005)	(0.005)	(0.005)	(0.005)	
	Heavy/Civil Engineering Construction				0.127***	0.099***	0.109***	0.107***
					(0.009)	(0.009)	(0.008)	(0.008)
	Management of Companies				0.088***	0.060***	0.085***	0.078***
					(0.005)	(0.006)	(0.005)	(0.005)
Accumulated Work Experience (1)	Total Quarters of FT Work						0.0061***	0.011***
							0.000	0.000
	Total Quarters of PT Work						-0.0054***	--0.0066***
							0.000	0.000
	Quarters of Industry Tenure						0.0085***	0.0075***
							0.000	0.000
	Average Jobs Held Per Quarter						-0.048***	-0.048***
							(0.003)	(0.002)
Female*FT Experience							-0.00777***	
							0.000	
Female* PT Experience							0.00311***	
							0.000	
Female* Industry Tenure							0.0015***	
							0.000	
Fixed Effects	Demographics, Educational, and Cohort Fixed Effects (2)	No	Yes	Yes	Yes	Yes	Yes	Yes
	Firm Sector, Firm Size, and Selected Large Employers	No	No	No	No	Yes	Yes	Yes
	Constant Term	3.176	2.292	2.468	2.563	2.456	2.722	2.720
	R squared	0.005	0.366	0.470	0.537	0.550	0.591	0.593

(1) All work experience metrics represent only Minnesota employment. To correct for the fact that we don't have full work histories for individuals who were older or worked out of state we controlled for age in the model.

(2) This includes age, residence, geography of employment, school cohort, institutional selectivity, and college-readiness proxies.

Although these factors add considerable explanatory power to the model (from 0.550 to 0.591), they reduce the gender pay gap by only 0.6 log points, demonstrating that something else is at play besides differences in the way women and men participate in the labor market.

The strongest positive effects on earnings are represented by full-time experience (0.6 percent on each dollar for each quarter or 2.4 cents a year) and tenure in the same industry. Each additional year in the current industry translates into another 3.3 percent in expected wages. In contrast, the effects of part-time experience on earnings are weaker and negative (-0.005 log points) once full-time experience is controlled for, and the effect of job tenure does not reach statistical significance so we excluded it from the model.

The factor with the strongest effect on the gender pay gap besides full-time work experience is average jobs held in each quarter of previous employment. This variable has a significant negative effect on earnings (-0.0484 or -4.7 percent) because having multiple jobs or switching between part-time jobs hurts earnings growth by delaying career advancement. Women are more likely than men to be in this type of work arrangement probably because of the need to balance work and family. Including this variable decreases the gender gap by 3 percentage points, suggesting that the female wage penalty would be mitigated if women were able to put more hours into one dominant job.

In sum, while all of the variables listed in Table 4 have a statistically significant effect on wages, very few of them play a role in driving the gender wage gap. Net of all characteristics accounted for in Model 6, the gender pay gap remains at -.055 log points, meaning that on average women are paid 5.3 percent less than men when all other characteristics in the model are held constant. This gap is already established as early as five years after school exit in a dataset of young workers. This finding raises concerns because gaps that appear early in a career can widen substantially over the course of one's work life.

The final estimate, Model 7, completes the analysis by adding the interaction between the number of quarters worked and being female. This allows us to analyze the gender gap both in terms of differences in quantity of experience and in the returns to that experience. The rise in R squared as well as the sign and significance of the interaction coefficients confirm the hypothesis of lower returns to full-time experience for females. Once the term "Female*FT Experience" is added to the model, the coefficient for full-time experience doubles in size (from 0.006 to 0.011) because it now measures the returns to full-time experience for males only. This

means that an additional quarter of full-time work experience increases males' earnings by 0.011 log points (1.1 percent a quarter¹⁰) while for females the effect is much smaller, 0.0032 log points (0.011-0.0077). Women have less negative returns than men on part-time work and more positive returns than men on years of tenure in the same industry, but these advantages are too small to offset the male premium for full-time experience. We can now ignore the coefficient on female because the effect of being female is mostly captured by the coefficient of the interactions.¹¹

The significance of the interaction indicates that the effect of being female on earnings is different at different values of full-time work experience. With each passing year the gender gap widens until a point where it stabilizes. An important consequence of these widening disparities is the *cumulative effect* that results, whereby females are increasingly disadvantaged over time.

REGIONAL DIFFERENCES IN GENDER WAGE GAPS

We now turn to our second research question: Is there a difference between the Twin Cities and Greater Minnesota in the size of the gender wage gap and in the mix of factors that drive it? Applying Model 6 separately to the two geographies results in the same overall patterns of wage determination. The effects of each variable, measured by the sign and size of each coefficient, are very similar. The next step is to identify differences in how each factor contributes to gender pay gaps in the Twin Cities relative to Greater Minnesota.

Figure 2 reports the results from 12 regression models which replicate those in Table 4 separately by region. The purpose of this analysis is to observe how the coefficient for being a female varies as more information is added to the model, in order to isolate the contribution of each factor net of the characteristics controlled for in the previous steps. Each bar represents the coefficient for female (the wage gap) net of other variables. This time the coefficients are measured in percentages rather than logs.

We find almost no difference in the raw gender pay gap by region, which is -5.6 percent in the Twin Cities and -6 percent in Greater Minnesota. That is, women were paid around 6 percent less on average than men in both regions. The first step consists of adding demographic, education, and college-readiness characteristics exactly as in Model 1. Not surprisingly, accounting for these variables widens the gender wage gap in both regions (see blue bars), meaning that if males had the same

¹⁰The square term of full-time experience is highly statistically significant but extremely small because only very few individuals in the dataset are old enough to experience the declining effect of work experience. Therefore, for the sake of simplifying the display, we did not include the quadratic terms for full-time and part-time experience in Table 4, but we used it to calculate the effect on females.

¹¹The coefficient now means that women with a Bachelor's Degree and zero quarters of full-time and part-time experience earn 2 log points less than their male counterparts. Since this value does not exist in our dataset, we should not try to interpret this coefficient.

education level as females, gaps would be higher. Gaps of 10 percent and 11 percent are similar to those shown in Figure 1 where age, education, and region are controlled for.

Adding controls for 73 fields of study provides a surprise. These characteristics greatly improve the fit of the model in both regions, meaning that choice of major drives earnings for both men and women, but have a different effect on the gender pay gap. The female coefficient in the Twin Cities drops by half, from -10 percent to -5.3 percent, but remains virtually unchanged in Greater Minnesota. What seems to be driving gender wage gaps in the Metro is primarily the fact that males disproportionately earn degrees in fields that are well compensated, while in Greater Minnesota it is more common for females to earn less than men *even within the same major*. This finding suggests that the rewards for specific majors are very high in the Twin Cities, and if women were to equalize their choice of major to that of men, the wage gap would shrink to half. But the same is not true in Greater Minnesota. Something else is preventing women from finding jobs that pay as well as those of their male peers with equivalent educational attainment and field of study.

Model 4 adds information on industries of employment, which produces a reduction in the gap in both geographies, from -5.3 percent to -3.9 percent in the Metro and from -10.6 percent to -8.8 percent in Greater Minnesota. Specifically, the concentration of males in specific industries where productivity is higher, in the form of more full-time employment, more career growth opportunities, or higher technological intensity,

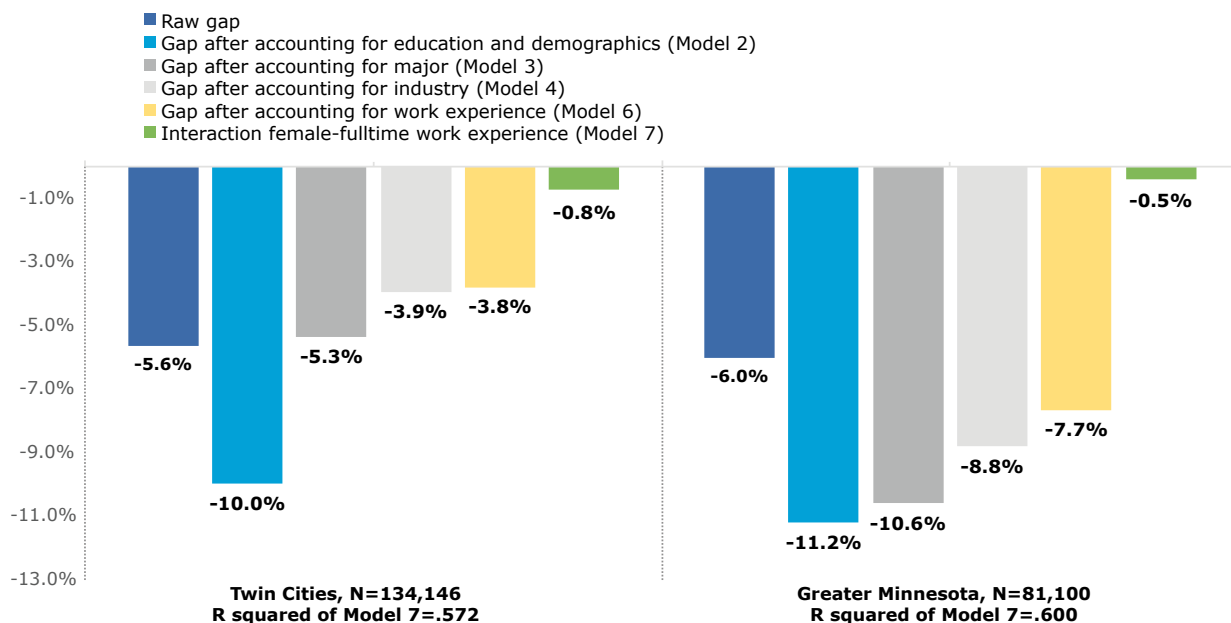
accounts for a significant portion of the gender wage gap **net of choice of major**. This effect signals a problem of employment mismatch, meaning that women are less successful than men at entering jobs where their educational investments are fully rewarded.

Model 6 adds all remaining variables except interactions. In both regions we observe a reduction in the gap, especially in Greater Minnesota, indicating that part of men’s wage premium is driven by their better work experience characteristics. This finding is consistent with job sorting effects, because if men are more likely to enter well-matched jobs or higher quality jobs than women, their work experience will also be more valuable. Five years after school exit their productivity will be higher, so wages will be higher.

When interactions for full-time and part-time work are added, as in Model 7, we test the hypothesis that accumulated work experience is differently rewarded by gender. We find, again, that the effect of an additional year of full-time work experience is *not equal by gender*. The coefficient of the interaction (green bars) is -0.8 percent in the Metro and -0.5 percent in Greater Minnesota, indicating that in both regions women get less out of another year of full-time experience than men. Women have higher returns than men on part-time work in both regions, as shown in Table 3, but the female premium from part-time experience is half the male premium on full-time experience. Therefore, the net effect is a female disadvantage.

The addition of these interactions raises the R squared to .572 in the Metro and to .600 in Greater Minnesota,

Figure 2. Gender Wage Gaps in the Twin Cities versus Greater Minnesota, Model Estimations Adding Increasingly More Controls



Note: Each bar represents a different regression. All coefficients are significantly different from zero at the $p < 0.01$ level.

meaning that observed characteristics were able to explain 57 percent of wage variation in the Metro and 60 percent of wage variation in Greater Minnesota.

It is important to note that being able to explain the variation in wages and being able to account for gender wage gaps are two very different research questions. Despite the fact that the model performs better in Greater Minnesota, the gap that remains when we compare men and women with identical observable productivity characteristics is *higher than the initial gap*. In contrast, in the Twin Cities accounting for measurable productivity characteristics results in a lower gap than what we started with, -3.8 percent versus -5.6 percent. This indicates that some important productivity characteristics related to gender and specific to Greater Minnesota were omitted from the model, or that females in Greater Minnesota differ from females in the Twin Cities on other dimensions omitted from the model, or that gender bias in the Greater Minnesota labor market is driving up the wage gap.

JOB SORTING AS A MAIN SOURCE OF GENDER PAY GAPS

Our quantitative analysis revealed that job sorting in the form of industry allocation is a significant source of gender wage gaps in Minnesota. In the Twin Cities, however, choice of major has the strongest impact, more than job sorting by industry, while in Greater Minnesota larger gender gaps remain even after comparing males and females with an identical academic background. What could be the reasons for this divergence?

Wage gaps typically develop from differences in opportunities for skills acquisition either through schooling or through work-based training and promotions on the job. Gender wage gaps emerge if gender is a factor in how people access opportunities for skills-enhancement. Gaps are going to be larger in regions where being a female precludes access to some paths for skills acquisition. For instance, if women in Greater Minnesota struggle more than their male peers to access training opportunities or to enter certain occupations, their work experience will be less valuable and inequalities will emerge even when other productivity characteristics are held constant.

In the absence of data on occupation we cannot directly test the hypothesis that men and women get sorted into different occupations or job roles. The point can be illustrated, however, by comparing majors and industry allocation by gender in Greater Minnesota. Figures 3 and 4 present results for males and females respectively, showing major on the left side and industry of employment on the right side. The display also includes hourly wages earned in the fifth year after graduation

by the subset of workers who exited school between age 22 and 27. This analysis is limited to non-completers because they have the biggest gender differences in the state. They also represent a much larger share of workers in Greater Minnesota than in the Metro, making up 40 percent of males and 30 percent of females in our dataset.

Although these students did not earn a credential, their major at enrollment reveals a great deal about their career goals and aptitudes. The strong gender segregation in fields of study combined with the industry mix in Greater Minnesota inevitably favors men over women. One out of five (20 percent) males took coursework in the skilled trades versus 1 percent of females, and 6 percent of males enrolled in IT versus 1 percent of females. In contrast, female non-completers are over-represented in Healthcare majors (26.6 versus 4 percent).

Female non-completers are significantly less likely to find employment in high-pay industry sectors. This is partially due to choice of major, but also to gender itself. While industries such as Manufacturing and Mining/Utilities/Construction drew low-educated males from every major and paid fairly good wages, about half of females ended up in Healthcare and Retail, Accommodation, and Food Services where they earned low wages. Other women ended up in Social Assistance, where wages are abysmally low. The highest wages were earned by the 8 percent of women in Manufacturing (\$15.29 per hour).

An even more concerning finding is that women non-completers in Greater Minnesota earned less than men within the same industry, which can only mean that males entered higher paid occupations. Women non-completers were more likely to take jobs as Nursing Assistants, Cashiers, Waitresses, and Personal Care Aides/Home Health Aides while men were more likely to find work as Construction Laborers and Production Workers, including Machinists.

Perhaps the clearest example of gender effects in job sorting is offered by those who enrolled in liberal arts or did not declare a major. In this large group, 29 percent of the total for each gender, students did not receive any occupation-specific preparation. The fact that a sizeable portion of males from this group were able to enter high paying industries such as Manufacturing and Mining/Utilities/Construction despite having no educational background in the field points to a phenomenon of job sorting that favors males over females. Wage differentials also suggest that males have had more opportunities for skills acquisition in the same five-year span than women. This might stem from the fact that the workforce pipeline in the trades is built mainly through on-the-job training or apprenticeships¹² rather

¹²For this reason it is conceivable that relatively more males than females voluntarily dropped out of college because they could get living-wage jobs in their field without a credential.

Figure 3. Male Non-Completers Employed in Greater Minnesota Five Years After School Exit

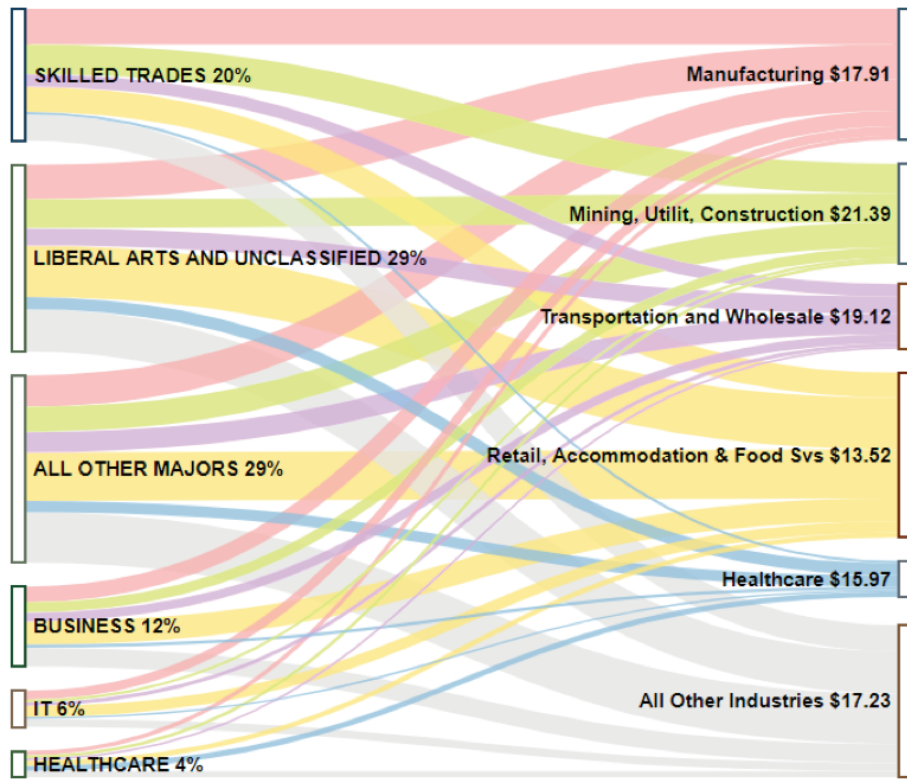
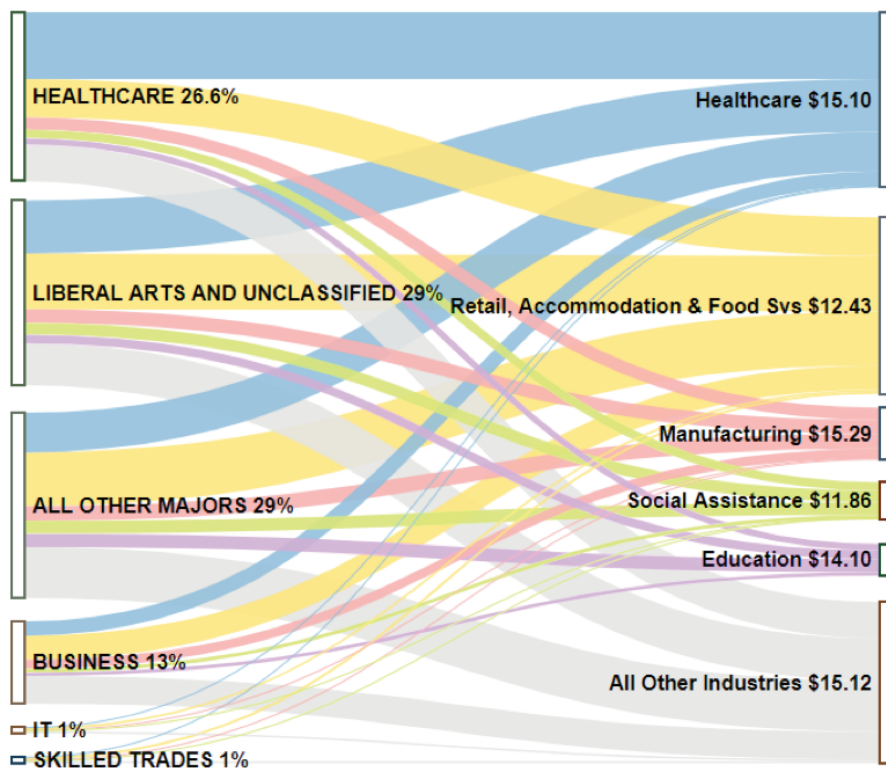


Figure 4. Female Non-Completers Employed in Greater Minnesota Five Years After School Exit





than through higher education. These opportunities might be out of reach for women, either because they have an inherent productivity disadvantage in jobs that require physical strength or stamina or because they have few role models in non-traditional careers. These industries, Manufacturing, Mining, Construction, Utilities, Transportation, and Wholesale, are the most male-dominated in the state, with males representing from 70 to 85.8 percent of the workforce.¹³ The take-away from this example is that differences in productivity are reflected in gender wage gaps, but they likely stem from structural inequalities in access to productivity enhancing opportunities.

The charts also illustrate another factor further contributing to the poor outcomes of women non-completers in Greater Minnesota. Their high concentration in majors such as Education and Healthcare, which typically pay off only after obtaining a post-secondary credential required for licensure, makes them more vulnerable to education-to-job mismatches. Someone who enrolls in an RN program and falls short of graduating cannot enter the occupation of Registered Nursing or LPN, while someone who does not finish a Machining or Computer Support Specialist program may still be hired into entry-level positions and learn the trade on the job. Since traditional male occupations offer more paths toward occupational competencies outside higher education than traditional female occupations, women without credentials are more at risk of education-to-employment mismatch especially if the regional industry mix is not diversified and not gender-balanced.



The Twin Cities labor market differs from Greater Minnesota in important respects. First, in highly educated labor markets, credentials and field of specialization matter more than other productivity characteristics. As long as women acquire credentials in high demand, they'll have more chances at a direct path towards their career of choice. Second, the Twin Cities offers a more diversified set of industries with a strong service sector where gender is less likely to be a hidden criteria for recruiting and promoting. Therefore, low-skilled women in the Twin Cities might have greater opportunities for finding well-matched jobs in occupations similar to their male peers.

All of these hypotheses offer plausible explanations as to why the effect of major is weaker in Greater Minnesota than in the Twin Cities. If occupational competencies in the low-skilled labor market are developed outside higher education, and women are inherently at a disadvantage in accessing these opportunities and therefore settle for lower-level jobs, their earnings will

¹³Source: U.S. Census Bureau, Local Employment Dynamics <https://qwiexplorer.ces.census.gov/>

be lower than males even when major and industry are the same. This leads to a larger portion of the gap remaining unaccounted for. If we could control for occupation, we would be able to test just how much of the inequalities in Greater Minnesota are attributable to occupational sorting. But because the analysis performs multiple regressions and controls for a comprehensive set of productivity-related characteristics and still finds a wage gap, the conclusion is that the differential cannot be explained by different average levels of these characteristics between men and women. Instead the differential is almost surely caused by gender or factors associated with gender that are not controlled for in the regression but which affect the way workers are placed into jobs. These effects are stronger in Greater Minnesota than in the Metro.

THE CASE OF COMPLETERS

As shown in Figure 1, women in Greater Minnesota face a smaller wage gap when they manage to complete a credential. Still, job sorting mechanisms hurt women even when they earn a credential. Table 5 gives an example of a female-dominated program, Registered Nursing, and a male-dominated program, Engineering.

Accounting for age, major, education level, and industry slightly reduces gender gaps in Greater Minnesota, but women still face disparities of 8 percent in Registered Nursing as a result of their distribution into different industries. The very few men with an RN degree were more likely to find work in Hospitals and Clinics, where productivity and wages are higher, while a larger share

of women ended up in Nursing and Residential Care Facilities or industries that pay even less. Furthermore, the -6.9 percent wage gap in Hospitals and Clinics suggests that women and men were not similarly allocated across job roles. If women’s work experience is in lower paid roles than men, after five years their earnings will be lower even if they have had the same number of years of work experience. This is precisely the implication of the interaction effects between work experience and being a female that we saw in the regression analysis.

Women who pursued a male-dominated field, in this case Engineering, and found work in Greater Minnesota faced similar challenges. They were not equally represented in the industries that fit their educational background, especially not in Manufacturing where women’s representation was half that of males (28.6 percent versus 56.2 percent). Even within Manufacturing they faced a wage discrepancy of almost 5 percent. Women with Engineering degrees were slightly more likely to be employed in Professional and Technical Services where wages were aligned with those of males, but unfortunately that was not enough to offset the higher penalty that women suffer from working outside of their field or in Manufacturing. Twice as many women as men (33 percent) were employed in industries that provided a poor match with their education (other than those listed in the table), and their wages were 30 percent lower than those of males. This is a case of female talent in an important STEM field being diverted away from its most productive uses.

Table 5: Industries of Employment and Gender Wage Gaps for Graduates Working in Greater Minnesota

	Share, All Ages		Wages Earned By Workers Who Exited School at Age 23-30		Gap
	Men	Women	Men	Women	
REGISTERED NURSING, ASSOCIATE’S DEGREE					
Hospitals and Clinics	76.8%	68.8%	\$35.66	\$33.20	-6.9%
Nursing and Residential Care Facilities	17.8%	22.8%	\$28.40	\$28.81	1.5%
All Other Industries (Government, Schools)	5.4%	8.4%	NA	\$26.06	NA
Total	185	2332	\$33.68	\$30.98	-8.0%
ENGINEERING, BACHELOR’S AND MASTER’S DEGREE					
Manufacturing	56.2%	28.6%	\$34.01	\$32.43	-4.7%
Professional and Technical Services	17.5%	23.8%	\$31.00	\$30.68	-1.0%
Mining, Utilities, Construction	10.6%	11.9%	\$37.59	\$41.03	9.1%
All Other Industries	15.7%	33.3%	\$29.89	\$20.71	-30.7%
Total	530	42	\$33.57	\$31.34	-6.6%

Table 6 shows results for the same programs in the Twin Cities. The comparison reveals that women with RN degrees fare better in the Metro, thanks to an almost perfect gender balance in the industry distribution. The raw gender gap for women with an RN degree is -4 percent, which almost disappears once we control for industry. Women even surpass men’s earnings in “Other Industries”, mainly insurance companies which offer nursing graduates a good alternative to the Healthcare sector and have a stronger presence in the Twin Cities than in Greater Minnesota.

In the field of Engineering women in the Metro also fared well, earning even higher wages than men (\$38.82 versus \$36.81). This excellent performance is partially driven by the fact that women were able to find jobs in highly related industries at the exact same rate as men, and in these well-matched industries they clearly thrived to the point of out-earning their male peers in the 23 to 30 age group. Women employed in other industries, however, earned 3.1 percent less than men.

It is also important to note that Greater Minnesota is not a monolith. Gender gaps tend to be small in urban areas, especially in Rochester, and bigger in rural/micropolitan areas. Given the mobility of the workforce, we cannot rule out that part of the reason women fare better in urban areas is that the most career-oriented and high performing women decide to move to urban areas from other areas of the state.¹⁴

The broader implication from these examples is that

education reduces gender wage gaps, and so women are increasingly investing in their college education to offset the disadvantages they face on other fronts. They are, however, hurt more than men when they do not find work in related industries. Urban economies tend to offer more alternatives when the best matching jobs are out of reach, but the phenomenon is still present.

There is another set of reasons often put forward when trying to explain gender pay gaps. Women may be more likely to accept mismatched positions in exchange for other non-monetary characteristics such as convenient location and flexible hours that help them balance work and family responsibilities. These preferences might carry more weight in Greater Minnesota if traditional gender roles are more influential or if the policy and infrastructure framework is insufficient to help women balance family and work. The analysis controls for labor supply choices and residence,¹⁵ but not for number and age of children, to see if these characteristics have a bigger effect on gender gaps in different regions of the state.

Even without being able to quantify the effect of all possible factors at play, the implications of the analysis are clear: men, especially in Greater Minnesota, have access to more options for skills acquisition and therefore do not have to invest as much in post-secondary education as women. This exposes women to a higher risk of defaulting on their student loans and of not being able to leverage their skills across jobs and industries fully if they fail to complete their program.

Table 6: Industries of Employment and Gender Wage Gaps for RN and Education Program Completers Working in the Twin Cities

	Share, All Ages		Wages Earned By Workers Who Exited School At Age 23-30		Gap
	Men	Women	Men	Women	Gender Gap
REGISTERED NURSING, ASSOCIATE’S DEGREE					
Hospitals and Clinics	83.4%	82.4%	\$38.39	\$37.72	-1.7%
Nursing and Residential Care Facilities	6.6%	7.3%	\$33.16	\$32.70	-1.4%
All Other Industries (Mainly Insurance Firms)	10.0%	10.3%	\$27.40	\$31.30	14.2%
Total	361	4,076	\$37.89	\$36.39	-4.0%
ENGINEERING, BACHELOR’S AND MASTER’S DEGREES					
Manufacturing	39.5%	39.2%	\$38.05	\$41.05	7.9%
Professional and Technical Services	23.2%	23.0%	\$34.46	\$34.38	-0.2%
Firm Headquarters	10.8%	12.7%	\$39.55	\$41.18	4.1%
All Other Industries	26.5%	25.0%	\$35.23	\$34.13	-3.1%
Total	2,582	408	\$36.81	\$38.82	5.5%

CONCLUSIONS AND IMPLICATIONS

This study compared hourly wages of men and women who are equal with respect to key productivity characteristics with the goal of identifying if the gender pay gap is explained by differences in the distribution of these characteristics or by gender differences in the returns to investment to these characteristics. The most important finding is that, while the single biggest driver of the gender pay gap is the concentration of females in majors and industries that pay lower wages, differential returns to full-time experience for females are also at play. This implies that women's disadvantage increases over time.

Summary of findings:

- The gender wage gap among young, white workers is 6.4 percent. This amounts to the average white female earning 94 percent of the average white male wage. This gap is already established five years after school exit and grows over the course of the career.
- Most of the characteristics that are relevant to earnings do little to explain the gender wage gap, and in some cases make it bigger. For example, the gap grows nearly by half when taking into account educational attainment because women have higher educational attainment than men. Controlling for observable individual and job characteristics only reduces the gap from 6.4 to 5.4 percent.
- Job sorting in the form of industry allocation is a primary mechanism through which gender wage inequalities develop. The analysis quantifies the effect of this through a regression model. The fact that gender differences in job sorting are found to be factors in the gender pay gap among young workers, even after controlling for their educational characteristics, points to a problem of equal opportunities in the labor market. In fact, major and industry reflect not only different occupational goals of women relative to men but also gender segregation with respect to both occupation and industry.
- Choice of major drives gender gaps in Minnesota, but a detailed analysis by region reveals that this result applies predominantly to the Twin Cities Metro. In Greater Minnesota gender pay differences in the dataset persist even within the same majors. Because of this, in Greater Minnesota we are able to explain 60 percent of the variation in wages but are left with a gender pay gap of 7.7 percent, while in the Twin



Cities the remaining gap is 3.8 percent. This suggests that in Greater Minnesota gender segregation in job sorting is more pronounced and accounts for a larger portion of the gender pay gap than in the Metro. These differences are in part structural because the industry mix in Greater Minnesota offers men greater access to productivity-enhancing opportunities in male-dominated industries than to women.

- We also found in both regions evidence of greater wage penalties suffered by women working in industries that do not fit with their educational background. This suggests that women who miss the chance of finding education-related employment have less access to alternative sources for skills development, such as work-based training, compared to men.
- Men and women had almost indistinguishable work patterns, especially in the youngest age group, but aren't getting the same benefits from accumulated work experience. We found evidence of differential returns by gender on work experience, specifically full-time experience, which is often cited as the reason why men earn more. It is not that women are less likely to work full-time, a difference that is fading away among younger generations of women, but primarily that their full-time experience enhances

¹⁴The possibility for self-selection bias is partially controlled for in the regression model by including residence at the time of college entry.

¹⁵The measures include length of previous full-time employment, part-time employment, and industry tenure; therefore, we can control for any differences in work effort in the two regions. The model also controls for region of residence in order to identify women who moved to the Twin Cities for work.

their productivity less or is valued less relative to men. Therefore the problem is not simply one of “equal pay for equal work” but of a much more fundamental and harder to address inequality in access to opportunities for skills acquisition. While these differences start small, they can eventually lead to a female wage penalty. To put it another way, what starts as an opportunity gap eventually turns into a productivity gap.

In sum, part of the wage gap is explained by women’s choices, including major; another part by gender segregation in industry and by slightly higher rates of part-time work and multiple job holding; another part is explained by differential returns to work experience; and another component of the gap remains unaccounted for.

In light of this evidence the improvements most likely to be needed to equalize wages between men and women are the following:

- The under-representation of women in the skilled trades, STEM majors, and quantitative business fields must be addressed all across the state. STEM majors have the advantage of being highly transferable across sectors and jobs, while skilled trades have the advantage of paying higher wages even for those with relatively lower levels of educational attainment. Greater diversification will allow women to break their over-reliance on Education and Healthcare, which require highly specialized skills that have little transferability across economic sectors and that perpetuate the cultural image of women as caregivers. As automation and other technological breakthroughs transform the world of work by de-emphasizing physical tasks and emphasizing knowledge, more opportunities can open up for women even in traditionally male-dominated occupations, but only if girls are encouraged to acquire technology-related skills and pursue careers in these fields.

- Efforts to desegregate fields of study, however, go only so far in mitigating the pay gap in the absence of other policies that allow women to enter industries and job types where their academic qualifications are fully leveraged and rewarded. This will require employers to make a strategic effort to recruit and retain qualified women, especially in Greater Minnesota where female talent is more often at risk of being diverted towards low-productivity industries or job roles.

- Closing gender gaps in frequency of full-time work or narrowing the difference in wage progression between full-time and part-time workers are important but cannot be expected to close the gender wage gap if the obstacles that hinder skills acquisition by women in the workplace are not removed. This is especially urgent among women without a college degree in Greater Minnesota, who have fewer paths towards career entry and advancement than their male peers. Policies that could help remove barriers include access to child care, elder care, and sick and parental leave as well as a concerted effort to diversify recruitment and advancement in the workplace.

As long as women reap lower returns than men to their full-time work experience above and beyond differences in individual characteristics, major, degree level, industry, and a host of other factors included in this analysis, progress in other areas will not be enough to remove wage inequalities. Increasing women’s access to productivity by enhancing skills acquisition opportunities on the job would reduce women’s over-reliance on increasingly costly higher education investments and offer an alternate path towards economic self-sufficiency.

by Alessia Leibert



Minnesota Industry Snapshot

NAICS 515

Broadcasting Except Internet

Need something to listen to, looking for a show to watch? The establishments that provide this entertainment would be found in NAICS 515 - Broadcasting Except Internet. This subsector includes establishments that create content or acquire the right to distribute content and subsequently broadcast the content. The Radio and Television Broadcasting industry group includes establishments that operate broadcasting studios and facilities for over-the-air or satellite delivery of radio and television programs of entertainment, news, talk, and the like. These establishments are often engaged in the production and purchase of programs and generate revenues from the sale of air time to advertisers and from donations, subsidies, and/or the sale of programs. The Cable and Other Subscription Programming industry group includes establishments operating studios and facilities for the broadcasting of programs that are typically narrowcast in nature (limited format, such as news, sports, education, and youth-oriented programming) on a subscription or fee basis.

Broadcasting Except Internet 515 - 2018

Industry	Total, All Ownerships	Employment	Average Weekly Wages
Broadcasting (except internet) 515	223	3,984	\$1,185
Radio Broadcasting 51511	142	2,232	\$1,135
Television Broadcasting 51512	59	1,557	\$1,286
Cable and Other Subscription Programming 51521	23	103	\$785

Source: 2018 Quarterly Census of Employment and Wages

The number employed in this industry has decreased 65 percent since 2000, but the number of establishments have only decreased by approximately 15 percent. The average weekly wage for this industry has increased 67 percent.

Positions that this industry hires would include Advertising Sales Agents, Producers and Directors, Radio and Television Announcers, and Reporters and Correspondents. In the 2018 Second Quarter Job Vacancy Survey there were 156 vacancies, a 5.6 percent vacancy rate, for Advertising Sales Agents with an average wage offer of \$20.29. Only 1 percent of these vacancies are part-time. There were 15 vacancies for Producers and Directors with an average wage offer of \$15.19. 40 percent of these vacancies were part-time. The 2018 Fourth Quarter Job Vacancy Survey had no vacancies for Radio and Television Announcers. There were eight vacancies for Reporters and Correspondents with an average wage offer of \$18.73 and a vacancy rate of .9 percent. All the vacancies were full-time.

Minnesota Industry Snapshot

NAICS 444

Building Material and Garden Equipment Supplies and Dealers

Have you needed to do a repair around your house or realized that your yard could use some landscaping? The place to get supplies for these tasks is at a Building Material and Garden Equipment and Supplies Dealer. This subsector sells retail new building material and garden equipment and supplies from fixed point-of-sales locations. The staff at these establishments is usually knowledgeable about the products being sold.

In Minnesota there are 1,151 Building and Material Supplies Dealers and 281 Lawn and Garden and Equipment Supplies Dealers. Building and Material Supplies Dealers employ 23,493 people who earn an average weekly salary of \$632.00. The Lawn and Garden and Equipment Supplies stores employ 3,191 people who earn an average weekly wage of \$642.00.

Building Material and Garden Equipment and Supply Dealers 444 - 2018

Industry	Firms	Employment	Average Weekly Wage
Building Material and Garden Equipment and Supply Dealers 444	1,431	26,684	\$590
Home Centers 44411	189	14,118	\$548
Paint and Wallpaper Stores 44412	115	876	\$877
Hardware Stores 44413	419	4,307	\$446
Other Building Material Dealers 44419	428	4,220	\$1,053
Outdoor Power Equipment Stores 44421	87	742	\$991
Nurseries, Garden Centers, and Farm Supply Stores 44422	194	2,296	\$533

Source: 2018 QCEW

Trends

This industry saw a decrease in the number of employees from 2008 to 2010 with the number of employees starting to recover in 2011. The top employing occupation for this industry is Retail Sales which in the Job Vacancy Survey for 2018 second quarter had 11,369 employees. Because this retail position requires extensive knowledge, this industry's sales staff earns an average \$15.82 per hour compared to the median wage, \$12.02 per hour offered for retail sales vacancies from the Second Quarter 2018 Job Vacancy Survey. Since 2000 the number of establishments has decreased by approximately 23 percent.

Positions that this industry often hires are industrial Truck and Tractor Operators which in the Fourth Quarter 2018 Job Vacancy survey had 223 vacancies, a 2.6 percent vacancy rate, with an average wage offer of \$15.06. 10 percent of these vacancies were part-time. Laborers and Freight, Stock and Material Movers is also a major position for this subsector. In the Fourth Quarter 2018 Job Vacancy survey this occupation had 1,929 vacancies, a 2.6 percent vacancy rate, with an average wage offer of \$13.80. 24 percent of these vacancies were part-time. Another important position in this industry is Truck Drivers, Light or Delivery Service. In the Fourth Quarter 2018 Job Vacancy Survey had 1,495 vacancies, a 9.6 percent vacancy rate, with an average wage offer of \$13.61. 45 percent of the vacancies were part-time.

Minnesota Industry Snapshot

NAICS 325

Chemical Manufacturing

Every morning many people get up and take a prescribed medication. Every day people go to their job as painters. During the month of June and the beginning of July people buy fireworks to set off on the July 4th. These three have one thing in common - they are created by Chemical Manufacturing NAICS 325.

The Chemical Manufacturing subsector is based on the transformation of organic and inorganic raw materials by a chemical process and the formulation of products. This subsector distinguishes the production of basic chemicals that comprise the first industry group from the production of intermediate and end products produced by further processing of basic chemicals that make up the remaining industry groups.

Chemical Manufacturing 325

	Firms	Employment	Average Weekly Wages
Chemical Manufacturing 325	342	12,325	\$1,651
Basic Chemical Manufacturing 3251	56	1,473	\$1,698
Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing 3252	15	740	\$1,441
Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing 3253	16	172	\$1,196
Pharmaceutical and Medicine Manufacturing 3254	78	4,362	\$1,663
Paint, Coating, and Adhesive Manufacturing 3255	45	1,111	\$2,186
Soap, Cleaning Compound, and Toilet Preparation Manufacturing 3256	61	2,050	\$1,466
Other Chemical Product and Preparation Manufacturing 3259	71	2,417	\$1,614

Source: 2018 QCEW

Trends

The number of establishments in this industry over the last 18 years has been on a rollercoaster ride, decreasing, increasing, decreasing, and then increasing again. The number employed in this industry has also been on the same trajectory as the establishments. The good news in this industry is that wages have been on a steady increase, rising 61 percent.

Chemical equipment operators and tenders are an important occupation in this subsector. In the Fourth Quarter 2018 Job Vacancy Survey there were 17 vacancies, a 3.1 percent vacancy rate, for chemical equipment operators and tenders. All the vacancies were full-time with an average wage offer of \$16.61. This industry also hires chemist which had 16 vacancies, a 1.0 percent vacancy rate. All the vacancies were full-time with an average wage offer of \$31.38. Another occupation frequently hired is chemical technicians which had 46 vacancies, a 3.0 percent vacancy rate. 39 percent of the vacancies were part-time with an average wage offer of \$19.53 in the Fourth Quarter 2018 Job Vacancy Survey. Mixing and Blending Machine Setters, Operators and Tenders are also employed in Chemical Manufacturing. In the Fourth Quarter 2019 Job Vacancy Survey there were 36 vacancies, a 1.6 percent vacancy rate. All the vacancies were full-time with an average wage offer of \$19.24. Products created by Chemical Manufacturing need to be put into a package which packaging and filling machine operators and tenders do. This occupation had 441 vacancies, a 4.4 percent vacancy rate, and 48 percent were part-time with an average wage offer of \$12.91.

Minnesota Industry Snapshot

NAICS 448

Clothing and Clothing Accessories Stores

It's Monday morning, and you can't figure out what to wear. You realize you need some new clothes and accessories. The place to get those items is at Clothing and Clothing Accessories Stores (NAICS 448). Establishments in this subsector use similar display equipment. Staff at these locations are knowledgeable about fashion trends and how to match styles and accessories.

Clothing stores included in this subsector are Men's, Women's, Children's and Family Clothing Stores. These stores may offer basic alterations. Shoe Stores, Jewelry Stores, and Leather Goods and Leather Apparel Stores are examples of clothing accessories stores.

Clothing and Clothing Accessories Stores 448 - 2018

Industry	Firms	Employment	Average Weekly Wage
Clothing and Clothing Accessories Stores 448	2,025	20,381	\$397
Clothing Stores 4481	1,409	15,156	\$341
Shoe Stores 4482	322	2,981	\$414
Jewelry, Luggage, and Leather Goods Stores 4483	295	2,243	\$755

Source: 2018 QCEW

This subsector as a whole has an average weekly wage of \$397 which is \$9.90 per hour, which is slightly higher than the January 2019 minimum wage of \$9.86 per hour. Jewelry, Luggage, and Leather Goods Stores at \$755 per week make significantly more than the average for this industry.

This industry hires Retail Salespersons, Cashiers, Merchandisers, and Stock Clerks. These positions are some of the most in demand positions according to the 2018 Second Quarter Job Vacancy Survey. There were 3,561 vacancies for Cashiers with an average wage offer of \$11.32. 71 percent of these vacancies were part-time. 7,423 vacancies for Retail Salespersons had an average wage offer of \$12.32. 54 percent of these positions were part-time. Merchandisers set up the window displays and merchandise displays throughout the store. This position only had 261 vacancies with an average wage offer of \$13.99, and 33 percent of the vacancies are part-time. Stock Clerks receive, store, and issue floor merchandise, and fill shelves and racks. Stock Clerks may also mark prices. In the 2018 Second Quarter Job Vacancy Survey there were 2,032 vacancies with an average wage offer of \$12.06. 50 percent of the vacancies were part-time.

by Sue Hartley