

MINNESOTA ECONOMIC

TRENDS

MANAGING THE PIPELINE

CAREERS IN SUPPLY CHAIN
MANAGEMENT



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Minnesota
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Building Workforce Participation

Much has been written about the tightening labor market and what that might mean for the economy in coming years. Sluggish growth in the workforce could have a dampening effect on the economy in Minnesota and across the country.

The aging population, of course, is a big part of that trend, with people 65 and over accounting for nearly 80 percent of the increase in “workforce nonparticipation” in Minnesota since 2007, according to a story in this issue by Steve Hine and Cameron Macht.

But other factors are at play, too. One of the surprising findings of Hine and Macht’s analysis was the high number of working-age nonparticipants (people ages 16 to 64) with college experience. Roughly half of the state’s working-age people who aren’t in the workforce have a post-secondary degree or at least some college.

Why people in that group account for such a high percentage of nonparticipants is hard to explain, although family and child care obligations might be one factor keeping them out of the workforce. Finding ways to bring them back might be a part of the solution to future worker shortages.

Welcoming people with disabilities into the workforce would also help address our labor challenges. The unemployment rate for working-age people with disabilities in Minnesota is more than double the unemployment rate for people without disabilities, according to a story by Mohamed Mourssi-Alfash that begins on Page 18.

The real key to building workforce participation, though, is the state’s growing minority populations, including immigrants. Breaking down work barriers faced by these and other groups could go a long way toward addressing a tighter labor market in years to come.

A handwritten signature in black ink that reads "Monte Hanson". The signature is fluid and cursive.

Monte Hanson
Editor

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Keeping the Supply Chain Moving

Supply chain management offers plenty of career opportunities for people with the right skills.

With the increasingly rapid pace of business, a company's bottom line can rely on how fast it gets products and services to customers at the lowest competitive price without compromising quality. That's where supply chain management comes in. Professionals in this field focus on getting products to customers when they need them.

The role of supply chain management has taken on new prominence because of the increasing emphasis on providing on-demand goods and services. A well-functioning supply chain enables a company to differentiate its business and thereby gain competitive advantage.

Supply Chain Management Occupations

Supply chain management requires many skills, including knowledge of production and processing, administration and management, transportation, and customer and personal service. Functions may vary depending on the industry. For instance, a retail and distribution business like Wal-Mart has different supply chain manager functions than manufacturers like Proctor & Gamble and General Mills, or a service provider like Mayo Clinic.

In manufacturing, for example, supply chain management encompasses all movement and storage of raw materials, work in progress, finished goods and inventory from the point of origin to the point of consumption. Logistics, purchasing, and various planning and analyst roles are common in many manufacturing supply chains.

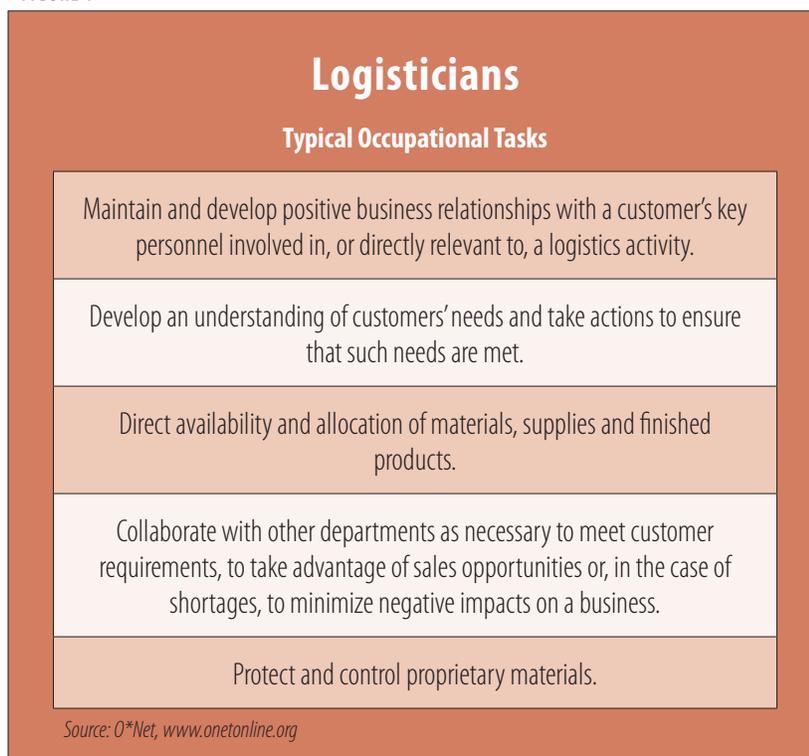


This article looks at two key supply chain management occupations in detail – logisticians and purchasing managers.

Logistics management involves planning, implementing and controlling the flow and storage of goods, services and related information from point of origin to the customer. **Logisticians** plan, analyze and control the systems involved in these functions to ensure a smooth and coordinated effort. Logisticians might report on product delivery, inventory, storage or other supply chain processes to identify or recommend changes. They might also manage activities, including invoicing, electronic bills and shipment tracing (see Figure 1).

In food manufacturing, for instance, a logistician might be responsible for ensuring perishable products are stored properly and that storage time is minimized to reduce waste and maintain quality. Logistics managers also make sure third-party contractors are meeting their goals and keeping up with required changes and demand. Logisticians are employed in many industries, including manufacturing, professional and business services, and public administration. Table 1 shows employment by region for logisticians in Minnesota and median wages.

FIGURE 1

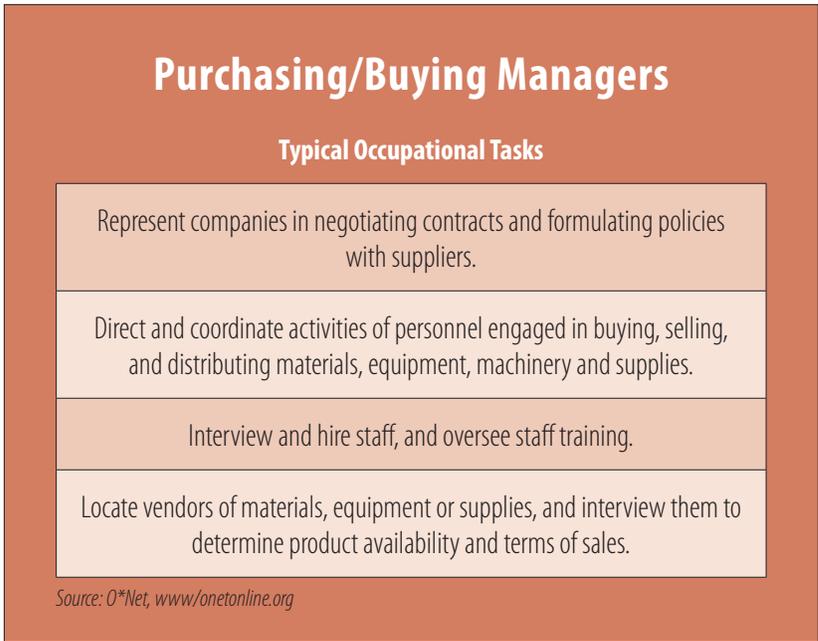
TABLE 1 **Employment and Wages of Supply Chain Occupations**

Logistician	Employment	Median Wage
Minnesota	2,410	\$35.94/hr
Minneapolis-St. Paul MN-WI MSA	2,010	\$36.57/hr
Southeast Minnesota	330	\$26.96/hr
Central Minnesota	120	\$33.58/hr
Southwest Minnesota	70	\$32.25/hr
Northwest Minnesota	60	\$32.34/hr
Northeast Minnesota	30	\$37.26/hr

Note: Employment estimates reflect first quarter 2015.

Source: DEED, Labor Market Information Office, Occupational Employment Statistics

FIGURE 2



Logisticians work closely with many other professionals, including accountants, operations research analysts, industrial engineers, purchasing agents, and production, planning and expediting clerks.

Purchasing managers direct and coordinate activities within the purchasing department. They ensure that suppliers agree to and comply with contracts, adhere to quality standards, and fulfill orders in a timely manner (see Figure 2).

The purchasing function has changed over the last 20 years, especially in manufacturing, to include efforts to reduce environmental impacts. As more people become concerned about the environment, they are pressuring businesses to reduce their carbon and waste footprints. In response to the growing need for integrating environmentally-friendly choices into the supply chain, purchasing professionals now have to understand the impact that their purchasing decisions have on society, the economy and the environment. Supply chain management strives to reduce waste in raw material extraction, production, packaging, shipping, use, disposal and reuse.

TABLE 2 **Employment and Wages of Supply Chain Occupations**

Purchasing Manager	Employment	Median Wage
Minnesota	2,410	\$49.03/hr
Minneapolis-St. Paul MN-WI MSA	1,890	\$51.63/hr
Central Minnesota	150	\$38.31/hr
Northwest Minnesota	120	\$42.61/hr
Southwest Minnesota	100	\$41.79/hr
Northeast Minnesota	80	\$43.56/hr
Southeast Minnesota	N/A	\$42.61/hr

Note: Employment estimates reflect first quarter 2015.
 Source: DEED, Labor Market Information Office, Occupational Employment Statistics

A purchasing department may include legal professionals to handle purchasing contracts, supplier relations experts, compliance officers who focus on regulations, inspectors, managers and engineers. Purchasing management jobs, sometimes called procurement jobs, are found in manufacturing; professional and business services; trade, transportation and utilities; and education and health services industries.

In many companies, purchasing managers work closely with transportation, storage and distribution managers. In some cases these functions are combined into a supply chain manager.

Table 2 shows employment by region for purchasing managers in Minnesota and median wages.

Challenges of Managing a Supply Chain

The biggest challenge in supply chain management is combining rigorous planning with the flexibility to adapt to unpredictable situations. Anything that disrupts the supply chain is a major threat to business continuity that can ultimately reduce revenue, decrease market share, inflate costs, and threaten production and distribution.

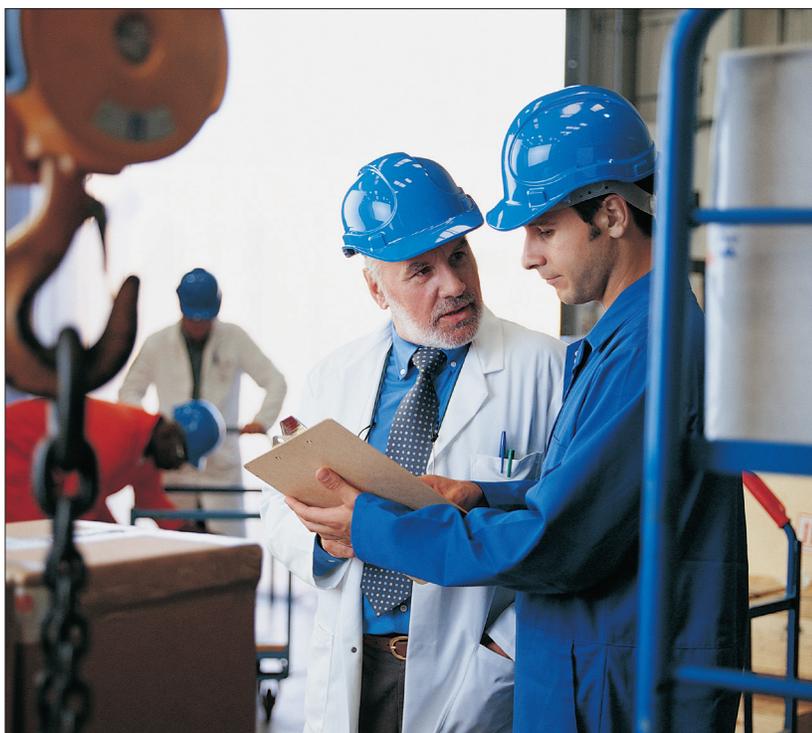
When a company's suppliers are in another country, the company may be more vulnerable to supply disruptions. Local regulations, government instability, infrastructure quality, inflation and crime are some examples of problems that can affect global sourcing.

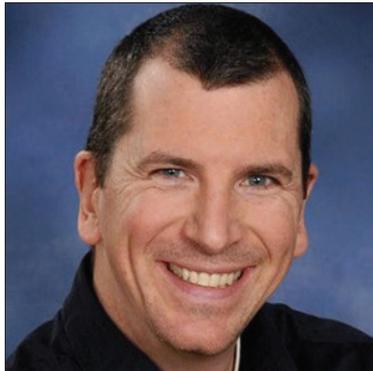
Ivory Coast, for instance, is the world's largest exporter of cocoa beans. During the country's second coup d'état during 2010-2011, businesses that relied on Ivory Coast for their supply of cocoa beans faced major supply challenges. While the country was in political disarray, goods

could not be safely transported on roads and were not allowed to move out of ports. This caused a shortage and price hike for the cocoa supply, causing disruptions in many corporate supply chains.

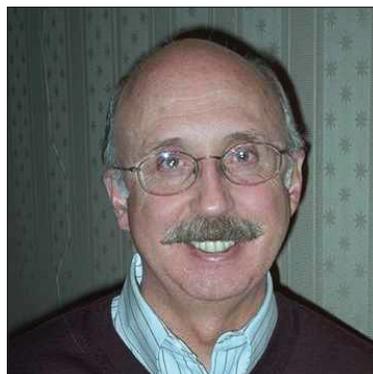
The East Coast blizzard in January is another example of an unpredictable situation that can disrupt a supply chain. With trucks stuck on the sides of roads, grocery stores ran out of products.

These are the types of problems that supply chain managers have to plan for and manage when they occur.





Kevin Sundberg



Richard Greig

Breaking Into the Field

Supply chain management is a hot field that is changing rapidly. Many colleges in Minnesota, including Metropolitan State University in St. Paul, offer bachelor's and graduate courses for people who want to enter the field or people already in the industry who want to improve their skills and marketability.

Kevin Sundberg and Richard Greig recently talked about their careers as supply chain managers, including how they got into the field and the skills that are necessary to do the job well.

“Being a good communicator, being well-organized and having good analytical skills is essential in this field.”

Sundberg, senior inventory analyst at Plymouth-based Thrifty White Pharmacy, is in charge of financial reports related to managing the age of the inventory and internal controls on pharmaceutical drugs. Previously, he worked at General Mills in the logistics division for four of his eight years with the global company. He started at General Mills in the corporate planning and analysis division as an accountant and later moved to the supply chain logistics division.

Sundberg's day-to-day activities in the logistics department included providing consistent reporting, analysis and forecasting. He did risk assessments to strengthen internal controls and ensure Sarbanes-Oxley compliance for warehousing locations across the U.S. and Canada. He also developed improvements for inventory audits in compliance with internal control policies, and he led projects aimed at reducing inventory count costs.

Sundberg has a bachelor's degree in accounting from Metropolitan State University. “Working as an accountant helped me acquire

valuable experience in financial and data analysis,” he said.

Communication skills also are essential to the job. Because of the cross-functional nature of the work, managers must share information with other departments. Also, a problem-solving and trouble-shooting ability helps to recover a disrupted chain. Anything that disrupts the flow in a supply chain is recognized in today's economy as a major threat to business continuity.

Richard Greig directs operations at The Village Co., a Chaska-based firm that specializes in bath products. Besides leading the company's supply chain effort in a consulting capacity, he also is an adjunct professor with the University of Minnesota and the Minnesota State Colleges and Universities system.

After leaving the military in 1972, Greig found his first job in supply chain as a shipping supervisor with Gould Batteries in St. Paul. He did not have a college degree then, but he was offered the job because of his officer's experience in the military.

TABLE 3

Certifications in Supply Chain Management

Professional Organizations	Certification
American Production and Inventory Control Society (APICS)	Certified in Production and Inventory Management (CPIM)
	Certified Supply Chain Professional (CSCP)
Council of Supply Chain Management Professionals (CSCMP)	SCPro-Certification in Logistics
	Project Management Certifications
Manufacturers Alliance	Lean Manufacturing-Practitioner and Leader
	6 Sigma Green Belt Certification

Shortly after that he joined the American Production and Inventory Control Society (APICS). While attending his first APICS International Conference in 1974, he realized that completing a degree in business would complement what he was learning on the job.

“Business was very different back then, and the discipline of supply chain was unknown,” he said. “This was before computers were common.”

Greig believes that without a college degree in business or something related, entering the field would be difficult because of the highly specialized nature of jobs under the supply chain umbrella. Entry-level staff members are often brought in as general analysts and then

specialize in a specific part of supply chain management. Employers also appreciate specific professional experience and sometimes look for related certifications, including APICS certification. Other certifications that employers look for are listed in Table 3.

Greig has served in many supply chain roles, including shipping supervisor, manager of production, purchasing manager, distribution and control manager, and operations manager for firms like Amway, Quintessence, Tsumura, Belae, Holmberg Co. and Lubrication Technologies Inc. He also worked as director of supply chain for Hollywood Fashion. “Being a good communicator, being well-organized and having good analytical skills is essential in

this field, because a good chunk of your work is based on good decision-making,” he said. “One bad decision or error can cause everything to stop.”

Supply chain management offers excellent opportunities, particularly for people with analytical, communication and planning skills and a business background. Many Minnesota colleges offer bachelor’s and graduate-level courses for people entering the field or career veterans who want to upgrade their skills. **T**

Corporate Bragging Rights

The significance of Minnesota's high concentration of Fortune 500 companies is backed up by employment and wage numbers.

Minnesotans have been known to brag about the unusually high concentration of Fortune 500 companies headquartered in the state.¹ Soon after the Fortune 500 ranking (which is based on revenues) is published each year, local business media scrutinize the list and report on where Minnesota stands.

Minnesota's big headquarters ranking has moved up and down a few spots over the years, but the state has remained in or near the top 10 for over six decades. The state had 17 companies on the list last year, tied with Connecticut for 11th nationally. On a per capita basis, however, Minnesota ranked second in 2015 behind Connecticut.²

Minnesota's high share of corporate headquarters spans a diverse set of industries, including manufacturing (3M, St. Jude Medical, General Mills and Hormel), financial activities (UnitedHealth Group, U.S. Bancorp, Ameriprise Financial and Thrivent Financial),



wholesale and retail trade (Supervalu, Target and Best Buy), energy (Xcel Energy) and transportation (C.H. Robinson). The state's mix of Fortune 500 companies is often cited as one of the key drivers in the state's economic success and the reason for Minnesota's relatively quick rebound from the Great Recession.

We know these companies are major contributors to the state economy, but just how much do they contribute to Minnesota's

employment and wage income? The Fortune list provides employment totals for each company, but those figures are for worldwide employment.

The state's Fortune 500 companies employ many Minnesotans, but their combined state workforce is a fraction of the 1 million combined worldwide workforce published by Fortune. Employment at their corporate offices is even smaller.

¹Here are a couple of examples: <https://www.greatersp.org/doing-business/major-employers/#Fortune-500-Companies-in-Greater-MSP> or <http://mn.gov/deed/business/locating-minnesota-companies-employers/fortune500.jsp>.

²See the list at <http://fortune.com/fortune500/>.

As long as no disclosure problems pop up,³ tracking employment at Minnesota's Fortune 500 headquarters should be relatively easy, using the North American Industrial Classification System (NAICS). NAICS 55 (Management of Companies and Enterprises) comprises management-related employment across all industries. Within that classification, NAICS 551114 (Corporate, Subsidiary and Regional Managing Offices) accounted for

84 percent of the sector's 1,323 establishments in Minnesota and 97 percent of the sector's 78,432 jobs in the state during the first quarter of 2015.⁴

Table 1 displays the number of establishments, employment and wage payments for Minnesota's NAICS 55 sector by establishment size. Establishment size refers to the number of employees. Fourteen establishments with workforces of more than 1,000 employed

36,000 workers and paid out \$1.5 billion in wages during the first quarter last year in Minnesota.⁵ Their employees represented 1.6 percent of Minnesota private employment and 4.6 percent of private wage income paid in the state during first quarter 2015. The 4.6 percent of wages is more than double the 1.6 percent of employment. The annual average wage for NAICS 55 sector jobs was \$146,000 compared with \$57,600 across all private jobs last year.

TABLE 1

2015 Minnesota NAICS 55 Sector - Management of Companies and Enterprises, 1st Quarter 2015

Size of Establishment	2015 Establishments	2015 Employment	2015 Wage Payments (Millions of dollars)	Percent of Minnesota Private Establishments	Percent of Minnesota Private Jobs	Percent of Minnesota Private Wage Payments
Total	1,323	78,432	2,863	0.8	3.4	8.6
Fewer than 5 employees	651	930	29	0.4	0.0	0.1
5 to 9 employees	186	1,268	34	0.1	0.1	0.1
10 to 19 employees	140	1,951	54	0.1	0.1	0.2
20 to 49 employees	145	4,499	124	0.1	0.2	0.4
50 to 99 employees	81	5,837	176	0.1	0.3	0.5
100 to 249 employees	72	10,816	393	0.0	0.5	1.2
250 to 499 employees	19	6,633	258	0.0	0.3	0.8
500 to 999 employees	15	10,477	268	0.0	0.5	0.8
1,000 or more employees	14	36,021	1,528	0.0	1.6	4.6

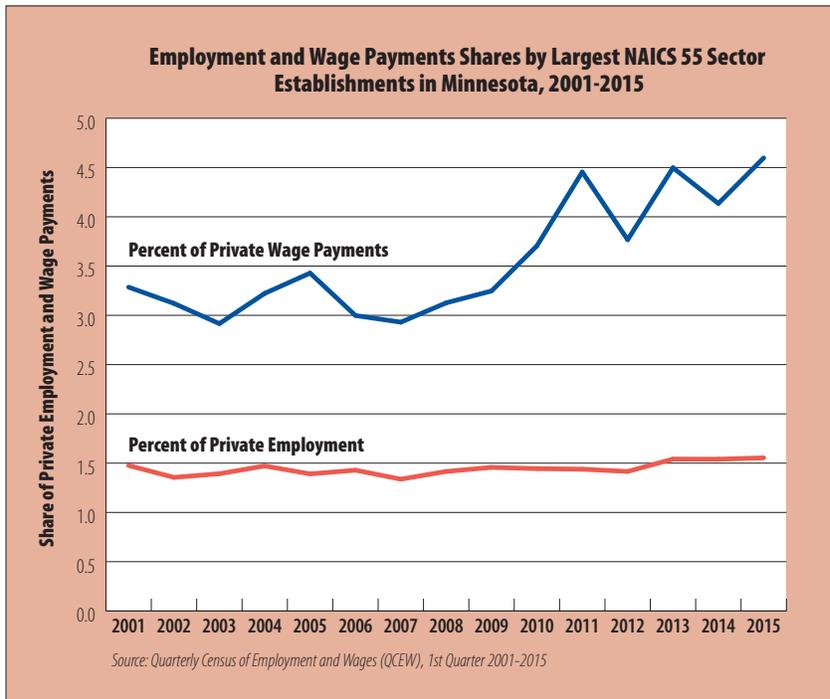
Source: 1st Quarter, 2015 Quarterly Census of Employment and Wages (QCEW)

³By law, DEED is prohibited from publishing individual company employment information. But employment data can be published once the data is aggregated into sectors and industries as long as individual company employment can't be traced.

⁴Employment data is from the Quarterly Census of Employment and Wages program at <http://mn.gov/deed/data/data-tools/qcew/>.

⁵Establishment size data is available at <http://www.bls.gov/cew/datatoc.htm>.

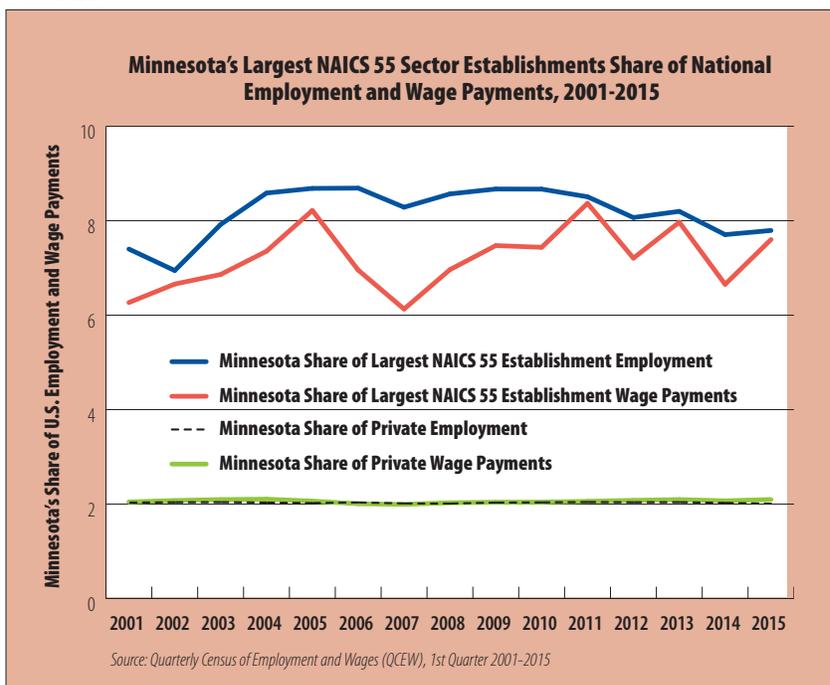
FIGURE 1



The mix of headquarters jobs is skewed toward high-paying occupations like management; business and financial operations; and computers and mathematics. Those three major occupational groups account for 54 percent of all jobs in the NAICS 55 sector in Minnesota but only 16 percent across all private employment.

As shown in Figure 1, employment at the largest NAICS 55 establishments has hovered around 1.5 percent of total private Minnesota employment over the last 15 years. The share of wage payments, however, climbed significantly during the six-year recovery, jumping from 3.2 percent in 2009 to 4.6 percent in 2015.

FIGURE 2



Employees at large corporate headquarters have enjoyed significantly larger wage gains compared with other private sector employees in Minnesota over the last six years, supporting the notion that Minnesota's large corporate headquarters have played a key role in Minnesota's rebound since 2009. The disproportionately high wage income growth at corporate headquarters is consistent with the Wall Street versus Main Street portrayal of the recovery.

The importance of Minnesota's Fortune 500 headquarters to the state's economy is reinforced by

comparing the state's share of U.S. headquarters employment and wage income to the state's share of U.S. private employment and wage income (see Figure 2). Private jobs and private wage payments in Minnesota have accounted for roughly 2 percent of nationwide private jobs and wage payments over the last 15 years. That consistency indicates that private employment and wages in Minnesota have closely tracked the ups and downs in national private employment and wage income since 2001.

But Minnesota's share of U.S. employment and wage income at the largest NAICS 55 establishments is nearly four times the state's 2 percent share of overall U.S. private employment and wages. The 14 corporate establishments with more than 1,000 employees in Minnesota accounted for 7.8 percent of total employment and 7.6 percent of total wage income reported by the 253 U.S. NAICS 55 establishments with 1,000 or more employees last year.

As stated earlier, Minnesota's largest corporate headquarters accounted for 1.6 percent of the state's private employment and 4.6 percent of the state's wage payments during the first quarter of 2015. Nationally, though, large corporate headquarters accounted for 0.4 percent of private employment and 1.5 percent of wage payments.

TABLE 2

**Largest NAICS 55 Sector Establishments*
Share of State Private Employment and Wage Payments**

Share of Private Employment		Share of Private Wage Payments	
Minnesota	1.6	Minnesota	4.6
Ohio	1.0	Ohio	3.0
Oregon	0.9	Oregon	3.0
Missouri	0.8	New Jersey	2.9
New Jersey	0.6	North Carolina	2.8
Michigan	0.6	Michigan	2.2
North Carolina	0.6	Missouri	2.1
Washington	0.6	Pennsylvania	2.0
Illinois	0.5	Washington	1.3
Pennsylvania	0.5	Virginia	1.3
Virginia	0.4	Illinois	1.3
Georgia	0.4	Georgia	1.3
Massachusetts	0.4	Tennessee	1.2
Tennessee	0.3	Massachusetts	1.1
California	0.3	California	1.0
Kentucky	0.3	Texas	0.9
New York	0.3	New York	0.8
Texas	0.3	Kentucky	0.7
Arizona	0.3	Arizona	0.6
Florida	0.2	Florida	0.5

* NAICS 55 establishments with more than 1,000 employees.

Source: Quarterly Census of Employment and Wages (QCEW), 1st Quarter 2015 data

Minnesota's concentration of large corporate headquarters is more than three times higher than nationally when judged by employment and wage income.

Tables 2 and 3 highlight Minnesota's unique

concentration of large corporate headquarters in comparison with other states. Table 2 ranks the 20 states that have publishable employment data on headquarters establishments with employment above 1,000. These 20 states combined had

TABLE 3

NAICS 551114 - Management of Companies Share of State Private Employment and Wage Payments			
Share of Private Employment		Share of Private Wage Payments	
Arkansas	3.3	Arkansas	8.6
Minnesota	3.2	Minnesota	7.1
Ohio	3.0	Ohio	6.9
Missouri	2.9	Rhode Island	6.8
Rhode Island	2.8	Oregon	6.6
Oregon	2.7	Missouri	6.4
Pennsylvania	2.6	Pennsylvania	6.1
Nebraska	2.5	Nebraska	5.6
Virginia	2.5	New Jersey	5.6
Wisconsin	2.4	Nevada	5.5
North Carolina	2.3	Virginia	5.2
New Jersey	2.2	Connecticut	5.2
Connecticut	2.1	North Carolina	5.2
Massachusetts	2.1	Wisconsin	4.9
Nevada	2.0	Illinois	4.3
Illinois	2.0	Massachusetts	4.0
Maine	1.8	Michigan	3.9
New York	1.8	Colorado	3.9
Georgia	1.7	Delaware	3.8
Colorado	1.6	Georgia	3.6

Source: Quarterly Census of Employment and Wages (QCEW), 2014 data

Minnesotan’s swagger about the state’s unique concentration of large corporate headquarters is backed up by employment and wage payment numbers. A few words of caution, though, about the reliability of NAICS 55 employment and wage data across states. Under that system, companies are supposed to break out their management-related employment and report it separately each quarter to each state’s unemployment insurance program agency. These agencies are supposed to verify each company’s reporting.

Minnesota, however, struggles with getting companies to report employment and wage records correctly, as do other states. Still, management of companies employment and wage income data should be as reliable in Minnesota as in any other state. **T**

226 of the 253 headquarters establishments with workforces above 1,000.⁶ Their combined payroll in the first quarter of last year was 400,000 employees earning \$17.8 billion. Minnesota’s large-size headquarters top the 20 states in both the share of private

employment and share of private wage payments. Minnesota yields the top spot to Arkansas when share of private employment and wage income is calculated using all-size management of company establishments and not just the large-size firms (see Table 3).

⁶The suppression of employment and wage data for the two larger-than-1,000-employee corporate headquarters in Arkansas is an example of why data is suppressed. Disclosure of employment data might be frowned upon by a large general merchandise company and chicken processing company headquartered in that state.

Workforce Dropouts

Minnesotans increasingly are choosing not to participate in the state's workforce. The question is why and how can we get some of them back?

As the economic expansion approaches seven years and our unemployment rate hovers in the mid-3 percent range, tightening labor market conditions and worker shortages are challenging businesses that want to hire.

The increasing number of people who have left the workforce in recent years has only exacerbated these challenges. While the state surpassed 3 million available workers for the first time in early 2015, Minnesota has seen even faster growth in the number of working-age people who are not participating in our state's workforce.

In light of an expected dramatic decline in our labor force growth rate over the next 15 years, can we expect this growing pool of nonparticipants to re-enter the workforce given the right circumstances? What is keeping them away? Are they turned off by a lack of attractive job opportunities? Or are they the leading edge of an irreversible wave of aging baby boomers heading into permanent retirement? And what role does the changing racial and ethnic makeup of our population play?

This article looks at the characteristics of our growing number of nonparticipants in order to better judge whether they offer a partial solution to our labor shortage or are long gone, never to return.

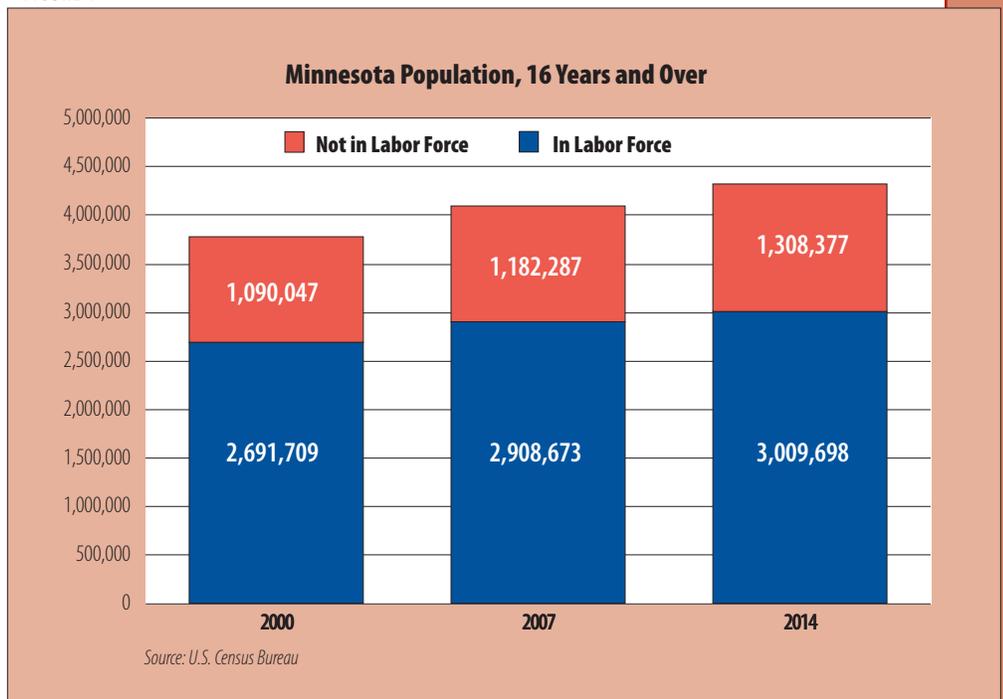
Our Rapidly Aging Population

American Community Survey (ACS) data show that Minnesota gained just over 109,000 new workers – a 3.8 percent increase

– from 2007 to 2014. But the number of people who are 16 and over who were not in the labor force expanded nearly three times faster at 10.7 percent during that period, growing by 126,000 people (see Figure 1). Correspondingly, Minnesota's labor force participation rate decreased from 71.1 percent in 2007 to 69.7 percent in 2014.

Perhaps not surprisingly, a significant share of Minnesotans not in the labor force are 65

FIGURE 1



years old or over. In 2014, about 639,000 people (48.8 percent of all nonparticipants) were in this oldest age group (see Table 1), up from 535,000 (45.4 percent of the total) in 2007.

So of the overall increase in this number since 2007, 79.5 percent was among the older age cohort. The impact that the aging population had on our overall nonparticipation would have been even greater had the participation rate for people ages 65 and over not increased from 15.7 percent to 17.8 percent over that time period, a change that kept about 16,000 additional older workers on the job.

Most of the remaining increase in nonparticipants over the last decade was in the 55- to 64-year-old cohort. The number of these baby boomers not in the labor force increased by 42,000 to about 213,000 people in 2014, even as their participation rate remained steady at 70.1 percent. It is obvious, then, that a very significant share of the increase in the number of nonparticipants since 2007 has been a direct result of our aging demographic. And we have only just begun to see its overall impact.

The 500,000 55- to 64-year-old baby boomers who remain in the labor force as of 2014 will

all have turned 65 by 2024, with an additional 348,000 current labor market participants turning 65 between 2024 and 2029. In other words, about 28 percent of our current workforce – nearly one in every three workers – will turn 65 in the next 15 years. The recent trends described above suggest that our pool of nonparticipants has only just begun to expand.

Race Profile

While aging explains much if not all of the recent (and future) increase, it remains the case that slightly more than half our current nonparticipants are not yet 65. And of these younger nonparticipants, 40 percent are in the so-called prime working years of 25 to 54. What are the characteristics of these 670,000 people between 16 and 64 that might explain their status?

In recent years, Minnesota’s population and workforce have become more racially diverse, a trend that is certain to continue. Between 2007 and 2014, Minnesota’s white population between the ages of 16 and 64 shrank by over 40,000 people. The white workforce in that age bracket fell by 49,000 people as their nonparticipation rate increased from 17.4 to 17.9 percent.

**Labor Force Characteristics of Minnesota’s Population
Age 16 Years and Over, 2014**

TABLE 1

Demographic Category	Population	Number Not in Labor Force	Non-participation Rate	Share of Non-participants
Total	4,326,029	1,308,266	30.2%	
Male	2,130,274	557,732	26.2%	42.6%
Female	2,195,755	750,534	34.2%	57.4%
16-24 years	643,185	188,840	29.4%	14.4%
25-34 years	765,193	90,568	11.8%	6.9%
35-44 years	661,276	73,347	11.1%	5.6%
45-54 years	765,664	103,391	13.5%	7.9%
55-64 years	713,631	213,388	29.9%	16.3%
65 years & over	777,080	638,732	82.2%	48.8%
65-74 years	432,638	315,577	72.9%	24.1%
75-84 years	234,942	215,044	91.5%	16.4%
85 years & over	109,500	108,111	98.7%	8.3%

Source: American Community Survey 2014 1-Year Estimates

At the same time, our working-age minority population grew by 133,000 people, and our minority workforce expanded by 115,000 workers, driving their nonparticipation from 27.9 to 24.3 percent. As a consequence of these changes, the number of working-age whites who are not in the workforce increased by 9,000 since 2007, while the number of minorities not in the labor force grew by 18,000.

Most notably within the minority population, the black rate of nonparticipation fell from 29 percent in 2007 to 24.7 percent in 2014. Asians other than Chinese and Japanese – including our Hmong, Asian Indian and Laotian populations, among others – declined from 27.4 to 21 percent nonparticipation. People of “some other race” and Hispanic or Latino origin had the lowest nonparticipation rates for minorities (see Table 2).



TABLE 2 Minnesota’s Working Age Population (16 – 64 years old), 2014

Demographic Category	Population	Number Not in Labor Force	Non-participation Rate	Share of Non-participants
White	3,012,474	539,069	17.9%	80.5%
Black or African American	206,516	50,913	24.7%	7.6%
American Indian or Alaska Native	38,832	14,016	36.1%	2.1%
Asian or Other Pacific Islanders	177,074	38,737	21.9%	5.8%
Some Other Race	51,866	10,188	19.6%	1.5%
Two or More Races	62,187	16,611	26.7%	2.5%
Hispanic or Latino Origin	172,197	35,073	20.4%	5.2%

Source: American Community Survey 2014 1-Year Estimates

An important feature of some of our minority populations is the high share of them that are recent immigrants. Of the working-age black population, over one-tenth (22,519) are immigrants who arrived here in 2007 or later. The nonparticipation rate for those that have immigrated recently is 22.5 percent, somewhat lower than for the black population overall.

On the other hand, our Asian population includes 25,348 people (14.3 percent of the total) who have arrived since 2007. This group's nonparticipation rate of 34.8 percent is well above the overall Asian rate of 21.9 percent.

So the rapid rate of increase in our working-age minority population is also driving the number of minority nonparticipants, despite a

generally increasing rate of labor force attachment among these populations. Much of this growth in our minority populations is from overseas, where cultural traditions and other variations in circumstances can impact the workforce attachment of these individuals. Overall, recent immigrants appear to be increasing workforce attachment for our minority populations and thus represent a clear offset to our slowing growth in workers.

Educational Attainment

In terms of educational attainment, just over half (50.5 percent) of nonparticipants in Minnesota have a high school diploma or less. The nonparticipation rate for people with less than a high school diploma is 45.7 percent. The rate drops to 20.4 percent for people with a diploma or GED, and to

just 12.6 percent for people with a bachelor's degree (see Table 3).

But that also means that the other half (49.5 percent) of our nonparticipants – some 330,000 people of working age – have at least some college experience, including about 125,000 people (18.7 percent) with a bachelor's degree or higher.

While it is difficult to tease out from the data why so many well-educated people would not be in the workforce, it is interesting that 110,000 Minnesotans with at least some college – or one-third of the people in that category – have not worked at any time during the past five years. And of those with a bachelor's degree or higher, nearly 50,000 (an even higher 40 percent share) have not worked in at least five years (if ever).

TABLE 3 **Minnesota's Working Age Population (16-64), 2014**

Demographic Category	Population	Number Not in Labor Force	Non-participation Rate	Share of Non-participants
Less Than High School	376,903	172,209	45.7%	25.7%
High School Diploma or Equivalent	813,360	166,066	20.4%	24.8%
1 or 2 Years of College	852,617	159,120	18.7%	23.8%
Associate Degree	390,054	47,238	12.1%	7.1%
Bachelor's Degree	767,166	96,892	12.6%	14.5%
Graduate Degree	348,849	28,009	8.0%	4.2%

Source: American Community Survey 2014 1-Year Estimates

Whatever the underlying factors, it's surprising that as many of our nonparticipants have significant educational backgrounds and that as many of them in turn appear to be permanently detached from the workforce. Given that 87,000 of the 110,000 permanently detached nonparticipants with at least some college (and 35,500 of the 50,000 with a bachelor's or better) are female, raising a family in lieu of paid work may well be an important contributing factor for both women and men in this category (although skewed toward women). From a workforce development perspective, whether this is a voluntary choice or one made of necessity due to child care constraints is an important distinction.

The permanent nature of the detachment from the workforce by many of our nonparticipants is also supported by data from the Current Population Survey (CPS). During 2015, the ratio of those not in the workforce that state they do not want a job was 96.7 percent for those 55 and older (these data don't break out the 65+ population), 84.9 percent for those between 25 and 54 years, and 86 percent for those from 16 to 24 years.

Interestingly, CPS data also show that there were 95,300 Minnesotans (of all ages) who wanted a job but did not actively search for one and so were classified as not in the workforce. Of these, 29,500 state they are currently available to work, so there are nonparticipants out there who could be easily drawn into the workforce. But the vast majority appear to be much less likely to be drawn in easily.

Motivation

In the face of a tightening labor market, declining growth in our workforce, and employers that will be increasingly desperate for new workers, it is important to understand the demographics and motivations of the large and growing pool of people who are not actively participating in our labor force. We have seen that in a very large share of cases, nonparticipation appears to be one of choice – often a choice to retire but also perhaps one to raise a family.

Although there is a trend toward increasing labor force participation among people of retirement age, it may simply be that a good number of individuals don't need to work.

We shouldn't expect that recent trends toward nonparticipation will somehow reverse themselves as economic conditions improve.

Yet there is a share of nonparticipants who might be more easily tapped as worker shortages mount. Our increasing population of new immigrants appears to be highly connected to the workforce. Addressing work barriers for these and other groups could yield great returns.

Our minority populations are rapidly becoming the exclusive source of the growth in our workforce of the future (see "Eliminating Racial Disparities is Crucial to Our Success" in the December 2015 issue of Trends). Encouraging the full participation of minority populations will help us meet the challenges ahead. Too many of the workers who are leaving our labor force won't be coming back, meaning employers cannot ignore any who want to work but are facing barriers. **T**

Bridging the Disabilities Gap

Both nationally and in Minnesota, people with disabilities are much less likely to be employed than people without disabilities and more likely to be living in poverty.

People with disabilities in Minnesota and nationally continue to encounter hardships in finding employment and earning sufficient income to support themselves and their families. This is despite regulations issued the past 50 years, including the Civil Rights Act of 1964 and the Americans with Disabilities Act of 1990. Recent census data indicate that people with disabilities have much higher unemployment rates and much lower labor force participation than the nondisabled population.

This article provides the most recent data on employment of people with disabilities in Minnesota and the U.S. and discusses the effectiveness of affirmative action policies over antidiscrimination regulations in bridging these employment gaps.

Disability Prevalence

The 2014 American Community Survey (ACS) found that 13.1 percent of the U.S. population

and 10.5 percent of the country’s working-age population (ages 16 to 64) had at least one disability.¹ In comparison, 11.2 percent of Minnesota’s overall population and 8.9 percent of the state’s working-age population had at least one disability (see Table 1).

Labor Market Measures

Working-age people with disabilities are significantly less likely to be employed than

those without disabilities, both nationwide and in Minnesota. Minnesota, however, reported better rates than the nation in 2014 on measures of employment, unemployment and labor force participation for people with disabilities. Moreover, Minnesota reported slightly lower disparities between people with and without disabilities on these measures than nationwide in 2014.

TABLE 1

Disability Prevalence in the Total Population			
	Total Population	Total With Disability	Percent With Disability
U.S.	318,857,056	41,868,823	13.1%
Minnesota	5,457,173	611,989	11.2%
Disability Prevalence in Working Age (16-64) Population			
	Population 16-64	Disability 16-64	Percentage With Disability
U.S.	207,450,305	21,875,663	10.5%
Minnesota	3,548,949	314,170	8.9%

Source: American Community Survey, 2014

¹U.S. Census Bureau, American Community Survey, 2014 American Community Survey One-Year Estimates. The American Community Survey defines disability prevalence as the percentage of people in the entire population who report at least one type of disability as defined by the federal government.

As shown in Table 2, labor force participation among working-age people with disabilities in Minnesota was 46.8 percent, about 8.3 percentage points above the U.S. rate of 38.5 percent.

The employment ratio (percentage employed) for the same group in Minnesota was 41.9 percent in 2014, almost 10 percentage points over the national share of 32.5 percent. Yet, the employment rate for working-age people with disabilities was about half that of their counterparts without disabilities in Minnesota.

The unemployment rate for working-age people with disabilities in Minnesota was 10.3 percent in 2014, compared with 4.6 percent for people without disabilities. This gap is

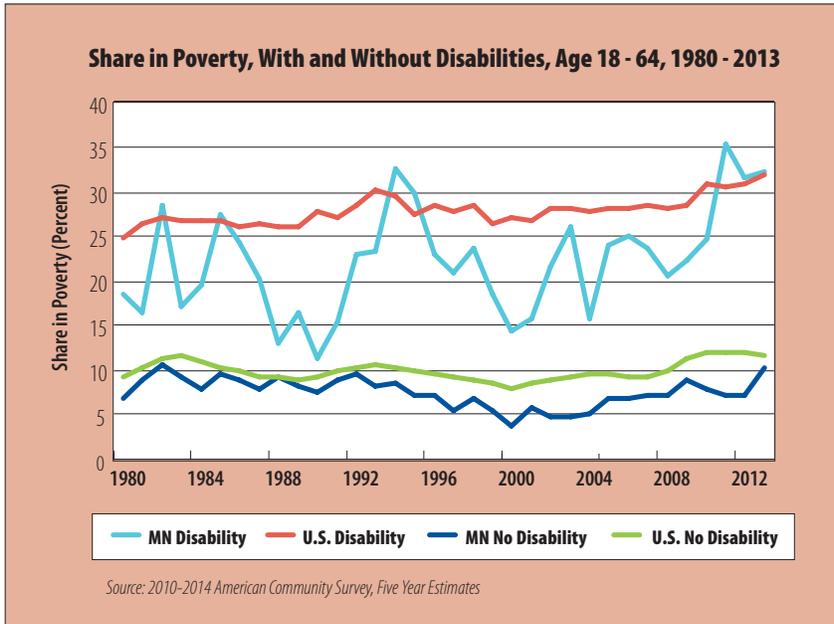


TABLE 2

Employment to Population Ratio in Working Age Population (16-64)					
	Employed	Unemployed	Labor Force Participation Rate	Employment Ratio	Unemployment Rate
Total Working Age Population					
Minnesota	2,738,591	140,824	81.1%	77.2%	4.9%
U.S.	141,366,597	11,237,715	73.6%	68.1%	7.4%
Working Age With Disability					
Minnesota	131,707	15,202	46.8%	41.9%	10.3%
U.S.	7,104,457	1,327,261	38.5%	32.5%	15.7%
Working Age Without Disability					
Minnesota	2,606,884	125,622	84.5%	80.6%	4.6%
U.S.	134,262,140	9,910,454	77.7%	72.3%	6.9%

Source: American Community Survey, 2014

CHART 1



smaller than nationwide, where the comparable rates were 15.7 and 6.9 percent, respectively.

Poverty Rate and Income

According to the 2010 Kessler Foundation report, nationwide “people with disabilities are more than twice as likely as people without disabilities (34 percent versus 15 percent) to report that they have a household income of \$15,000 or less.”²

Likewise, Chart 1 shows poverty rates among people with disabilities in the working-age group from 1980 to 2013. In 2013 about 32.2 percent of the population with a disability in the working-age group in Minnesota was living below the poverty line, slightly higher than the U.S. rate of 31.9 percent.

This is approximately three times the rate of poverty in the same age group without disabilities – 10.3 percent in Minnesota compared with 11.7 percent nationally. These high rates of poverty among working-age people with disabilities result from, among other things, high unemployment rates, low workforce participation rates and low rates of full-time, year-round employment.

Where Do People With Disabilities Work?

Chart 2 shows in what sectors working-age people with disabilities are employed in Minnesota (blue bars). The chart indicates that the majority of working people with a disability are employed in the private sector (64.1 percent),

followed by the nonprofit sector (15.8 percent). In terms of the public sector, local government comes out on top (5.9 percent), followed by state government (4.1 percent) and federal government (1.8 percent).

Chart 2 also shows that 2.3 percent of people with disabilities have incorporated businesses, while 5.9 percent are self-employed in unincorporated businesses. This latter category represents much smaller enterprises. Moreover, an unknown share of these provide only supplementary income and could not be considered a primary income source. Less than 1 percent of working-age people with disabilities are unpaid workers who work for family, as volunteers or as unpaid interns.

Chart 2 also shows the share of each sector’s workforce that is comprised of working-age people with disabilities (red bars). The chart indicates that the nonprofit sector has the highest share of its workforce comprised of people with disabilities at 9.4 percent. In the public sector, 6.5 percent of the workforce is comprised of people with disabilities, while 6.1 percent of the private sector is comprised of people with disabilities. In the self-employment category, people with disabilities own 4.2 percent of incorporated businesses and

²Kessler Foundation (2010). Survey of Americans with Disabilities, “The ADA, 20 Years Later.” Retrieved Nov. 25, 2015, from <http://www.2010disabilitysurveys.org/pdfs/surveyresults.pdf>.

7.1 percent of unincorporated businesses. The chart also shows that the unpaid worker sector has the highest concentration of working-age people with disabilities at 14.3 percent.

ADA After 25 Years and an Era of Executive Orders

The 1964 Civil Rights Act, the 1973 Rehabilitation Act and the 1990 Americans with Disabilities Act (ADA) have achieved a great deal in setting rules and promoting employment for people with disabilities. People with disabilities, however, continue to struggle in the labor market.

Research shows that there are no significant differences in current employment levels, unemployment and wage levels among people with disabilities compared with their levels when Congress adopted the ADA in 1990.³

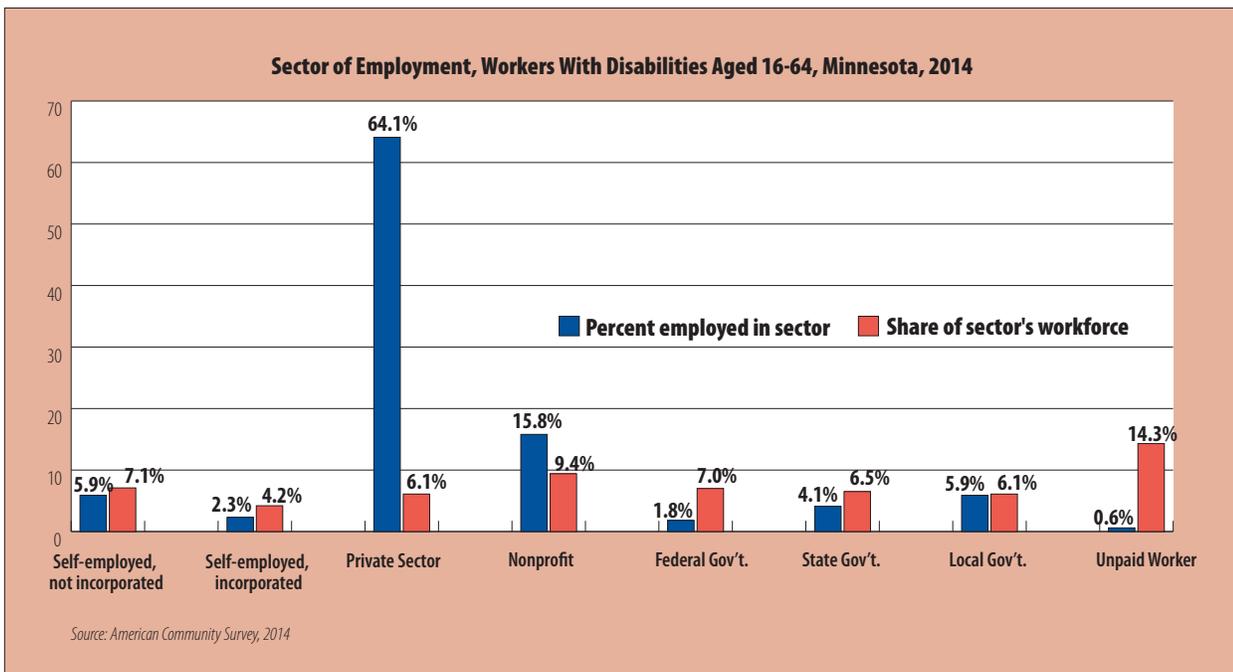
The major cause of the apparent failure of the ADA in achieving its employment goals was explained in a recent study by Myers and Sai (2014).⁴ Myers and Sai stressed that disability employment policies in the U.S. are ineffective anti-discrimination regulations, while policies in other countries, including China, include affirmative action policies that

mandate hiring people with disabilities in all workforce sectors with pre-set mandatory goals, deadlines and directions.⁵ The Chinese government applies severe penalties against violators of these affirmative action policies. These different policy approaches have led to more significant improvements in disability employment in China than in the U.S.

Executive Orders in the U.S.

Both the federal government and Minnesota took some steps to shift their policies toward affirmation action within the public sector through a number

CHART 2



³www.stltoday.com/news/local/metro/years-after-the-ada-became-law-the-disabled-continue-to/article_883a5eda-1093-524b-81bf-ba9b9db3456e.html

⁴Myers, S. and Sai, D. (2014). "The Effects of Disability on Earnings in China and the United States," Review of Disability Studies, Vol. 9 (4), pp. 34-52.

⁵http://fog.ccsf.edu/~jwilde/United_Nations_Report.pdf

of executive orders and changes to existing laws. Although these policies are directive and not enforceable, they aim to impact only public sector-related employment. If implemented as intended, however, they could help to improve employment prospects for many people with disabilities and provide a model for private sector employers.

The following executive orders and laws demonstrate this movement toward affirmative action in disability employment policy:

President Clinton’s Executive Order 13163: A decade after the ADA was adopted, there was evidence that qualified persons with disabilities were still being denied employment. President Bill Clinton signed Executive Order 13163 directing the addition of 100,000 individuals with disabilities to the federal government workforce over a five-year period.

President Obama’s Executive Order 13548: In 2010 the U.S. celebrated the 20th anniversary of the ADA. As a result of continued high unemployment rates of people with disabilities, President Barack Obama signed Executive Order 13548 calling for the hiring of an additional

100,000 federal employees with disabilities over five years. The most recent reports from the U.S. Office of Personnel Management showed that the federal government made some progress in following Executive Order 13548. A 2012 report by the Government Accountability Office, however, indicated the federal government was not on track to fulfill the requirements of Executive Order 13548.

Section 503 of the Rehabilitation Act: In March 2014 the U.S. Department of Labor changed regulations for implementing Section 503 of the Rehabilitation Act. Section 503 now includes a rule to ensure that contractors doing business with the U.S. government reserve at least 7 percent of their jobs for people with disabilities.⁶

Gov. Dayton’s Executive Order 14-14: Reports by Minnesota Management and Budget (MMB) showed that the percentage of state employees with disabilities dropped from 10 percent in 1999 to 3.7 percent in 2013.⁷ It was also found that the state workforce includes a smaller percentage of people with disabilities than neighboring states – 4.5 percent of Wisconsin’s state workforce and 5 percent of Iowa’s were

comprised of people with disabilities. Gov. Mark Dayton issued Executive Order 14-14 directing state agencies to increase their hiring of people with disabilities to 7 percent by 2018. As a result, MMB reported an increase of 1 percent in the hiring of people with disabilities in the state workforce in 2014.

Conclusion

People with disabilities are still under-employed in Minnesota and nationwide. Even the advances made in recent years have proven to be insufficient to meet the needs of people with disabilities in the labor force. The federal and state governments realized the importance of shifting from anti-discrimination to a more affirmative action context, which is a significant move toward bridging the gap in disability employment. Moreover, Minnesota is in the process of launching numerous projects aimed at meeting the goals of executive orders. More remains to be accomplished to offer our citizens with disabilities the lives they deserve. **T**

⁶www.dol.gov/ofccp/regs/compliance/section503.htm.

⁷Minnesota Management and Budget (2014). State of Minnesota Workforce Report. Retrieved Nov 22, 2015, from <http://www.mn.gov/mmb/images/mn-state-workforce-report-2014-pdf-na.pdf>.

Choosing the Right School and Major

DEED's Graduate Employment Outcomes (GEO) tool provides data on jobs and earnings outcomes for students who attended post-secondary schools in Minnesota.

Going to college represents a major financial and time investment, whether students go straight out of high school, as working adults with families, or in any other life circumstance. Prospective college students wrestle with questions like: Which schools have the most appealing programs? Does it make sense to relocate for college or choose a school close to home? Will I be able to find a job after college that allows me to pay back my student loans and support myself and my family?

The Minnesota Department of Employment and Economic Development (DEED) has just released data on job and earnings outcomes for students who attended 128 post-secondary schools in Minnesota.¹ The information, which can be accessed through the GEO tool at mn.gov/deed/geo, is being made public for the first time thanks to a new law calling for the public disclosure of the employment outcomes of graduates for each institution of higher education in Minnesota.

Thanks to the new information, students can:

- Explore educational options that have a record of labor market performance. Choosing a school based only on reputation without analyzing the school's record in preparing students for jobs in their field can lead families to overstretch their finances and students to learn skills that are no longer in demand or do not lead to a career that fits their interests.
- Know what to expect in terms of earnings after graduation, both in the short and the long term. This can help students decide how much they can afford to borrow and how long it might take to pay back student loans.
- Learn in what regions and industries recent graduates found jobs. This can help prospective students decide which schools and programs are more likely to lead to a job near home or what types of work settings they prefer. For



¹Outcomes by individual school are only available for the 128 institutions that are still active in Minnesota. However, aggregate results displayed in the tool represent data from all 160 post-secondary institutions in Minnesota including those that have closed or are closing in 2016.

example, individuals pursuing STEM degrees can benefit from knowing that most STEM graduates ended up working in the Twin Cities, where most job opportunities are concentrated. Sociology majors may want to know that 15 percent of recent graduates found jobs in health care, while 14.6 percent ended up working in social assistance two years after graduation. This knowledge should not discourage individuals from pursuing their interests, but it can help them compare educational options, supplement their major with relevant courses in college and target their job search after graduation.

Although this tool does not cover all information needs, it reduces the risks and uncertainties involved in the decision to go to college, and it narrows the list of questions to ask on a college visit. If there are strong differences in what students have been able to do with the same degree attained at different schools, perhaps the difference is tied to tuition prices, selectivity in admissions, difficulty of the course work or characteristics of the student body at each school. These are good questions to ask college representatives to help decide what programs at what schools provide the best fit.

Not Your Usual College Ranking Website

College rankings websites have proliferated in the last few years, rating schools on all sorts of things. For example, Collegescorecard of the U.S. Department of Labor discloses important information on tuition costs, graduation rates and post-graduation earnings of recent graduates.

Collegescorecard has two important limitations, however. First, the information is based on data from a limited subset of students. Second, it presents a single number for an entire school

without providing a detailed breakdown by field of study and degree. Straight comparisons can be misleading because they do not take into account what students study in each school. For example, vocational schools that put a student on track for a specific job and two-year liberal arts schools that prepare for transferring to four-year programs will obviously have lower earnings outcomes compared with large public universities offering bachelor's, master's and Ph.D. degrees.

The Graduate Employment Outcomes tool offers a more complete picture of the returns to education, including:

- Employment and earnings outcomes for all graduates who completed a degree in a post-secondary institution in Minnesota and are employed in businesses covered by the Minnesota Unemployment Insurance (UI) Program. Although some exclusions apply,² this data source – based on employer payroll and tax reporting systems – is significantly more reliable than self-reported data collection methods such as graduate surveys.
- Information on long-term employment and earnings history, not just year-after-graduation results.
- Outcomes carefully parsed out by degree level and major.
- A variety of success measures besides just financial returns. For example, how many graduates found full-time jobs after graduation? How many found jobs in the same region where they attended school? In what industries were they employed? How many re-enrolled in school to continue their education?

²The UI data cover 97 percent of non-agricultural wage and salary employment in Minnesota. The data exclude small agricultural businesses that employ fewer than four people, military employment, and some categories of self-employment and federal civilian employment.

What You Study is More Important Than Where

People who complete degrees at certain colleges tend to have higher earnings than others, not necessarily because of differences in the quality of instruction. Differences in student demographics and in the mix of academic programs offered also affect earnings, as illustrated in Figure 1 for bachelor's degree majors in selected schools located in the Twin Cities area.

In this table we observe that:

- Choice of major has the biggest impact on labor market outcomes. Majors designed to prepare for high-demand, high-pay careers such as registered nursing led to higher wages both 12 months and 48 months after graduation.
- Differences in wages 12 months after graduation across majors are much more pronounced than across schools. For example, wage outcomes in visual and performing arts were similar regardless of school.
- Initial wages for graduates in business ranged from \$18.88 at the University of St. Thomas in St. Paul to \$26.99 at Concordia University in St. Paul. This large differential is mainly driven by the students' average age at completion, which was 23 at St. Thomas versus 35 at Concordia. Programs that serve traditional students (younger than 26) seeking their first career-focused jobs after graduation have lower earnings outcomes compared with programs serving mid-career individuals who went back to school to brush up their skills. Higher wages at Concordia University reflect the higher concentration of students who already had jobs in their field prior to graduation.
- Wage growth from 12 to 48 months after graduation is also affected by the cohort's age mix. Younger cohorts, like those at the Minneapolis College of Art and Design and the St. Paul-based McNally Smith College of

FIGURE 1 Wage Trends for Completers of Bachelor's Degree Programs by School, Twin Cities Metro Area, Class of 2011

Institution Name	Largest Bachelor-Level Major Offered	Share of Graduates in Largest Major	Median Wage 12 Months After Graduation	Median Wage 48 Months After Graduation	Three-Year Wage Growth	Average Age at Graduation in Major
Minneapolis College of Art and Design	Visual and performing arts	82.2%	\$12.09	\$17.32	43.3%	24
McNally Smith College of Music	Visual and performing arts	88.1%	\$12.82	\$19.30	50.5%	23
University of Minnesota Twin Cities	Social sciences	13.1%	\$16.13	\$21.13	31.0%	24
Macalester College	Social sciences	29.6%	\$17.23	\$21.15	22.8%	22
University of St. Thomas	Business, management, marketing	43.2%	\$18.88	\$27.18	44.0%	23
St. Mary's University of Minnesota	Business, management, marketing	46.6%	\$23.89	\$29.92	25.2%	32
Concordia University-St. Paul	Business, management, marketing	52.0%	\$26.99	\$32.42	20.1%	35
St. Catherine University	Registered nursing	24.0%	\$32.74	\$38.61	17.9%	27
Bethel University	Registered nursing	18.8%	\$34.83	\$39.98	14.8%	32

Source: DEED, Workforce Data Quality Initiative (WDQI)

All wage figures are inflation-adjusted.



Music, started from low wages and experienced 43 and 50 percent wage growth, respectively, compared with older cohorts at Concordia, St. Catherine University (St. Paul) and Bethel University (St. Paul) that started above \$26 an hour and grew at a rate of 20 percent or slower.

These examples demonstrate how comparisons of outcomes at the detailed degree and major level are more meaningful than school rankings. Families often focus too much on pursuing the best college and not enough on choosing fields of study that fit best with a student's career goals and academic strengths, as well as the market demand for the skills acquired at school.

How Can Schools Benefit From This Information?

To keep talented workers in Minnesota, businesses must provide jobs that offer living wages and schools must align program offerings and curricula with business needs. Market alignment can be measured in two main ways:

1. Share of graduates who managed to land a job in the region of schooling. Low shares of graduates working in the region indicate insufficient local job opportunities in their field or unattractive wage offers for similar work relative to other regions.
2. Share of graduates employed in industry sectors related to their field of study and wage levels in each industry. Low wages and/or high concentrations of graduates in unrelated industries indicate an over-supply of workforce skills in the specific disciplinary area relative to employer demand.

Both of these measures are accessible through the Graduate Employment Outcomes tool. Figures 2 and 3 offer an example for bachelor's and above programs in architecture at the University of Minnesota (UMN) Twin Cities campus. As shown in Figure 2, the overwhelming majority of graduates (90.3 percent) were employed in the Twin Cities 24 months after graduation and earned a median wage of \$20.64. By and large, the program met the recruitment needs of local employers. This does not tell us, however, if graduates were in architecture-related jobs. Figure 3 answers that question.

Among 2010-2013 completers, 35.8 percent of employed graduates held jobs in professional and technical services, an industry that includes architectural, landscape architectural and building inspection services. Median wages of \$20.74 in this

industry suggest that graduates, for the most part, were working in jobs related to their educational program.

The second and third industries of employment, construction and public administration, are also an excellent fit with an educational background in architecture. Median wages of \$20.77 and \$22.55 further confirm that jobs held in these industries were aligned with the field of study. This stands in stark contrast with a median wage of \$12.47 earned by graduates employed in retail trade. Wages this low indicate employment in jobs that did not require a bachelor's degree. We can conclude that

at least 60 percent of employed UMN architecture graduates in school years 2010–2013 succeeded in finding jobs that reward their academic credentials, while 6.1 percent were employed in jobs for which they are over-qualified.

Interestingly, when we go back in time to school years 2007–2009, we find only 5.6 percent of UMN architecture graduates employed in the construction industry. More graduates were employed in unrelated, lower-wage industries such as retail and accommodation and food services (see Figure 3). Programs in architecture were impacted by the housing market collapse that caused huge job losses

**Regions of Employment 24 Months After Graduation,
Graduates in Architecture, University of Minnesota Twin Cities,
Classes of 2010, 2011, 2012, 2013**

FIGURE 2

Region of Employment	Percent Employed in Region	Median Hourly Wage
Twin Cities	90.3%	\$20.64
Central	1.7%	\$15.64
Southeast	1.6%	\$20.91

Source: DEED, Workforce Data Quality Initiative (WDQI)

**Top 7 Industries of Employment and Wages 24 Months after Graduation,
Graduates in Architecture, University of Minnesota Twin Cities**

FIGURE 3

Classes of 2010, 2011, 2012, 2013			Classes of 2007, 2008, 2009		
Industry of Employment	Percent Employed	Median Hourly Wage	Industry of Employment	Percent Employed	Median Hourly Wage
Professional & Technical Services	35.8%	\$20.74	Professional & Technical Services	35.3%	\$22.11
Construction	8.7%	\$20.77	Retail Trade	9.8%	\$13.69
Public Administration	8.3%	\$22.55	Educational Services	9.3%	\$20.76
Educational Services	6.1%	\$21.85	Public Administration	7.3%	\$21.72
Retail Trade	6.1%	\$12.47	Administrative & Waste Services	6.9%	\$17.92
Administrative & Waste Services	5.5%	\$16.59	Accommodation & Food Services	6.2%	\$18.29
Other Services	4.5%	\$19.85	Construction	5.6%	\$21.68

Source: DEED, Workforce Data Quality Initiative (WDQI)

in the construction industry during the Great Recession. Thanks to the recovery of the housing market in 2012, architecture-related skills became more marketable and more graduates were able to find employment in industries well aligned with their field of study.

Clearly these data reveal as much about Minnesota's economic opportunities for college graduates as they do about the schools themselves. Schools offering programs that feed into highly cyclical industries such as construction are well advised to engage in rigorous review processes that help them respond quickly to changing labor market conditions either by appropriately scaling the size of the program or modifying program curriculum.

Conclusions

Post-secondary educational institutions are being held accountable not only for how many students go through their programs and obtain a credential, but also for how graduates fare in the labor market post-graduation. Students and families need this transparency because it provides necessary



information to research higher education options. It is critical for students to focus not only on where to study but even more importantly on what to study to ensure that their educational investments equip them with skills in demand by employers.

The GEO tool is also an essential source of intelligence for schools to identify which programs and academic specialties are in highest demand locally and decide how program offerings can be improved. Schools can and should learn from the experience of their graduates. They can

also use this evidence to demonstrate their contribution to the local economy and to build connections with regional partners, including employers, workforce investment boards, workforce program administrators and policymakers who share the common goal of building the workforce skills of the future. **T**

Minnesota and Immigration

Minnesota historically has been less diverse than most other states, but that is beginning to change because of immigration.

Because of our geographic expanse and history, the United States has been diverse for most of its history. But how we've defined and measured that diversity has changed with the cultural winds.

The earliest censuses didn't record race – only gender and whether a person was free or a slave. By 1820, the census asked about citizenship status. In 1850 the census first asked about race, but the only categories were white, black and mulatto. In 1870 categories were added for Chinese and American Indian.

As the decades progressed, additional categories were added, but most of the race categories remained what we now consider nationalities. In 1930 the options were white, black, Mexican, American Indian, Chinese, Japanese, Filipino, Hindu and Korean, with additional options to be written in. Distinguishing race, ethnicity and nationality was the next major overhaul, as part of the American Community Survey (ACS) after the 2000 census.

Historically, race has been a means of grouping people who share a set of characteristics. It's a nebulous concept because the common traits of the group may be based on religion or country of origin or a shared experience, such as being the target of segregation, rather than color.

The way the census currently measures these traits – by using a set of variables instead of a single variable indicating very specific “races” such as Chinese and

Japanese – allows for much more precision. But it can complicate analyses. Comparing the Asian population across states assumes that all Asians have a common experience in the U.S., regardless of nationality or immigration status. There is a diversity of backgrounds and experiences in every race in the U.S., and those should be taken into account in any analysis that uses race as a dimension.



PHOTO: PAUL STAFFORD

Diversity in Minnesota

By the available measures, Minnesota historically has been less diverse than most of the rest of the country. In 1980 Minnesota was in the top five states for the predominance of the white population, with 97.9 percent white compared to 86.3 percent nationally. How race is tracked has changed but now Minnesota is closer to the middle of the pack, ranked

13th (see Table 1). While the differences in how we measure race are significant enough that the percentages are not directly comparable, Minnesota is becoming substantially more diverse, and much of that change has occurred in the last few decades and at a fairly rapid pace.

The change in demographics arose from immigration – both from within the U.S. as people moved from their

birthplaces for jobs – and from abroad. In all age groups over 25, the majority of nonwhite and Hispanic Minnesotans were born abroad. For younger Minnesotans, this doesn't hold true, but it's still a larger proportion than the population as a whole.

Immigrants to Minnesota

White people who were born in-state are by far the dominant group in Minnesota. White migrants from other parts of the U.S. make up the second-largest group, but they're outnumbered 3 to 1 by people born in Minnesota.

Among other race groupings, the pattern is different. The black population is evenly split three ways between Minnesota-born, U.S. migrants and international immigration. The Asian population is predominantly foreign-born, with few migrants from other parts of the U.S. The Hispanic population is evenly split between local-born and international, with a comparatively small share coming from other states (see Figure 1).

It's worth noting, too, that even though international migration makes up a very small share of the white population, numerically it's still larger than migrants from all other racial and ethnic groups except Asians.

TABLE 1

State	Percent Non-Hispanic White	Rank
Maine	93.7	1
Vermont	93.2	2
West Virginia	92.6	3
New Hampshire	91.2	4
Iowa	87.1	5
North Dakota	86.8	6
Montana	86.7	7
Kentucky	85.4	8
Wyoming	84.0	9
South Dakota	83.2	10
Idaho	82.8	11
Wisconsin	82.2	12
Minnesota	81.3	13
Nebraska	80.4	14
Indiana	80.2	15
<i>United States</i>	<i>61.9</i>	
Nevada	51.3	46
Texas	43.4	47
New Mexico	38.7	48
California	38.3	49
Hawaii	22.9	50

Source: American Community Survey

Immigration from abroad tends to come in waves, with different locales serving as the primary source of new immigrants at different times. Based on the period of entry of Minnesota residents in 2014, white immigration has been fairly consistent, black immigration is disproportionately recent and Asian immigration has tapered, although the level still surpasses any other race group (see Figure 2).

Note that a large share of nonwhite immigrants arrived since 1990. This means that new arrivals who have had children contributed to the number of Minnesota-born minorities in younger age groups. These children of foreign immigrants may share some of the language, religious and other cultural characteristics of their foreign-born parents while being counted in the Minnesota-born minority group that they are a part of.

Immigration to Minnesota differs systematically from immigration to the nation as a whole. Compared to the U.S., Minnesotans born abroad are far more likely to be from Africa or Asia than from Latin America. The largest difference is in the African-born population.

Looking more closely at immigration by race showcases just how significant this

FIGURE 1

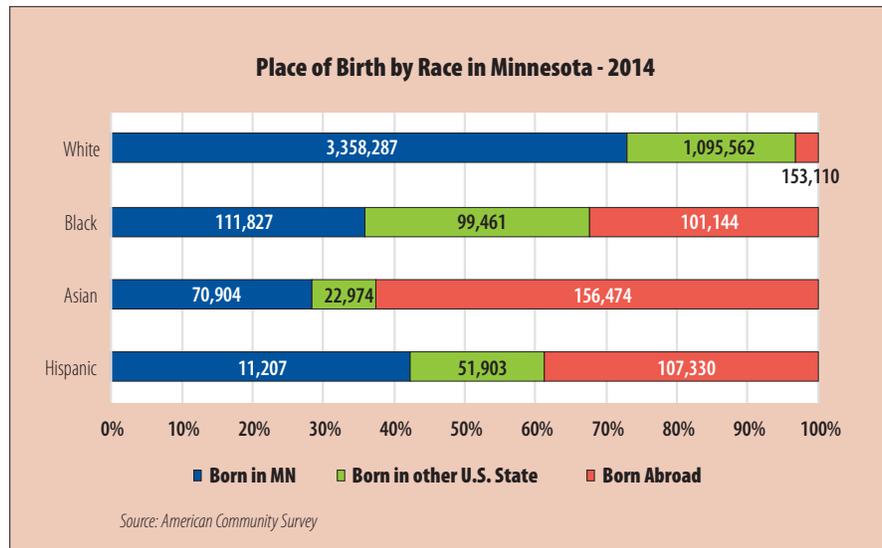
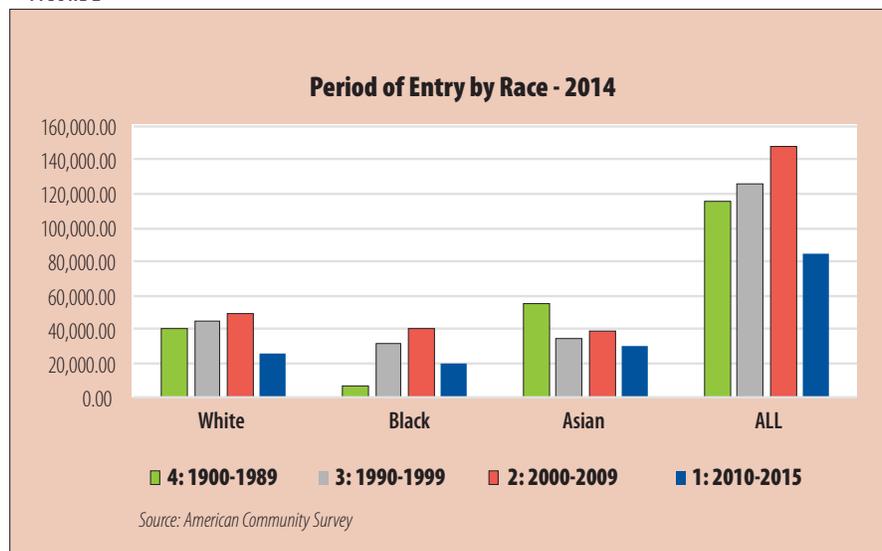


FIGURE 2



difference is. All of the other states that have nearly as high a percentage of their black population born abroad are very small and less diverse than Minnesota (Maine, South Dakota and North Dakota). In raw numbers, African immigrants make up a more substantial share of Minnesota's

population than these other states. While only 2.6 percent of the U.S. population of black people born abroad lives in Minnesota, most live in very large states and make up a much smaller share of their states' total populations. These states include California, Texas and Illinois.

Implications

Immigrants face different challenges than native-born populations. Depending on where they're from and the circumstances of their migration, they may have language barriers, different religious traditions, or education or credentials that are not recognized in the U.S. Financial assets might be more limited, and family and social connections might be less available or more central, depending on the size of the population from that region.

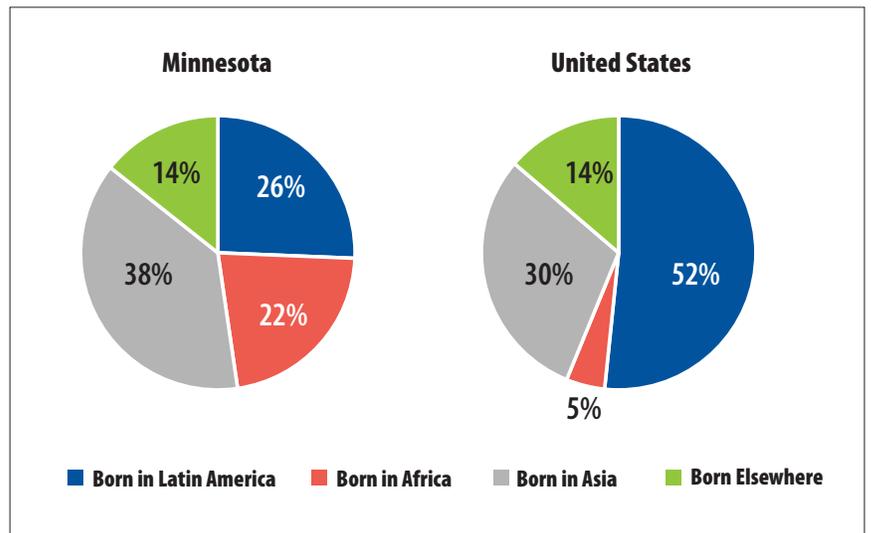
It's important to remember that every race has significant ethnic and cultural diversity. When comparing small populations, the dominant economic characteristics might vary quite a bit even within a race demographic. Understanding the unique traits of the population in a given state can help shed light on some of the differences in labor market experience that statistical summaries cannot provide. These differences should inform the strategies government and social organizations undertake to rectify inequality. **T**



PHOTO: MAGDA OLSON

FIGURE 3

Origins of Immigrants in Minnesota and the U.S. - 2014



Source: American Community Survey

Meet

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